



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
612 EAST LAMAR BLVD, SUITE 400
ARLINGTON, TEXAS 76011-4125

May 11, 2011

John T. Conway
Senior Vice President and
Chief Nuclear Officer
Pacific Gas and Electric Company
77 Beale Street, B32
San Francisco, CA 94105

Subject: DIABLO CANYON POWER PLANT - NRC INTEGRATED INSPECTION
REPORT 05000275/2011002 AND 05000323/2011002

Dear Mr. Conway:

On March 27, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Diablo Canyon Power Plant. The enclosed integrated inspection report documents the inspection findings, which were discussed on March 29, with Mr. James Becker, Site Vice President, and other members of your staff.

The inspections examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, the NRC identified three issues that were evaluated under the risk significance determination process as having very low safety significance (Green). The NRC determined that violations are associated with these issues. Additionally, one licensee-identified violation, which was determined to be of very low safety significance, is listed in this report. However, because of the very low safety significance and because they were entered into your corrective action program, the NRC is treating these findings as noncited violations, consistent with Section 2.3.2 of the NRC Enforcement Policy.

If you contest the violations or the significance of the noncited violations, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-0001, with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 612 E. Lamar Blvd, Suite 400, Arlington, Texas, 76011-4125; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspector at the Diablo Canyon Power Plant. In addition, if you disagree with the crosscutting aspect assigned to any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region IV, and the NRC Resident Inspector at the Diablo Canyon Power Plant.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, and its enclosure, will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Geoffrey B. Miller
Chief, Project Branch B
Division of Reactor Projects

Docket: 50-275
50-323
License: DPR-80
DPR-82

Enclosure:

NRC Inspection Report 05000275/2011002 and 05000323/2011002
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 05000275, 05000323

License: DPR-80, DPR-82

Report: 05000275/2011002
05000323/2011002

Licensee: Pacific Gas and Electric Company

Facility: Diablo Canyon Power Plant, Units 1 and 2

Location: 7 ½ miles NW of Avila Beach
Avila Beach, California

Dates: January 1 through March 27, 2011

Inspectors: M. S. Peck, Senior Resident Inspector
J. D. Braisted, Reactor Inspector
C. M. Denissen, Nuclear Safety Professional Development Program
Participant
P. A. Goldberg, Reactor Inspector, P.E.
D. R. Reinert, Reactor Inspector

Approved By: G. B Miller, Chief, Project Branch B
Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000275/2011002, 05000323/2011002; 1/1/2011 – 3/27/2011; Diablo Canyon Power Plant, Integrated Resident and Regional Report; Adverse Weather Protection; Heat Sink Performance and Permanent Plant Modifications.

The report covered a 3-month period of inspection by resident inspectors and an announced baseline inspection(s) by a regional based inspector(s). Three Green noncited violations of significance were identified. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter 0609, "Significance Determination Process." The crosscutting aspect is determined using Inspection Manual Chapter 0310, "Components within the Crosscutting Areas." Findings for which the significance determination process does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

A. NRC-Identified Findings and Self-Revealing Findings

Cornerstone: Mitigating Systems

- Green. 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 [P.1(c)]. (Section 1R01)

Cornerstone: Barrier Integrity

- Green. 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 [H.2(c)]. (Section 1R07)

- Green. 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 [H.4(a)]. (Section 1R18).

B. Licensee-Identified Violations

Violations of very low safety significance, which were identified by the licensee, have been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. These violations and corrective action tracking numbers (condition report numbers) are listed in Section 4OA7.

REPORT DETAILS

Summary of Plant Status

Pacific Gas and Electric Company (PG&E) was operating Diablo Canyon Unit 1 and Unit 2 at full power at the beginning of the inspection period. On March 8, 2011, plant operators reduced Unit 1 to 87 percent power after a moisture separator-reheater discharge valve failed. The licensee repaired the valve and returned the unit to full power on March 9, 2011. On March 25, 2011, plant operators reduced Unit 1 to 70 percent power to replace a solenoid valve on a moisture separator-reheater stop valve. Plant operators returned Unit 1 to full power the same day. On March 26, 2011, plant operators manually tripped Unit 2 from 98 percent power following the failure of a main feedwater pump. The failure of the main feedwater pump occurred following the failure of a flange on a high pressure feedwater heater that resulted in water impingement on the local turbine control panel. Unit 2 remained shutdown for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, and Emergency Preparedness

1R01 Adverse Weather Protection (71111.01)

.1 Summer Readiness for Offsite and Alternate-AC Power

a. Inspection Scope

The inspectors performed a review of preparations for summer weather for selected systems, including conditions that could lead to loss-of-offsite power and conditions that could result from high temperatures. The inspectors reviewed the procedures affecting these areas and the communications protocols between the transmission system operator and the plant to verify that the appropriate information was being exchanged when issues arose that could affect the offsite power system. Examples of aspects considered in the inspectors' review included:

- The coordination between the transmission system operator and the plant's operations personnel during off-normal or emergency events
- The explanations for the events
- The estimates of when the offsite power system would be returned to a normal state
- The notifications from the transmission system operator to the plant when the offsite power system was returned to normal

During the inspection, the inspectors focused on plant-specific design features and the procedures used by plant personnel to mitigate or respond to adverse weather conditions. Additionally, the inspectors reviewed the Final Safety Analysis Report Update (FSARU) and performance requirements for systems selected for inspection, and verified that operator actions were appropriate as specified by plant-specific

procedures. Specific documents reviewed during this inspection are listed in the attachment. The inspectors also reviewed corrective action program items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their corrective action program in accordance with station corrective action procedures. The inspectors' reviews focused specifically on the following plant systems:

- 230 kV preferred offsite power system

These activities constitute completion of one readiness for summer weather affect on offsite and alternate-ac power sample as defined in Inspection Procedure 71111.01-05.

b. Findings

Inadequate Design Control for the Preferred Offsite Power System

Introduction. 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 Design Calculations 357A-DC, "Units 1 and 2 Load Flow, Short Circuit and Motor Starting Analysis," and 359-DC, "Offsite Power Dynamic Analysis."

Description. On April 10, 2009, the inspectors identified that the station dynamic electrical loading analysis, Design Calculations 357A-DC and 359-DC, were not adequate to demonstrate that the 230 kV preferred offsite power system had adequate capacity and capability. These calculations did not include the limiting load flow cases representing the largest total onsite demand for both units - an accident on one unit and concurrent safe shutdown of the other unit, or a concurrent safe shutdown of both units (dual unit trip). The licensee omitted the immediate load demand from the second unit by assuming that plant operators would manually transfer plant loads to the preferred power system at a time of low electrical demand. The licensee only modeled the immediate load demand for an accident (or unit trip) on a single unit. The inspectors identified that actual plant load demand may exceed the demand assumed in the engineering analysis because a dual unit trip was an anticipated operational occurrence. The inspectors also identified that several dual unit trips have occurred during past plant operation.

FSARU, Section 8.2, "Offsite Power System," included IEEE Standard 308-1971, "Class 1E Electrical Systems," as part of the preferred offsite power system design basis. IEEE 308-1971, Section 8.1.1, "Multi-Unit Station Considerations," required that the preferred power system have sufficient capability to operate the engineering safety features given the most limiting electrical loading following an accident on one unit and a concurrent safe shutdown on the remaining unit. For Diablo Canyon, a dual unit trip provided the most limiting conditions. The licensee disagreed with the inspectors' conclusions regarding the plant design basis. The licensee stated that the current licensing basis only required the preferred offsite power system to have adequate capacity for the immediate loads for a single unit. The inspectors documented this issue as Unresolved Item 05000275; 323/2009003-01, "Corrective Action Following Degraded Offsite Power System," pending further NRC review of the plant current licensing basis requirements.

On July 7, 2010, the NRC clarified that the Diablo Canyon current licensing basis required that the preferred offsite power system have adequate capacity and capability to supply the most limiting loading demand for both units, including a dual unit trip (NRC Letter, Response to the Pacific Gas and Electric Company Request for Diablo Canyon Power Plant Technical Specification Interpretation of 230 Kilovolt System Operability, TAC Nos. ME3346 and ME3347, ADAMS Accession No ML101660109). 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 licensee concluded that the preferred power system still had adequate capacity and capability with the additional 45 Megawatts demand from the second unit. However, the inspectors were unable to confirm preferred power operability because the licensee did not include provisions for the worst case transmission network contingency in the supporting evaluation. The inspectors concluded that the current licensing basis also required that preferred power system have adequate capacity and capability following the most limiting offsite system contingencies or events. The licensee again disagreed with the inspectors' conclusions regarding the plant design basis. The licensee stated that the current licensing basis allowed for manual actions to restore the offsite transmission network prior to any onsite demand. This additional issue will be considered part of Unresolved Item 05000275; 323/2009003-01, "Corrective Action Following Degraded Offsite Power System," pending further NRC review of the plant current licensing basis requirements.

The inspectors concluded that the most significant contributor to the finding was the licensee's less than adequate evaluation of the current licensing and design basis. On February 6, 2009, the inspectors identified a similar finding (NCV 05000275/2008005-03; 05000323/2008005-03, "Operation of the 230 kV Offsite Power System Outside the Design Basis"). The licensee entered the previous issue into the corrective action system (Notification 50085862) and concluded the current licensing basis did not require the most limiting demand from both units.

Analysis. The inspectors determined 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 it 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. The inspectors used Manual Chapter 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," to analyze the finding because the inspectors were unable to verify that the preferred offsite power system was not inoperable for greater than the allowed Technical Specification outage time. The senior reactor analyst utilized Table 3.7 from the plant specific risk-informed notebook and determined that the risk based on a Phase 2 estimation was Yellow. However, the analyst noted that this approach significantly overestimated the increase in initiating event frequency caused by the performance deficiency. Therefore a bounding Phase 3 analysis was performed. The inspectors determined that the plant had been operated for 1738 minutes in unplanned grid contingencies over the previous 1-year period. If every contingency had been significant enough to result in a complete loss of preferred power upon loss of the largest single supply, this represented a maximum increase in the loss of offsite power initiating frequency of 3.3×10^{-3} /year. Using the Standardized Plant Analysis Risk Model for Diablo Canyon 1 and 2, the analyst quantified the conditional core damage probability as 1.1×10^{-4} . Given these conditions, the analyst noted that the change in core damage

frequency could be no higher than the product of these two values (3.6×10^{-7}). This indicated that the subject finding was of very low risk significance (Green). 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 [P.1(c)].

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion III, "Design Control", required the licensees to implement measures to assure that applicable regulatory requirements and the design basis were correctly translated into specifications, drawings, procedures, and instructions. Contrary to the above, prior to July 7, 2010, the licensee failed to establish measures to assure that applicable regulatory requirements and the design basis are correctly translated into specifications, drawings, procedures, and instructions. Specifically, the licensee failed to assure that the preferred power system design basis was correctly translated into Calculations 357A-DC, Revision 12 and 359-DC, Revision 8. Because this finding is of very low safety significance and was entered into the corrective action program as Notification 50289590, this violation is being treated as a noncited violation, consistent with Section 2.3.2 of the NRC Enforcement Policy: NCV, 05000275; 323/2011002-01, "Inadequate Design Control for the Preferred Offsite Power System."

Discussion Item: Corrective Action Following Degraded Offsite Power System (Unresolved Item 05000275; 323/2009003-01)

Introduction. The inspectors were unable to confirm that the preferred offsite power system had adequate capacity and capability to provide adequate voltage to station safety-related loads following an offsite transmission network contingency. This issue will be considered part of Unresolved Item 05000275; 323/2009003-01, "Corrective Action Following Degraded Offsite Power System," pending NRC clarification of the preferred offsite power system current licensing basis requirements.

Description. On April 10, 2009, the inspectors identified Unresolved Item 05000275; 323/2009003-01, "Corrective Action Following Degraded Offsite Power System," related to the capability and capacity of the 230 kV preferred offsite power system to meet design basis requirements. The inspectors had identified that the station dynamic electrical loading analysis only considered the immediate loading demands for a single unit. The licensee implemented corrective actions, including a reevaluation of station dynamic loading to include the immediate load demands for both units. This reevaluation concluded the preferred offsite power system had adequate capacity and capability to provide the required voltage to the safety related buses. This issue was dispositioned as NCV, 05000275; 323/2011002-01, "Inadequate Design Control for the Preferred Offsite Power System," in Section 1R01 of this report.

The inspectors identified that the licensee did not include provisions for the worst case transmission network contingency in the supporting evaluation. FSARU Section 8.2, "Offsite Power System," stated that the offsite power system design bases included General Design Criterion 17, "Electrical Power Systems." General Design Criterion 17 stated "Provisions shall be included to minimize the probability of losing electric power from any of the remaining supplies as a result of, or coincident with, the loss of power generated by the nuclear power unit, the loss of power from the transmission network, or the loss of power from the onsite electric power supplies." The original Diablo Canyon

FSAR, Section 8.2.2, "Analysis," stated that the bases for meeting General Design Criterion 17 included:

"All generator and line connections to the buses are normally operated in a manner that minimizes the number of circuit disruptions in case of loss of generation or bus line trouble. Specifically, the loss of one bus Section E at Morro Bay would not affect the 230 kV transmission supply to Diablo Canyon. Only an event of great physical extent would result in the loss of both buses in Section E, which supplies the standby startup power to Diablo Canyon."

The licensee revised the transmission grid stability analysis, Procedure OP-J-2:VIII, "Guidelines for Reliable Transmission Service for DCP," Revision 16, to reflect the additional load demand from the second unit. The analysis concluded that the loss of a Morro Bay-Diablo line would result in inoperability of the preferred power system.

Previously, in response to NRC requests for additional information supporting the review of License Amendment Request 98-01 in February 1999, the licensee had stated that the Diablo Canyon current licensing basis required that the preferred offsite power have sufficient capacity and capability to supply the necessary voltage to safety-related loads following the worst case transmission network contingency. The licensee identified that these contingencies included the loss of a Morro Bay-Diablo 230 kV transmission line. The licensee also confirmed that compensatory measures would no longer be needed to meet the worst case transmission contingency after completion of the modifications.

On April 29, 1999, the NRC approved Diablo Canyon License Amendments 132 and 130, authorizing changes to the preferred offsite power system. For the normal configuration, the staff concluded that the changes were acceptable because the licensee demonstrated that the review requirements of the Standard Review Plan were met for 10 CFR Part 50, Appendix A, General Design Criterion 17. The SER stated:

"For the normal offsite configuration, analysis results indicated that the 230 kV system will continue to remain operable in accordance with licensing bases requirements described above following offsite system contingencies or events. These analysis results satisfy staff review procedures/guidelines described in Section 8.2, Part III.1.(f) to the NRC's Standard Review Plan (NUREG 800) for meeting the requirements of Criterion 17 of 10 CFR Part 50, Appendix A. The results provide reasonable assurance that offsite power will be operable and thus available to safety system loads when needed following an accident. The failure of equipment has been included as single contingencies/events in the analysis."

Pacific Gas and Electric used the Licensing Basis Verification Project to review the inspectors' questions (Notification 50335438, Tasks 7 and 8). This review concluded that the current licensing bases only required the station to meet the loss of power from the Diablo Canyon units as a grid contingency. The inspectors concluded that the loss of Diablo Canyon generation capability was not the most limiting contingency for the 230 kV system because the Diablo Canyon generating units were tied to the 500 kV system. This issue will continue to be unresolved pending additional NRC clarification of the preferred offsite power system current licensing basis. Unresolved Item: 05000275; 323/2009003-01, "Corrective Action Following Degraded Offsite Power System."

.2 Readiness for Impending Adverse Weather Conditions

a. Inspection Scope

Since thunderstorms with potential tornados and high winds were forecast in the vicinity of the facility for January 2, 2011, the inspectors reviewed the licensee's overall preparations/protection for the expected weather conditions. On January 2, 2011, the inspectors walked down the AC power distribution systems because the safety-related functions could be affected, or required, as a result of high winds or tornado-generated missiles or the loss of offsite power. The inspectors evaluated the plant staff's preparations against the site's procedures and determined that the staff's actions were adequate. During the inspection, the inspectors focused on plant-specific design features and the licensee's procedures used to respond to specified adverse weather conditions. The inspectors also toured the plant grounds to look for any loose debris that could become missiles during a tornado. The inspectors evaluated operator staffing and accessibility of controls and indications for those systems required to control the plant. Additionally, the inspectors reviewed the FSARU and performance requirements for the systems selected for inspection, and verified that operator actions were appropriate as specified by plant-specific procedures. The inspectors also reviewed a sample of corrective action program items to verify that the licensee identified adverse weather issues at an appropriate threshold and dispositioned them through the corrective action program in accordance with station corrective action procedures. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one readiness for impending adverse weather condition sample as defined in Inspection Procedure 71111.01-05.

b. Findings

No findings were identified.

.3 Readiness to Cope with External Flooding

a. Inspection Scope

The inspectors evaluated the design, material condition, and procedures for coping with the design basis probable maximum flood. The evaluation included a review to check for deviations from the descriptions provided in the FSARU for features intended to mitigate the potential for flooding from external factors. As part of this evaluation, the inspectors checked for obstructions that could prevent draining, checked that the roofs did not contain obvious loose items that could clog drains in the event of heavy precipitation, and determined that barriers required to mitigate the flood were in place and operable. Additionally, the inspectors performed an inspection of the protected area to identify any modification to the site that would inhibit site drainage during a probable maximum precipitation event or allow water ingress past a barrier. The inspectors also reviewed the abnormal operating procedure for mitigating the design basis flood to ensure it could be implemented as written. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one external flooding sample as defined in Inspection Procedure 71111.01-05.

b. Findings

No findings were identified.

1R04 Equipment Alignments (71111.04)

.1 Partial Walkdown

a. Inspection Scope

The inspectors performed partial system walkdowns of the following risk-significant systems:

- Unit 2, Diesel Generator 2-3, February 1, 2011
- Unit 1, Residual Heat Removal 1-1, February 8, 2011

The inspectors selected these systems based on their risk significance relative to the reactor safety cornerstones at the time they were inspected. The inspectors attempted to identify any discrepancies that could affect the function of the system, and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, FSARU, technical specification requirements, administrative technical specifications, outstanding work orders, condition reports, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also inspected accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the corrective action program with the appropriate significance characterization. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of two partial system walkdown samples as defined in Inspection Procedure 71111.04-05.

b. Findings

No findings were identified.

.2 Complete Walkdown

a. Inspection Scope

On February 17, 2011, the inspectors performed a complete system alignment inspection of the Unit 1 auxiliary feedwater system to verify the functional capability of the system. The inspectors selected this system because it was considered both safety significant and risk significant in the licensee's probabilistic risk assessment. The inspectors inspected the system to review mechanical and electrical equipment line ups, electrical power availability, system pressure and temperature indications, as

appropriate, component labeling, component lubrication, component and equipment cooling, hangers and supports, operability of support systems, and to ensure that ancillary equipment or debris did not interfere with equipment operation. The inspectors reviewed a sample of past and outstanding work orders to determine whether any deficiencies significantly affected the system function. In addition, the inspectors reviewed the corrective action program database to ensure that system equipment alignment problems were being identified and appropriately resolved. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one complete system walkdown sample as defined in Inspection Procedure 71111.04-05.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 Quarterly Fire Inspection Tours

a. Inspection Scope

The inspectors conducted fire protection walkdowns that were focused on availability, accessibility, and the condition of firefighting equipment in the following risk-significant plant areas:

- Unit 1, Fire Area 1, Containment, January 21, 2011
- Unit 1, Fire Areas 6-A-1, 6-A-2 and 6-A-3, battery, inverter and DC switchgear rooms, February 23, 2011
- Unit 2, Fire Area 20, 12-kV switchgear room and cable spreading room, March 23, 2011
- Fire Area-IS-1, Intake Structure, March 24, 2011
- Fire Zone 3-W, Spent Fuel Pool, Unit 2, March 30, 2011

The inspectors reviewed areas to assess if licensee personnel had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant; effectively maintained fire detection and suppression capability; maintained passive fire protection features in good material condition; and had implemented adequate compensatory measures for out of service, degraded or inoperable fire protection equipment, systems, or features, in accordance with the licensee's fire plan. The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events with later additional insights, their potential to affect the equipment that could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. Using the documents listed in the attachment, the inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient material loading was

within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's corrective action program. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of five quarterly fire-protection inspection samples as defined in Inspection Procedure 71111.05-05.

b. Findings

No findings were identified.

1R07 Heat Sink Performance (71111.07)

a. Inspection Scope

As documented in NRC Inspection Report 05000275/2010005; 05000323/2010005, the NRC inspectors identified an unresolved item concerning the degradation of the containment fan cooler unit cooling coil casings due to corrosion. Specifically, the issue concerned the licensee's actions to verify the heat removal capability of the containment fan coolers under degraded conditions and the failure to take corrective actions for the repair or replacement of the corroded cooling coil assemblies.

The inspectors determined that additional information was needed to resolve this issue. The inspectors were unable to clearly determine the design basis function of the cooling coil casings based upon documentation provided by the licensee during the inspection. Additionally, the licensee had not quantified the effect of the corrosion to verify that the cooling coil casing functions would be maintained under the current degraded conditions and had not provided a technical justification for the acceptability of the proposed coil assembly replacement schedule. This unresolved item was identified as URI 05000275; 323/2010005-03, "Corrosion of Containment Fan Cooler Unit Cooling Coil Casings."

The NRC subsequently reviewed the licensee's evaluation to determine:

- If the licensee's failure to verify the heat removal capability of the containment fan cooler units was a performance deficiency
- If the licensee's decision to delay taking corrective actions for repair or replacement of the corroded cooling coils constitutes a violation of NRC requirements.

Based on follow-up inspection conducted at the NRC Region IV office, the inspectors concluded that no further information was necessary. Therefore, URI 05000275; 323/2010005-03 will be closed. Findings are documented in the following section.

b. Findings

Failure to Document Design Basis of Containment Fan Cooler Unit Cooling Coil Casings

Introduction. The inspectors identified a Green, noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for failure to translate the design basis safety function of the containment fan cooler unit cooling coil casings into specifications,

drawings, procedures, and instructions. Specifically, the function of the cooling coil casings to direct airflow through the cooling coil fins to ensure that adequate heat transfer occurs within the containment fan cooler units had not been translated into design basis documents.

Description. The containment fan cooler units function during normal plant operation to maintain the containment atmosphere at design conditions. During accident conditions, the cooler units automatically initiate to maintain containment operability. Diablo Canyon, Units 1 and 2, each has five cooler units installed inside the containment building. Each cooler unit has two cooling coil banks with six coils stacked in each bank. Each of the coils is mounted on galvanized sheet metal casings and the casings are mounted within the cooler unit frame. The casings act to prevent air bypass between the coils in the banks and as structural support for the coil tubes and fins.

The inspectors reviewed "Containment Fan Cooling Unit Coil Study, Phase 1," dated December 21, 2007. The study described that most of the galvanized surface coating of the casings had disintegrated as a result of either galvanic corrosion between the copper fins and carbon steel sheet metal or from the condensate dripping and stagnating on the surface of the casings. Additionally, field photographs documented through-wall corrosion in some of the casings.

Several action requests identified corrosion associated with the containment fan cooler coils. The corrosion had been documented and evaluated in May 2007 and March 2008 in Action Requests A0695269, A0694722, A0721874, and A0721872 for containment fan cooler Units 1-2, 1-5, 2-4, and 2-5, respectively. Administrative Procedure OM7.ID12, Revision 10, "Operability Determination," was used to determine operability associated with degraded conditions identified in action requests. This procedure required that the licensee determine the specified safety function of the affected structure, system, or component and document the effect or potential effect of the degraded or nonconforming condition on the component's ability to perform the specified safety functions. For sources of information for determining safety functions, this procedure directs the evaluator to consult several references including previous prompt operability assessments and operability evaluations, licensing basis documents, system descriptions, vendor manuals, and correspondence with the NRC. No such documents, however, described the safety function of the containment fan cooler unit cooling coil casings. "Containment Fan Cooling Unit Coil Study, Phase 1," dated December 21, 2007, discussed that one of the functions of the casing is to prevent untreated containment air from bypassing the coils, but this information was never translated into any of the documents referenced in the operability procedure.

Title 10 CFR 50.2 defines the design basis as the information which identifies the specific functions to be performed by a structure, system, or component of a facility, and the specific values or ranges of values chosen for controlling parameters as reference bounds for design. Action Requests A0695269 and A0694722 incorrectly assumed the function of the casings was to direct condensate flow to the drains in an accident condition or in case of other containment leakage and that some through-wall leakage was only superficial and did not necessarily require repair. Action Requests A0721874 and A0721872 also discussed that the casings are only for shipping to protect the coils and prevent bending during transportation and their function is not necessary to the operation of the containment fan cooler unit coils once installed. These evaluations concluded that the casings have no safety-related function. Because the design basis of

the containment fan cooler unit cooling coil casings was not documented, corrective actions did not address the potential for through-wall holes to impact the heat removal capability of the containment fan coolers.

In response to the unresolved item, the licensee wrote Notifications 50366186, 50366189, 50366184 and 50366182 to document and evaluate the corrosion degradation reported on containment fan cooler Units 1-2, 1-5, 2-4 and 2-5, respectively. The licensee concluded the function of the casings was to fill the space between each stacked coil to direct airflow through the cooling coil fins and around tubes to ensure heat transfer occurs from the air to the component cooling water flowing within the tubes.

The licensee performed a calculation to evaluate the containment fan cooler unit functionality with the degraded corrosion condition. The potential bypass airflow rate through the holes in the casings was calculated in M-1156, Revision-0, "Maximum Bypass Airflow through Containment Fan Cooler Unit" and subtracted from the total coil airflow rate measured during the last refueling outage surveillance test per Procedure STP M-93A, "Refueling Interval Surveillance - Containment Fan Cooler System." The resulting airflow rate was then compared to the minimum acceptable design airflow rate. This confirmed that the containment fan cooler design heat transfer ability was maintained.

The licensee's plans for inspection and monitoring of the corrosion of the casings include the following actions during every refueling outage:

- 1) Visual inspection, airflow and differential pressure measurements
- 2) Containment fan cooler unit cooling coil cleaning and inspection
- 3) Re-application of corrosion inhibitors to the casings as required for controlling the corrosion rate.

The corrosion will be characterized, mapped, and photographed for tracking purposes. The amount of through-wall corrosion will be compared to the allowable limit defined in Calculation M-1156.

Analysis. 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.

Enforcement. 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. Contrary to the above, the licensee failed to establish measures 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. Because this violation is of very low safety significance, this violation is being treated as a noncited violation, consistent with Section 2.3.2 of the NRC Enforcement Policy: NCV, 05000275; 323/2011002-02, "Failure to Document Design Basis of Containment Fan Cooler Unit Cooling Coil Casings."

1R11 Licensed Operator Requalification Program (71111.11)

Quarterly Review

a. Inspection Scope

On March 8, 2011, the inspectors observed a crew of licensed operators in the plant's simulator to verify that operator performance was adequate, evaluators were identifying and documenting crew performance problems, and training was being conducted in accordance with licensee procedures. The inspectors evaluated the following areas:

- Licensed operator performance
- Crew's clarity and formality of communications
- Crew's ability to take timely actions in the conservative direction
- Crew's prioritization, interpretation, and verification of annunciator alarms
- Crew's correct use and implementation of abnormal and emergency procedures
- Control board manipulations
- Oversight and direction from supervisors
- Crew's ability to identify and implement appropriate technical specification actions and emergency plan actions and notifications

The inspectors compared the crew's performance in these areas to preestablished operator action expectations and successful critical task completion requirements. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one quarterly licensed-operator requalification program sample as defined in Inspection Procedure 71111.11.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors evaluated degraded performance issues involving the following risk significant systems:

- Units 1 and 2, Intake structure, Notifications 50252917 and 50033853
- Units 1 and 2, Solid state protection system, Notifications 50313788 and 50345645

The inspectors reviewed events such as where ineffective equipment maintenance has resulted in valid or invalid automatic actuations of engineered safeguards systems and independently verified the licensee's actions to address system performance or condition problems in terms of the following:

- Implementing appropriate work practices
- Identifying and addressing common cause failures
- Scoping of systems in accordance with 10 CFR 50.65(b)
- Characterizing system reliability issues for performance
- Charging unavailability for performance
- Trending key parameters for condition monitoring
- Ensuring proper classification in accordance with 10 CFR 50.65(a)(1) or -(a)(2)
- Verifying appropriate performance criteria for structures, systems, and components classified as having an adequate demonstration of performance through preventive maintenance, as described in 10 CFR 50.65(a)(2), or as requiring the establishment of appropriate and adequate goals and corrective actions for systems classified as not having adequate performance, as described in 10 CFR 50.65(a)(1).

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified maintenance effectiveness issues were entered into the corrective action program with the appropriate significance characterization. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of two quarterly maintenance effectiveness samples as defined in Inspection Procedure 71111.12-05.

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

a. Inspection Scope

The inspectors reviewed licensee personnel's evaluation and management of plant risk for the maintenance and emergent work activities affecting risk-significant and safety-related equipment listed below to verify that the appropriate risk assessments were performed prior to removing equipment for work:

- PRA-11-01, Emergency diesel generators, Revision 0, January 5, 2011
- PRA-11-04, Containment fan coolers and solid state protection system failures, Revision 0, February 1, 2011
- PRA 11-05, Containment Fan Coolers 2-4 and 2-5 failure with auxiliary feedwater testing, Revision 0, February 2, 2011
- Technical Specification Sheet 2-TS-11-0082, Containment fan cooler reverse rotation, February 3, 2011
- SDP 11-02, Impact of degraded Diesel Generator 2-1, February 22, 2011

The inspectors selected these activities based on potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors verified that licensee personnel performed risk assessments as required by 10 CFR 50.65(a)(4) and that the assessments were accurate and complete. When licensee personnel performed emergent work, the inspectors verified that the licensee personnel promptly assessed and managed plant risk. The inspectors reviewed the scope of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor, and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed the technical specification requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of five maintenance risk assessments and emergent work control inspection samples as defined in Inspection Procedure 71111.13-05.

b. Findings

No findings were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the following issues:

- Operability Evaluation 50368801, Failure to meet emergency diesel generator load rejection requirements, January 4, 2011
- Notification 50086062, Review of new seismic information impact on plant equipment
- Operability Evaluation 50377656, Insufficient diesel generator fuel oil tank capacity, February 25, 2011

The inspectors selected these potential operability issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure that technical specification operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the technical specifications and FSARU to the licensee personnel's evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations. Additionally, the inspectors reviewed a sampling of corrective action documents to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of three operability evaluation inspection samples as defined in Inspection Procedure 71111.15-04.

b. Findings

Requirement to Perform an Operability Evaluation Following Receipt of New Seismic Information

Introduction. The inspectors identified that seismic studies completed in January 2011 revised the maximum vibratory ground motion predicted for local earthquake faults. This issue is unresolved pending NRC review of the Diablo Canyon current licensing basis requirements for the evaluation of new seismic information.

Description. On January 7, 2011, Pacific Gas and Electric transmitted to the NRC a report updating the local seismology ("Report on the Analysis of the Shoreline Fault Zone, Central Coast California to the USNRC," Adams ML110140400). This report included new deterministic evaluations for the Shoreline, Los Osos, and San Luis Bay earthquake faults. The licensee concluded that each of these faults was capable of producing between 0.6 gravity (g) and 0.7g peak ground acceleration at Diablo Canyon. The inspectors identified that these new ground acceleration values were greater than described in the FSARU for the Double Design Earthquake.

FSARU, Section 3.7.1.1, "Design Response Spectra", describes the three design basis earthquakes used to develop the seismic qualification basis for plant structures, systems and components:

- *Design Earthquake (0.2g)* - The amount of vibratory ground motion for which those plant features necessary for continued operation remain functional without undue risk to the health and safety of the public (all structures, systems and components must remain in the elastic range).
- *Double Design Earthquake (0.4g)* - The evaluation of the maximum earthquake potential (producing the maximum vibratory ground motion) for which structures, systems and components needed to prevent or mitigate an accident will remain functional, allowing for some plastic deformation of structural material. This evaluation includes all earthquake epicenters within 200 miles and faults within 75 miles of the plant and implements the NRC regulatory requirements for the "safe shutdown earthquake" as described in 10 CFR Part 100, Appendix A.
- *Hosgri Event (0.75g)* - A postulated 7.5 M earthquake (unique to Diablo Canyon) assumed to occur on the Hosgri Fault line. Only equipment credited in the alternate Hosgri Event shutdown path is required to remain functional following a Hosgri design basis earthquake.

The inspectors determined that the seismic qualification of systems, structures and components was described by all three design basis earthquakes. Seismic qualification requirements for some structures, systems and components could be more limiting for the Design and Double Design Earthquakes based on the differences in the acceptance criteria, required load combinations, and other assumptions used in the safety analyses.

The inspectors requested Pacific Gas and Electric provide a copy of the operability evaluation for the seismically qualified structures, systems and components affected by the new seismic information. In response, Pacific Gas and Electric stated that the new seismic information was neither a nonconforming nor an unanalyzed condition and an operability evaluation was not required. The licensee based this conclusion on three factors documented in Notification 50086062, Task 30:

1. The current licensing basis established that new information discovered during Long Term Seismic Program (LTSP) research efforts was only required to be evaluated under the LTSP deterministic margin analysis. The licensee based this conclusion on Supplemental Safety Evaluation Report (SSER) 34, Section 2.5.2.4, which referenced a commitment Pacific Gas and Electric made to the NRC to maintain a strong geosciences and engineering staff to keep abreast of new geological, seismic, and seismic engineering information and evaluate it with respect to its significance to Diablo Canyon.
2. New seismic information is only required to be evaluated under the LTSP deterministic margin analysis because the Hosgri Evaluation is the bounding seismic source for the site. The licensee based this conclusion on SSER 34, Section 1.3.2, "Summary of NRC Staff Review of the LTSP," which stated that *the Hosgri fault is the seismic source that could cause the maximum vibratory ground motion at the Diablo Canyon site*. Because the new information is

bounded by the LTSP deterministic ground motion spectrum, the plant can be safely shutdown in the event of an earthquake.

3. The new information is only required to be evaluated under the LTSP deterministic margin analysis because the Hosgri Event is the safe shutdown earthquake for Diablo Canyon. The licensee based this conclusion on SSER 07, Section 2.5.2, "Seismology," which said that the Hosgri earthquake is considered as the safe shutdown earthquake as defined in 10 CFR Part 100, Appendix A. Since the Shoreline Fault is completely bounded by the LTSP and the LTSP is considered bound by the Hosgri, the plant can be safely shutdown in the event of an earthquake on the Shoreline Fault.

The inspectors were unable to confirm the licensee's statements that new seismic information was only required to be evaluated under the LTSP deterministic margin analysis (which is a margin analysis to the Hosgri Event) based on a review of docketed information and the plant safety analysis. The LTSP margin analysis only demonstrated that the new seismic information was bound by the Hosgri Event design basis earthquake, not the Design or Double Design Earthquakes. FSARU, Section 3.7.1, "Seismic Input," describes the LTSP as having satisfied License Condition 2.C(7) with the completion of confirmatory analyses by Pacific Gas and Electric. The FSARU further states in Section 2.5, "The LTSP contains extensive databases and analyses that update the basic geologic and seismic information in this FSAR Update. However, the LTSP material does not alter the design bases for DCP." In SSER 34, the NRC states, "The Staff notes that the seismic qualification basis for Diablo Canyon will continue to be the original design basis plus the Hosgri evaluation basis, along with associated analytical methods, initial conditions, etc." Pacific Gas and Electric committed to the NRC in a letter dated July 16, 1991, that future plant additions and modifications, as identified in that letter, would be checked against the insights and knowledge gained from the LTSP to verify that the plant margins remain acceptable.

This issue is unresolved pending NRC review of the Diablo Canyon current licensing bases requirements for new seismic information, including whether or not the licensee is only required to evaluate new seismic information solely using the LTSP. Unresolved Item: 05000275; 323/2011002-03, "Requirement to Perform an Operability Evaluation Following Receipt of New Seismic Information."

1R18 Permanent Plant Modifications (71111.18)

The inspectors reviewed key affected parameters associated with energy needs, materials, replacement components, timing, heat removal, control signals, equipment protection from hazards, operations, flow paths, pressure boundary, ventilation boundary, structural, process medium properties, licensing basis, and failure modes for the permanent modifications listed below.

- DCP J-1000000106, Auxiliary and Fuel Building Ventilation System Modification, November 10, 2009

The inspectors verified that modification preparation, staging, and implementation did not impair emergency/abnormal operating procedure actions, key safety functions, or operator response to loss of key safety functions; postmodification testing will maintain the plant in a safe configuration during testing by verifying that unintended system

interactions will not occur; systems, structures and components' performance characteristics still meet the design basis; the modification design assumptions were appropriate; the modification test acceptance criteria will be met; and licensee personnel identified and implemented appropriate corrective actions associated with permanent plant modifications. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one sample for permanent plant modifications as defined in Inspection Procedure 71111.18-05.

b. Findings

Inadequate Design Control for an Auxiliary Building Ventilation System Modification

Introduction. 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 an auxiliary building ventilation Train "A" damper resulted in the loss of system safety function of both trains.

Description. The inspectors identified that engineering personnel failed to ensure that Auxiliary and Fuel Building Ventilation System Modification, DCP J-1000000106, November 10, 2009, met the single failure design basis requirement. Title 10 CFR Part 50, Appendix A, Criterion 21, "Protection System Reliability and Testability", established the design bases requirement that no single failure would result in loss of the protection function. On January 10, 2011 a single failure occurred on the auxiliary building ventilation system which resulted in the loss of the protection function. Unit 2 Damper M-4A, "Suction to Exhaust Fan 2," failed to automatically cycle close within the prescribed time limit. The failure of the damper to cycle closed resulted in a control system signal to trip both trains of exhaust fans. The loss of both exhaust fans resulted in the loss of safety function for both auxiliary building ventilation trains.

In November 2010, Pacific Gas and Electric completed Modification DCP J-1000000106 on the Unit 1 Auxiliary and Fuel Building Ventilation System. This modification included replacement of relay actuation logic with a programmable logic controller. The program in the logic controller generated the trip of the exhaust fans on January 10, 2011. The licensee had implemented the modification to address past problems with system reliability and availability. The inspectors identified that the engineering department had reviewed Modification DCP J-1000000106 to ensure single failure criterion was met. However, the engineering department did not perform an adequate review to identify the single point vulnerability leading to the signal failure vulnerability. The licensee's apparent cause evaluation failed to identify the inadequate review of the modification design basis and concluded that the logic error was a legacy issue associated with the original design. The inspectors concluded that the lack of a thorough review to ensure that the modification met the design basis was the most significant contributor to the performance deficiency.

Pacific Gas and Electric entered this issue into the corrective action program as Notification 50370698, replaced the failed damper operator, and implemented compensatory actions to mitigate the design deficiency until the logic controller program

error is corrected. The inspectors concluded that the licensee's apparent cause evaluation of the problem was less than adequate to identify that the design modification should have identified the design deficiency.

Analysis. The inspectors concluded that the failure to ensure that the modification met design basis requirements was a performance deficiency. This finding is greater than minor because it was associated with the design control attribute of the Barrier Integrity Cornerstone and affected the cornerstone's 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. Using Inspection Manual Chapter 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," the inspectors determined 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 [H.4(a)]. (Section 1R18).

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion III, "Design Control," requires licensees to implement measures to assure that applicable regulatory requirements and the design basis are correctly translated into specifications, drawings, procedures, and instructions. Contrary to the above, on November 10, 2010, the licensee did not implement measures to assure that applicable design basis was correctly translated into specifications for Auxiliary Building Ventilation System Modification DCP J-1000000106. Because this finding is of very low safety significance and was entered into the corrective action program as Notification 50370698, this violation is being treated as a noncited violation, consistent with Section 2.3.2 of the NRC Enforcement Policy: NCV, 05000275; 323/2011002-04, "Inadequate Design Control for an Auxiliary Building Ventilation System Modification."

1R19 Postmaintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed the following postmaintenance activities to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- Containment Fan Cooler 1-4 following time delay relay replacement, February 4, 2011
- Preventive maintenance of Auxiliary Saltwater Pump 1-1, Order 64056640, February 14, 2011
- Preventive maintenance of Diesel Generator 2-3, March 26, 2011

The inspectors selected these activities based upon the structure, system, or component's ability to affect risk. The inspectors evaluated these activities for the following (as applicable):

- The effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed
- Acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate

The inspectors evaluated the activities against the technical specifications, the FSARU, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with postmaintenance tests to determine whether the licensee was identifying problems and entering them in the corrective action program and that the problems were being corrected commensurate with their importance to safety. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of three postmaintenance testing inspection samples as defined in Inspection Procedure 71111.19-05.

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope

During the Unit 2 forced outage, beginning on March 26, 2011, the inspectors observed portions of the shutdown and monitored licensee controls over the outage activities listed below:

- Configuration management, including maintenance of defense in depth, is commensurate with the outage safety plan for key safety functions and compliance with the applicable technical specifications when taking equipment out of service.
- Clearance activities, including confirmation that tags were properly hung and equipment appropriately configured to safely support the work or testing.
- Monitoring of decay heat removal processes, systems, and components.
- Controls over activities that could affect reactivity.
- Licensee identification and resolution of problems related to refueling outage activities.

These activities constitute completion of one other outage inspection sample as defined in Inspection Procedure 71111.20-05.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the FSARU, procedure requirements, and technical specifications to ensure that the surveillance activities listed below demonstrated that the systems, structures, and/or components tested were capable of performing their intended safety functions. The inspectors either witnessed or reviewed test data to verify that the significant surveillance test attributes were adequate to address the following:

- Preconditioning
- Evaluation of testing impact on the plant
- Acceptance criteria
- Test equipment
- Procedures
- Test data
- Restoration of plant systems
- Fulfillment of ASME Code requirements

The inspectors also verified that licensee personnel identified and implemented any needed corrective actions associated with the surveillance testing.

- January 14, 2011, Auxiliary building safeguards air system surveillance
- January 15, 2011, Diesel Generator 2-2 full load reject test
- February 1, 2011, Unit 2, Routine surveillance test of containment Fan Cooler 2-4
- February 1, 2011, Unit 2, Operational test of safety injection relays
- February 14, 2011, Units 1 and 2, Reactor coolant system leak rate surveillance
- February 15, 2011, Inservice Test of centrifugal charging Pump 2-1
- February 18, 2011, Unit 2, Routine surveillance of auxiliary saltwater Pump 2-2

Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of seven surveillance testing inspection samples as defined in Inspection Procedure 71111.22-05.

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06)

.1 Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine licensee emergency drill on March 2, 2011, to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the plant simulator and emergency operations facility to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the licensee drill critique to compare any inspector-observed weakness with those identified by the licensee staff in order to evaluate the critique and to verify whether the licensee staff was properly identifying weaknesses and entering them into the corrective action program. As part of the inspection, the inspectors reviewed the drill package and other documents listed in the attachment.

These activities constitute completion of one sample as defined in Inspection Procedure 71114.06-05.

b. Findings

No findings were identified.

.2 Training Observations

a. Inspection Scope

The inspectors observed a simulator training evolution for licensed operators on January 26, 2011, which required emergency plan implementation by a licensee operations crew. This evolution was planned to be evaluated and included in performance indicator data regarding drill and exercise performance. The inspectors observed event classification and notification activities performed by the crew. The inspectors also attended the postevolution critique for the scenario. The focus of the inspectors' activities was to note any weaknesses and deficiencies in the crew's performance and ensure that the licensee evaluators noted the same issues and entered them into the corrective action program. As part of the inspection, the inspectors reviewed the scenario package and other documents listed in the attachment.

These activities constitute completion of one sample as defined in Inspection Procedure 71114.06-05.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

40A1 Performance Indicator Verification (71151)

.1 Data Submission Issue

a. Inspection Scope

The inspectors performed a review of the performance indicator data submitted by the licensee for the fourth quarter 2010 performance indicators for any obvious inconsistencies prior to its public release in accordance with Inspection Manual Chapter 0608, "Performance Indicator Program."

This review was performed as part of the inspectors' normal plant status activities and, as such, did not constitute a separate inspection sample.

b. Findings

No findings were identified.

.2 Unplanned Scrams per 7000 Critical Hours (IE01)

a. Inspection Scope

The inspectors sampled licensee submittals for the unplanned scrams per 7000 critical hours performance indicator for Unit 1 and Unit 2 for the period from the first quarter 2010 through the fourth quarter 2010. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, and NRC integrated inspection reports for the period of January 2010 through December 2010 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of two unplanned scrams per 7000 critical hours samples as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.3 Unplanned Scrams with Complications (IE02)

a. Inspection Scope

The inspectors sampled licensee submittals for the unplanned scrams with complications performance indicator for Unit 1 and Unit 2 for the period from the first quarter 2010 through the fourth quarter 2010. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, and NRC integrated inspection reports for the period of January 2010 through December 2010 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of two unplanned scrams with complications samples as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.4 Unplanned Power Changes per 7000 Critical Hours (IE03)

a. Inspection Scope

The inspectors sampled licensee submittals for the unplanned power changes per 7000 critical hours performance indicator for Unit 1 and Unit 2 for the period from the first quarter 2010 through the fourth quarter 2010. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, and NRC integrated inspection reports for the period of January 2010 through December 2010 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of two unplanned transients per 7000 critical hours samples as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

40A2 Identification and Resolution of Problems (71152)

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Public Radiation Safety, Occupational Radiation Safety, and Physical Protection

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

As part of the various baseline inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that they were being entered into the licensee's corrective action program at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. The inspectors reviewed attributes that included the complete and accurate identification of the problem; the timely correction, commensurate with the safety significance; the evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent of condition reviews, and previous occurrences reviews; and the classification, prioritization, focus, and timeliness of corrective actions. Minor issues entered into the licensee's corrective action program because of the inspectors' observations are included in the attached list of documents reviewed.

These routine reviews for the identification and resolution of problems did not constitute any additional inspection samples. Instead, by procedure, they were considered an integral part of the inspections performed during the quarter and documented in Section 1 of this report.

b. Findings

No findings were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's corrective action program. The inspectors accomplished this through review of the station's daily corrective action documents.

The inspectors performed these daily reviews as part of their daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

b. Findings

No findings were identified.

.3 Selected Issue Follow-up Inspection

a. Inspection Scope

During a review of items entered in the licensee's corrective action program, the inspectors selected the following two entries for a detailed followup:

- Notification 5070632, Single failure of auxiliary building ventilation system resulted in the loss of the system function
- Notification 50365001, Failure of containment fan cooler starting timer relay

These activities constitute completion of two in-depth problem identification and resolution samples as defined in Inspection Procedure 71152-05.

b. Findings

No findings were identified.

40A3 Event Follow-up (71153)

.1 (Closed) Licensee Event Report 05000275; 323/1-2010-003-01: Supplement to Diablo Canyon Power Plant 230 kV Historical Evaluation of Condition Prohibited by Technical Specification

a. Scope

On June 7, 2010, the licensee concluded that the preferred offsite power system was operated in a condition prohibited by Technical Specifications between November 3 and November 7, 2008. The inspectors previously dispositioned this as noncited violation 05000275/2008005-03 and 05000323/2008005-03, "Operation of the 230 kV Offsite Power System Outside the Design Basis." As part of the extent of condition review, the licensee subsequently identified that the Technical Specification allowed outage time was also exceeded between July 16 and July 27, 2007, and again between September 10 and September 15, 2007. The inspectors considered these as additional examples of noncited violation 05000275/2008005-03 and 05000323/2008005-03. The inspectors did not identify any additional violations of NRC requirements. This Licensee Event Report is closed.

b. Findings

No findings were identified.

.2 (Closed) Licensee Event Report 05000275; 323/1-2011-002-00: Diablo Canyon Power Plant Units 1 and 2 Auxiliary Building Ventilation System Single Failure Vulnerability and loss of Unit 2 Auxiliary Building Ventilation System

a. Scope

On January 10, 2011, both trains of the auxiliary building ventilation system became inoperable following the failure of Damper M-4A, "Suction to Exhaust Fan 2". The loss of

both trains of the auxiliary building ventilation system was a safety system functional failure as a result of the program error in the system logic. The inspectors considered the program error a violation of 10 CFR 50, Appendix B, Criterion III, "Design Control (NCV, 05000275; 323/2011002-03, "Inadequate Design Control for the Auxiliary Building Ventilation System Control Panel Modification") as described in Section 1R18 of this report. The inspectors did not identify any additional violations of NRC requirements. This Licensee Event Report is closed.

b. Findings

No findings were identified.

.3 Unusual Event as a Result of a Tsunami Warning in the Area

a. Scope

On March 11, 2011, the licensee declared an Unusual Event after receiving notice of a tsunami warning issued for the coastal areas of California. The tsunami warning was a result of a 9.0 magnitude earthquake off the coast of Japan. The licensee implemented the requirements of Casualty Procedure M-5, "Response to Tsunami Warning." The inspectors responded to the site and reviewed licensee actions with respect to the site emergency plan. The licensee terminated the Unusual Event after the Tsunami Warning was reduced to a Tsunami Advisory. No damage occurred to the plant during this event.

b. Findings

No findings were identified.

40A6 Meetings

Exit Meeting Summary

On March 29, 2011, the inspectors presented the inspection results to Mr. J. Becker, Site Vice President, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On March 29, 2011, the inspectors presented the inspection results of the heat sink performance inspection unresolved item to Mr. K. Peters, Vice President, Engineering and Projects, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

40A7 Licensee-Identified Violations

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of Section 2.3.2 of the NRC Enforcement Policy for being dispositioned as noncited violations.

Diablo Canyon Facility Operating License DPR 80/DPR 82, License Condition 2.C(5), "Fire Protection," required Pacific Gas and Electric to implement and maintain all

provisions of the approved fire protection plan as described by the FSARU. FSARU, Appendix 9.5a, "Fire Hazards Analysis," and Equipment Control Guideline 18.7, "Fire Rated Assemblies," required that all fire penetration seals necessary to protect safe shutdown equipment be operable. Contrary to the above, on January 13, 2011, the licensee identified that the penetration seal for Conduit K2026, providing a 4-kV power cable between Fire Area 20, "Unit 2 12-kV Cable Spreading Room," and Fire Area 19A, "Unit 2 Turbine Building," was missing the internal seal. The licensee subsequently identified that several additional penetrations were not installed per the design specification. In both Unit 1 and Unit 2 12-kV cable spreading rooms, several conduits were installed with nonconforming materials that did not meet the 3-hour fire barrier rating. The licensee implemented appropriate compensatory measures following discovery of the condition and entered the problem into the corrective action program as Notifications 50370048, 50371018, 50371019, 50370858 and 50370859. The inspectors determined that the finding was of very low safety significance (Green) because the degraded barriers would provide a minimum of 20 minutes fire endurance protection and in situ fire ignition sources and combustible or flammable materials were positioned such that the degraded barrier would not be subject to direct flame impingement.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

J. Becker, Site Vice President
J. Welsch, Station Director
K. Peters, Senior Director, Engineering Services
J. Nimick, Director, Operations Services
S. David, Director, Site Services
T. Baldwin, Manager, Regulatory Services
M. Somerville, Manager, Radiation Protection
P. Gerfen, Manager, Operations

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000275; 05000323/2011002-03	URI	Requirement to Perform an Operability Evaluation Following Receipt of New Seismic Information (Section 1R15)
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Opened and Closed

05000275; 05000323/2011002-01	NCV	Inadequate Design Control for the Preferred Offsite Power System (Section 1R01)
05000275; 05000323/2011002-02	NCV	Failure to Document Design Basis of Containment Fan Cooler Unit Cooling Coil Casings (Section 1R07)
05000275; 05000323/2011002-04	NCV	Inadequate Design Control for the Auxiliary Building Ventilation System Control Panel Modification (Section 1R18)

Closed

05000275; 05000323/2010005-03	URI	Corrosion of the Containment Fan Cooler Unit Cooling Coil Casings (Section 1R07)
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Discussed

05000275; 05000323/2009003-01	URI	Corrective Action Following Degraded Offsite Power System (Section 1R01)
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LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

PROCEDURES/DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
DCM T-9	Wind, Tornado, and Tsunami	14A
DCM T-5	Structural Design of the Intake Structure	7B

Section 1R04: Equipment Alignments

NOTIFICATIONS

50369785 50372112

Section 1R05: Fire Protection

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
STP M-70A	Inspection of Fire Barrier and HELP Penetration Seals	5
STP M-70D	Inspection of Fire Barriers, Rated Enclosures, Credited Cable Tray Fire Stops, and Equipment Hatches	13
ECG 18.7	Fire Rated Assemblies	7
UFSAR, Appendix 9.5A	Fire Hazard Analysis	19

DOCUMENTS

111906-11	Turbine Building Elev. 85'	4
111906-6	Turbine Building Elev. 85'	4
111906-3	Turbine Building Elev. 76'	2
	Individual Plant Examination of External Events Report for Diablo Canyon Units 1 and 3, in Reponse to Generic Letter 88-20, Supplement 4	June 1994

NOTIFICATIONS

50370048 50370858 50371018 50370859 50371019

Section 1R07: Heat Sink Performance

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
OM7.ID12	Operability Determination	10

STP M-93A	Refueling Interval Surveillance – Containment Fan Cooler System	20
OM7.ID12	Operability Determination	10

MISCELLANEOUS DOCUMENTS

	Containment Fan Cooling Unit Coil Study for DCPD	Dec. 21, 2007
ASHRAE RP-451	Determine Correction Factors for Measurement of Airflow Rate Thru Coils Using The Rotating Vane Anemometer	Nov. 1985
DC-663079-51	Vendor Manual for Westinghouse Sturtevant RCFC Fans	0

CALCULATIONS

SQE-025.01	Evaluation of Degraded Cooling Coil Casing, Appendix TT	01
M-1156	Maximum Bypass Airflow Through CFCU	0
NECS 92-14	To Determine the Correction (K) Factor For Measurement of Air Flow At the CFCU Cooling Coils	Aug. 4, 1992

NOTIFICATIONS/ACTION REQUESTS

A0695269	A0694722	A0721874	A0721872	50366189
50366184	50366182	50375344	50376980	50372970
50377812	50373345			

Section 1R11: Licensed Operator Requalification Program

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
Session R10-6	Biennial Simulator Exam, Two Scenarios	Mar. 8, 2011

Section 1R12: Maintenance Effectiveness

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
MA1.ID17	Maintenance Rule Monitoring Program	23
	Maintenance Rule Expert Panel Meeting # 172	Sep 16, 2010
	Maintenance Rule Expert Panel Meeting # 171	Aug 19, 2010

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
AD7.DC6	On-Line Risk Management	16
STP M-21C	Main Turbine Valve Testing	42

DOCUMENTS

PRA11-01	SR 3.0.3 Acceptable Delay Time for a Non-Conservative Full Load Rejection Surveillance Testing of Emergency Diesel Generators	0
TIA2008-004	Task Interface Agreement, Evaluation of Application of Technical Specification (TS) 4.0.3, "Surveillance Requirement Applicability," at Pilgrim	Jan. 23, 2009
PRA 11-04	Week 1105 Special PRA Evaluation of CFCU 2-4, EDG 2-2, Eagle 21 S2 Rack 7 Failure and Containment Vent	0
PRA 11-05	Week 1105 Special PRA Evaluation of CFCU 2-4, CFCU 2-0 5 inoperable with, Eagle 21 S2 Rack 7 Failure and AFW 2-2 testing	
SDP 11-02	Probabilistic Risk Assessment of Risk Impact of EDG 2-1 Degraded Condition	0
2-TS-11-0038	Containment Spray Pump 2-2 Maintenance Outage	0
2-TS-11-0082	CFCU 2-4 Reverse Rotation	0

NOTIFICATIONS

50323111	50375830	50365001	50357982	50372283
50360494	50380619	50380551	50380258	50379969
50374461				

Section 1R15: Operability Evaluations

NOTIFICATIONS

50368801	50379689	30380619	50383957
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Section 1R17: Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications

DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
DCN 2-867	Replace CFCU Timing Relays	0
DCP 1-463	Replace CFCU Timing Relays	0

TS B 3.8.1	Table B 3.8.1-2, Load Sequencing Timers, Auto Transfer Timers	6
TS B 3.8.1	Table B 3.8.1-1, Load Sequencing Timers, ESF Timers	6a

Section 1R19: Postmaintenance Testing

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
STP P-ASW-11	Routine Surveillance Test of Auxiliary Saltwater Pump 1-1	29
STP M-51	Routine Surveillance Test of Containment Fan Cooler Units	17
PMT 23.68	CFCU 1-4 Time Delay Relays Replacement Test Unit 1	0
STP M-9A	Diesel Engine Generator Routine Surveillance Test	87
STP M-21-A.1	Diesel Engine Analysis	7
STP M-9D1	Diesel Generator Full Load Rejection Test	18
STP M-81J	Test DFW Day Tank Level Instrumentation	14
STP M-9B	Overspeed Trip Test of Diesel Generators	26

Section 1R22: Surveillance Testing

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
STP I-1B	Unit 1 Routine daily Checks required by Licenses	118
STP I-1B	Unit 2 Routine daily Checks required by Licenses	100
STP P-CC-21	Routine Surveillance of Test of Centrifugal Charging Pump-2-1	21
STP M-4	Routine Surveillance test of the Auxiliary Building Safeguards Air Filtration System	37
STP M-9D1	Diesel Generator Full Load Reject Test	18
STP M-16F	Operation of Train B Slave Relays K609 and K633	14
STP M-51	Routine Surveillance Test of Containment Fan Cooler Units	17

Section 1EP6: Drill Evaluation

NOTIFICATIONS

50381308	50381373	50381390	50381391	50381377
50381374	50381378	50381372	50381394	50381392
50381309	50381379	50381393		

Section 40A2: Identification and Resolution of Problems

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
	Diablo Canyon Safety Oversight Committee Meeting	Jan. 18, 2011
	Diablo Canyon Independent Safety Committee Meeting	Feb. 15, 2011

NOTIFICATIONS/ORDERS

50380766 50380769 50380781 50381010