UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 EAST LAMAR BLVD
ARLINGTON, TEXAS 76011-4511

February 14, 2012

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 05000275/2011005 AND 05000323/2011005

Dear Mr. Conway:

On December 31, 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 January 4, 2012, 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.

Two NRC identified findings of very low safety significance were identified during the inspection. Both of the findings were determined to be in violation of NRC requirements.

Further, one licensee-identified violation, which was determined to be of very low safety significance, is listed in this report. The NRC is treating these findings as a non-cited violations, consistent with Section 2.3.2 of the NRC Enforcement Policy.

If you contest the violations or the significance of the non-cited 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, 1600 E. Lamar Blvd, Arlington, Texas, 76011-4511; 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.

If you disagree with a cross-cutting aspect assigned 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, its enclosure, and your response, if any, will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC Agencywide Document Access and Management System 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/

Neil O'Keefe, Branch Chief
Project Branch B
Division of Reactor Projects

Docket Nos.: 050000275, 050000323
License Nos.: DPR-80, DPR-82

Enclosure: Inspection Report 05000275/2011005 and 05000323/2011005
w/Attachment A: Supplemental Information
w/Attachment B: Items are requested for the Occupational and Public Radiation Safety Inspection at Diablo Canyon

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DISTRIBUTION:
Regional Administrator (Elmo.Collins@nrc.gov)
Deputy Regional Administrator (Art.Howell@nrc.gov)
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DRP Deputy Director (Troy.Pruett@nrc.gov)
DRS Director (Anton.Vegel@nrc.gov)
DRS Deputy Director (Tom.Blount@nrc.gov)
Senior Resident Inspector (Michael.Peck@nrc.gov)
Resident Inspector (Laura.Micewski@nrc.gov)
Branch Chief, DRP/B (Neil.OKeefe@nrc.gov)
Senior Project Engineer, DRP/B (Leonard.Willoughby@nrc.gov)
Project Engineer, DRP/B (Nestor.Makris@nrc.gov)
DC Administrative Assistant (Agnes.Chan@nrc.gov)
Public Affairs Officer (Victor.Dricks@nrc.gov)
Public Affairs Officer (Lara.Uselding@nrc.gov)
Project Manager (Alan.Wang@nrc.gov)
Acting Branch Chief, DRS/TSB (Ryan.Alexander@nrc.gov)
RITS Coordinator (Marisa.Herrera@nrc.gov)
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OEMail Resource
ROPreports
ACES Branch Chief (Heather.Gepford@nrc.gov)
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NSIR (Robert.Kahler@nrc.gov)
RIV/ETA: OEDO (Lydia.Chang@nrc.gov)
DRS/TSB STA (Dale.Powers@nrc.gov)

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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	05000275, 05000323
License:	DPR-80, DPR-82
Report:	05000275/2011005 05000323/2011005
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:	September 26 through December 31, 2011
Inspectors:	M. Peck, Senior Resident Inspector L. Micewski, Resident Inspector M. Young, Reactor Inspector A. Fairbanks, Reactor Inspector D. Reinert, Reactor Inspector N. Makris, Project Engineer L. Ricketson, P.E., Senior Health Physicist C. Alldredge, Health Physicist E. Ruesch, Reactor Inspector G. Guerra, Emergency Planning Inspector
Approved By:	N. O'Keefe, Chief, Project Branch B Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000275/2011005, 05000323/2011005; 9/26/2011 – 12/31/2011; Diablo Canyon Power Plant, Integrated Resident and Regional Report; Operability Evaluations.

The report covered a 3-month period of inspection by resident inspectors and region-based inspectors. Two Green non-cited 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 cross-cutting 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 non-cited violation of 10 CFR Part 50, Appendix B, Criteria V, "Instructions, Procedures, and Drawings," after Pacific Gas and Electric failed to evaluate the affect of new seismic information on the operability of plant structures, systems and components. On January 7, 2011, the licensee completed and submitted to the NRC a report detailing the results of a deterministic reevaluation of the local seismology. This report concluded that an earthquake on three local faults could produce greater vibratory ground motion than the safe shutdown earthquake as described in the Final Safety Evaluation Report Update. Quality Procedure OM7.ID12, "Operability Determinations," required plant operators to assess the impact of nonconforming conditions for the affect on plant structures, systems and components without delay. On June 22, 2011, the licensee entered the condition into the corrective action program as Notification 50410266 and completed an operability determination on June 24, 2011.

  The inspectors determined that the licensee's failure to promptly evaluate the new seismic information against the plant design and licensing bases was a performance deficiency. The finding was more than minor because the performance deficiency 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 senior reactor analyst evaluated the significance of the finding using a Phase 3 analysis because the inspectors were unable to confirm that the operability of plant systems was not impacted. The senior reactor analyst concluded that the finding was of very low risk significance (Green) because no significant change in overall core damage frequency resulted from the new seismic hazards. This finding had a cross-cutting aspect in the area of human performance associated with the decision-making component because the licensee used non-conservative assumptions in deciding not to evaluate the new seismic information against the current plant design and licensing bases [H.1.(b)] (Section 1R15.2).

Cornerstone: Barrier Integrity

- Green. The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criteria V, "Instructions, Procedures, and Drawings," after operations personnel failed to adequately evaluate the operability and extent of condition of a nonconforming control room habitability train. Beginning on August 30, 2011, the inspectors identified several nonconforming conditions associated with the habitability system, including disconnected ductwork, two 12-inch diameter openings in the control room envelope boundary, and less than adequate control room envelope pressurization and tracer gas surveillance tests. On November 7, 2011, the licensee re-performed the tracer gas test and observed significant unfiltered in-leakage into the control room envelope. Plant operators declared the habitability system inoperable. The licensee restored system operability after implementing compensatory measures. The licensee entered the finding into the corrective action program as Notification 50425114 and planned to restore the system to the current licensing basis condition.

  The inspectors concluded that the failure of plant operators to adequately evaluate the operability and extent of a nonconforming condition was a performance deficiency. This finding was more than minor because the licensee's operability evaluation created a reasonable doubt that the system was capable of performing the specified safety function, similar to Example 3.k in Inspection Manual Chapter 0612, Appendix E, "Examples of Minor Issues." The inspectors concluded that the finding was of very low safety significance because only the radiological barrier function of the control room was affected. This finding had a cross-cutting aspect in the area of problem identification and resolution, associated with the corrective action program component, because the licensee did not thoroughly evaluate the degraded control room ventilation train for operability and extent of condition [P.1(c)] (Section 1R15.1).

B. Licensee-Identified Violations

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

REPORT DETAILS

Summary of Plant Status

At the beginning of the inspection period, Pacific Gas and Electric Company was operating both units at full power. On October 10, 2011, plant operators reduced Unit 1 to 50 percent power following debris fouling in the condenser cooling system. On October 11, 2011, the licensee cleared the debris and returned the unit to full power. Both units remained at full power 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)

Readiness for Seasonal Extreme Weather Conditions

a. Inspection Scope

The inspectors performed a review of the adverse weather procedures for winter storm season preparations. The inspectors verified that weather-related equipment deficiencies identified during the previous year were corrected prior to the onset of seasonal extremes, and evaluated the implementation of the adverse weather preparation procedures and compensatory measures for the affected conditions before the onset of, and during, the adverse weather conditions.

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 the 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 plant personnel were identifying adverse weather issues at an appropriate threshold and entering them into the corrective action program in accordance with station corrective action procedures. The inspectors' reviews focused specifically on the following plant systems:

- Units 1 and 2, Hillside auxiliary saltwater system piping
- Units 1 and 2, Breakwater at the intake structure

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

b. Findings

No findings were identified.

1R04 Equipment Alignments (71111.04)

Partial Walkdown

a. Inspection Scope

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

- October 12, 2011, Unit 1, Safety Injection System Train "A"
- November 15, 2011, Unit 2, Component Cooling Water System Train "A"
- December 13, 2011, Unit 1, Emergency Diesel Generator 1-3

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 three partial system walkdown samples as defined in Inspection Procedure 71111.04-05.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

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:

- October 3, 2011, Unit 1, 12kV Switchgear cable spreading room

- October 31, 2011, Unit 2, Fire Area 3-CC, 115' Containment penetration room

- November 10, 2011, Unit 1, Fire Area 3-BB, 85' Containment penetration room
- December 2, 2011, Unit 2, Fire Areas TB-10, TB-12 and TB-13, Essential 4 kV switchgear and cable spreading rooms

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 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 four 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

The inspectors reviewed licensee programs, verified performance against industry standards, and reviewed critical operating parameters and maintenance records for Component Cooling Water Heat Exchanger 2-2. The inspectors verified that performance tests were satisfactorily conducted for heat exchangers/heat sinks and reviewed for problems or errors; the licensee utilized the periodic maintenance method outlined in EPRI Report NP 7552, "Heat Exchanger Performance Monitoring Guidelines"; the licensee properly utilized biofouling controls; the licensee's heat exchanger inspections adequately assessed the state of cleanliness of their tubes; and the heat exchanger was correctly categorized under 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one heat sink inspection sample as defined in Inspection Procedure 71111.07-05.

b. Findings
No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11)

a. Inspection Scope

On November 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:

- Ineffective carbon dioxide system maintenance, Notification 50086255
- Ineffective emergency diesel generator maintenance, Notification 50419169

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 monitoring
- Charging unavailability for performance monitoring
- 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:

- Risk Assessment 11-16, Revision 0, “Assessment of Single Component Maintenance Outage Window Configuration with an Elevated Base Risk due to Fire Barriers Surveillance Requirement 0.3”

- Risk Assessment 11-17, Revision 1, “Fire Water Storage Tank 0-1 and Fire Protection Features Unavailable for Maintenance”

- Maintenance risk assessment for Work Week 1150, Unit 2, December 19, 2011

- Maintenance risk assessment for Work Week 1152, Unit 2, December 26, 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.

These activities constitute completion of four maintenance risk assessment 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:

- Incorrect American Institute of Steel Construction Code edition used for the Unit 1 polar crane, Systems Applications Process Notification (SAPN) 50424629, September 6, 2011

- Incorrect damping value used for seismic analysis of the Unit 1 polar crane, SAPN 50424627, September 6, 2011

- Auxiliary salt water pump 2-1 high stator temperature, SAPN 50433056, October 12, 2011

- Component cooling water potential over-pressurization, SAPN 50428811, October 27, 2011

- Control room habitability system design vulnerability, SAPN 50438661, November 3, 2011

- Containment fan coolers 2-2 and 2-4 bearings degraded, SAPN 50405029, November 8, 2011

- Containment fan cooler wiring exceeded equipment qualification temperatures, SAPN 50443002, November 30, 2011

- Units 1 and 2 reactor protection system did not meet seismic qualification requirements, SAPN 50445580, December 7, 2011

- Auxiliary feedwater pump 2-2 recirculation line flow indication, SAPN 20432954, December 16, 2011

- Dual indication on flow control valves 679 and 681 CS, SAPN 50447696, December 19, 2011

- Emergency diesel generator 2-3 failed to meet generator frequency surveillance requirement, SAPN 50449027, December 22, 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 also 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 eleven operability evaluations inspection samples as defined in Inspection Procedure 71111.15-04.

b. Findings

(1) Less than Adequate Evaluations of a Degraded/Nonconforming Control Room Habitability Train

Introduction. The inspectors identified a green non-cited violation of 10 CFR Part 50, Appendix B, Criteria V, "Instructions, Procedures, and Drawings," after plant operations personnel failed to adequately evaluate the operability and extent of condition of a nonconforming control room habitability train.

Description. Technical Specification 3.7.10, "Control Room Ventilation System," required the licensee to maintain two independent and redundant control room ventilation trains operable. In conjunction with an operable control room envelope, each train was required to limit operator dose to less than 5 Rem committed effective dose

equivalent (CEDE) for the duration of an accident. The basis for technical specification 3.7.10 stated that each ventilation train was operable when the associated ductwork was operable and air circulation could be maintained. The basis also stated that each ventilation train was required to pressurize the control room envelope to about 1/8-inch water gauge to prevent contaminated outside air from in-leaking into the envelope. The accident analysis demonstrated that the licensee met the General Design Criteria 19, "Control Room," requirement to limit operator dose to less than 5 Rem CEDE. The accident analysis assumed that no unfiltered in-leakage would enter the control room envelope.

On August 30, 2011, the inspectors observed that the licensee had removed the ductwork connecting control room supply fan S-36 to the control room ventilation discharge header. The inspectors observed ventilation flow bypassing the control room discharge header and blowing into the mechanical equipment room from the open ductwork. The inspectors also identified two 12-inch diameter openings through the wall.

On August 31, 2011, the Pacific Gas and Electric completed an evaluation of the disconnected ductwork (Notification 50424714). The licensee concluded that the control room ventilation system was not adversely affected because the bypassing airflow into the mechanical equipment room was still within the control room envelope. The inspectors concluded that Pacific Gas and Electric's evaluation was inadequate because they failed to evaluate the affect of the nonconforming condition on all design basis functions. The inspectors concluded that the bypassing flow from disconnected ductwork could affect the ventilation system flow balance and the capability to pressurize all areas of the control room envelope. The inspectors also concluded that the two 12-inch diameter wall openings provide a path for unfiltered outside air into the control room envelope because they failed to evaluate all design basis functions that were affected.

On September 12, 2011, the inspectors identified that the last control room envelope in-leakage tracer gas test results were greater than the limiting value used in the bounding accident analysis. The last test, "Control Room Habitability Tracer Gas Leak Testing of the Diablo Canyon Power Plant," conducted in January 2005, measured up to 59 standard cubic feet per minute of unfiltered in-leakage into the control room envelope. The licensee declared the control room envelope inoperable and implemented compensatory measures to protect control room operators.

Technical specification 5.5.19, "Control Room Envelope Habitability Program," required the licensee to use the control room envelope testing methods specified in Sections C1 and C2 of Regulatory Guide 1.197, "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors." Regulatory Guide 1.197, Section C2, required the licensee to perform testing in the configuration that would result in the greatest dose consequence to the operators. The inspectors verified that last control room envelope tracer gas in-leakage test did not include the disconnected ductwork as a test configuration.

On September 30, 2011, Pacific Gas and Electric performed a control room envelope pressurization test to demonstrate system operability with the removed ductwork. The licensee performed the test after the inspectors challenged the licensee's previous operability conclusions. The licensee concluded that control room ventilation train was still capable of pressurizing the control room envelope with the ductwork removed. The

inspectors concluded that the licensee's evaluation was inadequate because the licensee had performed the test with equipment from both ventilation trains in operation. Technical specification basis 3.7.10 stated that each ventilation train was required to pressurize the control room envelope.

On November 7, 2011, Pacific Gas and Electric re-performed the control room envelope tracer gas in-leakage test as a result of the inspectors' concerns. Plant technicians measured about 800 standard cubic feet per minute of unfiltered in-leakage into the control room envelope. Plant operators declared the habitability system inoperable as a result of the test results. The licensee was able to reduce the in-leakage to about 45 standard cubic feet per minute by operating a booster fan in the redundant train. The licensee concluded that the operator dose limits could be met by ensuring the redundant train equipment was in operation and by reducing the amount of primary containment bypass leakage. The licensee implemented these compensatory measures and restored system operability. The licensee's corrective actions included restoring the habitability system to the design condition.

The inspectors determined that this finding did not impact the smoke mitigation function, and the system did not have a toxic gas mitigation function.

Analysis. The inspectors concluded that the failure of plant operators to adequately evaluate the specified safety function and extent of condition of a nonconforming control room habitability train was a performance deficiency. This finding was more than minor because licensee's operability evaluation created a reasonable doubt that the system was capable of performing the specified safety function similar to Example 3.k in Inspection Manual Chapter 0612, Appendix E, "Examples of Minor Issues." The finding was associated with the Barrier Integrity Cornerstone. Using Inspection Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the inspectors concluded that the finding was of very low safety significance (Green) because only the radiological barrier function of the control room was affected. This finding had a cross-cutting aspect in the area of problem identification and resolution associated with the corrective action program component because the licensee did not thoroughly evaluate the degraded control room ventilation train for [P.1(c)].

Enforcement. Title 10 CFR Part 50, Appendix B, Criteria V, "Instructions, Procedures, and Drawings," required that activities affecting quality be accomplished in accordance with instructions or procedures. Quality Procedure OM7.ID12, "Operability Determinations," Revision 22, Section 5, required plant operations personnel to evaluate the impact and extent of condition of potentially nonconforming plant equipment against each of the specified safety functions for that equipment. Contrary to the above, on August 31, 2011, plant operations personnel failed to perform an operability evaluation, an activity affecting quality, in accordance with instructions or procedures. Specifically, the licensee did not adequately evaluate the impact and extent of condition of nonconforming ductwork of the Unit 1 control room habitability train against each of the specified safety functions for that equipment. In particular, the licensee did not evaluate the potential impact of the disconnected ductwork on the ventilation system flow balance and the capability to pressurize all areas of the control room envelope. Because this finding is of very low safety significance and was entered into the corrective action program as Notification 50425114, this violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the NRC Enforcement Policy:

NCV, 05000275; 323/2011005-01, “Less than Adequate Evaluations of a Degraded/Nonconforming Control Room Habitability Train.”

.2 (Closed) Unresolved Item 05000275; 323/2011002-03: Failure to perform an operability evaluation following receipt of new seismic information.

Introduction. The inspectors identified a green non-cited violation of 10 CFR Part 50, Appendix B, Criteria V, “Instructions, Procedures, and Drawings,” after Pacific Gas and Electric failed to promptly evaluate the operability of plant structures, systems and components (SSCs) after completing a reevaluation of the local seismology.

Description. In November 2008, Pacific Gas and Electric notified the NRC of a new seismic feature located about a kilometer offshore from the plant. This newly discovered feature became known as the Shoreline fault. In January 2011, Pacific Gas and Electric submitted “Report on the Analysis of the Shoreline Fault Zone, Central Coast California to the NRC,” (Agency Wide Documents Access and Management System, (ADAMS) ML110140400). This report concluded that the Shoreline, the Los Osos, and San Luis Bay faults were capable of producing about 70 percent greater vibratory ground motion than described in the double design earthquake FSARU safety analysis. The double design earthquake was used to establish the initial seismic qualification requirements for plant structures, systems and components (SSCs) for the plant safe shutdown earthquake as required by General Design Criterion 2, “Design Bases for Protection against Natural Phenomena;” and 10 CFR 100, Appendix A, “Seismic and Geologic Siting Criteria for Nuclear Power Plants.”

In December 2010, the licensee concluded that plant licensing bases only required that new seismic information be evaluated against the Long Term Seismic Program (LTSP) deterministic margin analysis (Notification 50086062) and not the plant design bases. The inspectors opened Unresolved Item 05000275; 323/2011002-03 to determine if the licensee was required to evaluate the new seismic information against the plant seismic design basis in addition to the LTSP.

In August 2011, the NRC completed a review of the Diablo Canyon license and design bases and issued “Task Interface Agreement – Concurrence on Diablo Canyon Seismic Qualification Current Licensing and Design Basis,” (ADAMS ML112130665). The NRC concluded that new seismic information developed by the licensee was required to be evaluated against each of the three design basis earthquakes used to establish the seismic qualification of plant SSCs, including the assumptions and acceptance criteria described in the supporting FSARU safety analyses. The NRC also concluded that comparison of the new information only to the Hosgri Event or LTSP was insufficient to ensure all plant SSCs were capable of performing their specified safety functions. Based on this staff position, the inspectors concluded that the licensee’s evaluation of the impact of new potential seismic ground motion information was not evaluated against the design and licensing basis requirements.

Title 10 CFR 50.71, “Maintenance of Records and Making Reports,” required the licensee to update the FSARU to include the new seismic information. The new information resulted in existing FSARU Sections 2.5.2.9, “Maximum Earthquake,” and 3.7.1.1, “Design Response Spectra,” to be nonconforming with the requirements of General Design Criterion 2 and Appendix A to Part 100. Diablo Canyon Quality Procedure OM7.ID12, “Operability Determinations,” Section 5.1, “Immediate

Determination of Operability," required plant operators to assess the impact of nonconforming conditions for the effect on plant SSCs without delay.

Pacific Gas and Electric completed an operability determination in June 2011 (Notification 50410266). The licensee concluded that plant SSCs would function because the new predicted ground motions were bounded by the ground motions assumed in the Hosgri safety analysis. In October 2011, the licensee revised the operability determination to add information justifying application of the Hosgri calculation methodology as an alternative methodology as described in the NRC Inspection Manual, Part 9900: Technical Guidance, "Operability Determinations & Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety" (ADAMS ML073440103). The staff concluded that the revised operability determination provided an initial basis for concluding a reasonable assurance that plant equipment would withstand the potential effect of the new vibratory ground motion. In order to complete a comprehensive evaluation, the licensee needed NRC approval of the methodology to be used to complete this evaluation.

In October 2011, Pacific Gas and Electric submitted License Amendment Request 11-05, "Evaluation of Process for New Seismic Information and Clarifying the Diablo Canyon Power Plant Safe Shutdown Earthquake," ADAMS ML113112A166. The licensee requested that the NRC approve the Hosgri earthquake as the Diablo Canyon safe shutdown earthquake. The licensee also requested NRC approval for a methodology to be used for evaluating the impact of new seismic information on the plant.

Analysis. The inspectors determined that the failure to evaluate the nonconforming condition against the plant design and licensing bases was a performance deficiency. This performance deficiency was 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 finding represented a design and qualification deficiency. The senior reactor analyst evaluated the significance of the finding using a Phase 3 analysis because the inspectors were unable to confirm operability was not impacted. Using updated seismic annual exceedance frequencies from Geosciences Report GEO.DCPP.10.05, "Development of the Probabilistic Hazard Curves Incorporating the Shoreline Fault," January 3, 2011, and the seismic equipment fragilities included in the Diablo Canyon Individual Plant Examination for External Events, the senior reactor analyst concluded that the overall core damage frequency for seismic events was 2.1×10^{-5} per year. The increases in plant risk from the Shoreline, Los Osos, and San Luis Bay Fault higher predicted ground motions were offset by the decrease in risk from the licensee's re-evaluation of the Hosgri Fault. As a result no significant change in conditional core damage probability occurred as a result of the new seismic information. The senior reactor analyst concluded that the finding was of very low risk significance (Green) based on no significant change in overall core damage frequency. This finding had a cross-cutting aspect in the area of human performance, associated with the decision-making component, because the licensee's cause assessment concluded that they had used a non-conservative assumption to only evaluate the new seismic information against the LTSP and not the plant design basis [H.1.(b)].

Enforcement. Title 10 CFR Part 50, Appendix B, Criteria V, “Instructions, Procedures, and Drawings,” required that activities affecting quality be accomplished in accordance with instructions or procedures. Quality Procedure OM7.ID12, Section 5.1, “Immediate Determination of Operability,” required plant operators to assess the impact of nonconforming conditions for the effect on plant SSCs without delay. Contrary to the above, between January 7 and June 22, 2011, the licensee failed to evaluate the operability, and activity affecting quality, in accordance with instructions or procedures. Specifically, plant operators failed to assess the impact of a nonconforming condition for the effect on plant SSCs without delay. On January 7, 2011, Pacific Gas and Electric completed a reevaluation of the local seismology. This new information rendered FSARU Sections 2.5.2.9 and 3.7.1.1 nonconforming with General Design Criteria 2 and Appendix A to Part 100, but operators failed to evaluate operability until June 22, 2011. Because this finding is of very low safety significance and was entered into the corrective action program as Notification 50410266, this violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the NRC Enforcement Policy: NCV, 05000275; 323/2011005-02, “Failure to Perform an Operability Determination for New Seismic Information.”

1R17 Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications (71111.17)

.1 Evaluations of Changes, Tests, or Experiments

a. Inspection Scope

The inspectors reviewed nine evaluations to determine whether the changes to the facility or procedures, as described in the FSARU, had been reviewed and documented in accordance with 10 CFR 50.59 requirements. The inspectors verified that, when changes, tests, or experiments were made, evaluations were performed in accordance with 10 CFR 50.59 and licensee personnel had appropriately concluded that the change, test or experiment could be accomplished without obtaining a license amendment. The inspectors also verified that safety issues related to the changes, tests, or experiments were resolved. The team compared the safety evaluations and supporting documents to the guidance and methods provided in Nuclear Energy Institute (NEI) 96-07, "Guidelines for 10 CFR 50.59 Implementation," as endorsed by NRC Regulatory Guide 1.187, "Guidance for Implementation of 10 CFR 50.59, Changes, Tests, and Experiments," to determine the adequacy of the safety evaluations.

The inspectors reviewed 19 samples of changes, tests, and experiments that licensee personnel determined did not require evaluations and verified that the licensee personnel’s conclusions were correct and consistent with 10 CFR 50.59.

The inspectors also verified that calculations, analyses, design change documentation, procedures, the FSARU, the Technical Specifications, and plant drawings used to support the changes were accurate after the changes had been made. Documents reviewed are listed in the attachment.

These activities constitute completion of nine samples of evaluations and 19 samples of changes, tests, and experiments that were screened out by licensee personnel as defined in Inspection Procedure 71111.17-04.

b. Findings

No findings were identified.

.2 Permanent Plant Modifications

a. Inspection Scope

The inspectors verified that calculations, analyses, design change documentation, procedures, the FSARU, the technical specifications, and plant drawings used to support the modifications were accurate after the modifications had been made. The inspectors verified that modifications were consistent with the plant's licensing and design bases. The inspectors confirmed that revised calculations and analyses demonstrated that the modifications did not adversely impact plant safety. Additionally, the inspectors interviewed design and system engineers to assess the adequacy of the modifications. The inspectors reviewed nine permanent plant modifications, and specific documents reviewed during this inspection are listed in the attachment.

.2.1 Unit 1 Centrifugal Charging Pump Discharge Trimming Orifice

The inspectors reviewed a modification (DCP 1000000175) that installed a trimming orifice at the discharge of each of the centrifugal charging pumps. The rotating element in each Unit 1 centrifugal charging pump was replaced during 1R15. The hydraulic performance attributes of the new rotating elements were somewhat different from the required performance characteristics of the centrifugal charging pumps. A trimming orifice was added at the discharge of each pump to adjust its hydraulic performance to match the emergency core cooling system analysis assumptions. The effects of this modification were evaluated for vital bus loading from the centrifugal charging pump motors, emergency diesel generator fuel oil inventory requirements, air condition cooling demand in the auxiliary building, and environmental conditions in the centrifugal charging pump room.

.2.2 Removal of the Cask Pit Rack and Installation of the Transfer Cask Restraint Cup

The inspectors reviewed a modification (DCP 1000000126) that removed the existing spent fuel temporary high density cask pit rack and installed a spent fuel pool transfer cask restraint cup within the cask letdown area of the spent fuel pool. One phase of the transfer evolution was to lower the used fuel transfer cask into the spent fuel pool for the loading of used fuel from the spent fuel pool. While the used fuel transfer cask is being stored in the cask letdown area of the spent fuel pool, the cask is required to be laterally restrained to prevent damage or overturning in a seismic event. The restraint cup was mounted to the existing cask letdown area platform assembly. Installation of the restraint cup was required to allow transfer of the used fuel to the independent spent fuel storage installation for storage. The restraint cup enabled the plant to continue to refuel by freeing up space in the spent fuel pool.

.2.3 Abandonment of the Diesel Fuel Oil Storage Tank Cathodic Protection

The inspectors reviewed a modification (DCP 1000000205) that abandoned the diesel fuel oil storage tank cathodic protection system. The diesel fuel oil storage tank cathodic

protection system was degraded and was no longer providing protection to the tanks. The anode currents had dropped to zero as measured during monthly maintenance tests. The wires associated with the anodes were disconnected from the terminal strips. The storage tanks were made with double wall steel and an external fiberglass reinforced plastic clad shell on the secondary tank. The fiberglass shell had an air gap between the outer metal tank and the shell which limited the effectiveness of a cathodic protection system. Sufficient protection was provided for the diesel fuel oil storage tanks by means of the double walled tank and the fiberglass reinforced plastic cladding. Diablo Canyon conducts a test every 36 months that draws a vacuum between the first and second wall of the tanks to check for leaks. Additionally, Diablo Canyon checks diesel fuel oil storage tank inventory and checks for water in the tanks every 31 days.

.2.4 Replacement of Existing Reinforced Concrete Reactor Coolant Drain Tank 3-Segment Hatch Cover with 3-Segment Grating and Metal Plate Hatch Cover

The inspectors reviewed a modification on Unit 1 (DCP 1000000397) that replaced the reinforced concrete reactor coolant drain tank 3-segment hatch cover with a 3-segment grating and metal plate hatch cover. For a postulated pipe break inside the biological shield wall, the licensee's analysis credited upflow through a hatch in the concrete floor at the 91-foot elevation. Contrary to this assumption, the licensee identified that the hatch was covered with a multilayered steel radiation shield/barrier, which effectively prevented the upflow of water through the hatch. Therefore, the fluid flow into the recirculation sump could have been reduced, potentially impacting the net positive suction head for the residual heat removal pumps and/or causing vortexing in the sump. The replacement of the concrete hatch cover with a metal plate hatch cover provided a fluid-flow path between the reactor cavity and the area above.

.2.5 MS-1-5166 and MS-1-5167 Check Valve Replacement

The inspectors reviewed a modification on Unit 1 (DCP 1000000282) that replaced check valves MS-1-5166 and MS-1-5167, which were used to isolate flow between the two steam supply lines to the turbine driven auxiliary feedwater pump, in the event of a steam line break. Fluctuations in the pressure downstream of the replaced check valves had led to excessive wear of the valve discs and bodies. The check valves were replaced with normally-open nozzle check valves to reduce the inspection and maintenance requirements of the valves.

.2.6 Relocation of Emergency Diesel Generator Turbo Air Compressor and Both Starting Air Compressor Hydraulic Unloader Sensing Lines

The inspectors reviewed a modification on Unit 1 (DCP 1000000385) that rerouted the inlet of the emergency diesel generator turbo/starting air compressor hydraulic unloader sensing tubing from the seismic Category 1 air receiver tanks to the non-seismic Category 2 section of the compressor discharge. The tubing senses turbo/starting air receiver tank pressure for the operation of the compressor's unloader valves. The tubing up to the unloader valves was Category 1, but the unloader valve itself, which was connected to the compressor, was not. Moving the inlet upstream of the code break check valve located it in the Category 2 portion of the compressor discharge line. Doing so made the tubing, unloader valves and associated compressors all Category 2, eliminating the need to qualify the compressor and sensing tubing as seismic Category 1.

.2.7 Replacement of Water-Seated Pressurizer Safety Valves with Steam-Seated Valves

The inspectors reviewed a modification on Unit 2 (DCP 1000000165) that replaced the water-seated pressurizer safety valves with steam-seated pressurizer safety valves. This conversion allowed for the loop seal to be continuously drained, and no longer relied upon during operation to ensure the safety valve is seated properly. There was a drain added to the loop seal which connects directly to a nozzle on the pressurizer. Previously, the temperature of the water was maintained in an established band to ensure the operability of the safety valve. Since the water-filled loop seal was no longer needed, this eliminated the need to maintain the water in the loop at a prescribed temperature. Therefore, this modification reduced the amount of thermal cycling of the pressurizer safety valves and decreased operator time inside containment.

.2.8 Replacement of Safety Injection Check Valves

The inspectors reviewed a modification on Unit 2 (DCP 1000000154) that replaced two inch safety injection Rockwell Edwards lift check valves with two inch Flowserve type 1878 piston check valves. The check valves were located in the safety injection pumps discharge header and prevent the over-pressurization of the safety injection system. Previously, the leakage from the lift check valves produced a higher than normal pressure in the safety injection discharge header. The replacement decreased the leakage seen at the check valves and prevented the discharge header from over-pressurization. The pressure sealed bonnets on the new check valves had a pressure rating in excess of the safety injection system.

.2.9 Replacement of a Chemical Volume and Control System Check Valve Spring

The inspectors reviewed a modification on Unit 1 (DCP 1000000247) that replaced the existing spring on check valve CVCS-1-8109 with a stiffer spring. This check valve was designed to relieve the thermal pressure between two isolation valves during a postulated main steam line break or loss of coolant accident. The reason for the change was that this check valve had an unsatisfactory back flow leak test during the 1R15 outage. The new stiffer spring allowed the check valve to pass the back flow leak test by providing a tighter closure on the seat. The stiffer spring had a slightly larger cracking pressure, but there was sufficient margin in the maximum allowable working pressure for containment isolation valves. The spring was tested and verified acceptable during the replacement part evaluation done by the licensee.

These activities constitute completion of nine samples of permanent plant modifications as defined in Inspection Procedure 71111.17-04.

b. Findings

No findings were identified.

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:

- Corrective maintenance of spare pressurizer heater group 1-3 Breaker, Unit 1, November 15, 2011
- Preventive maintenance of diesel fuel oil transfer pump 0-2, Units 1 and 2, December 12, 2011
- Preventive maintenance of containment spray pump 2-1, Unit 2, December 13, 2011
- Preventive maintenance of centrifugal charging pump 1-2, Unit 1, December 15, 2011
- Preventive maintenance of battery charger 2-2, Unit 2, December 15, 2011
- Preventive maintenance of auxiliary building supply fan S-33, Unit 2, December 16, 2011
- Corrective maintenance of emergency diesel generator 2-3 motor operated potentiometer, Unit 2, December 23, 2011

The inspectors selected these activities based upon the SSCs 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 seven postmaintenance testing inspection samples as defined in Inspection Procedure 71111.19-05.

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
- Jumper/lifted lead controls
- Test data
- Testing frequency and method demonstrated technical specification operability
- Test equipment removal
- Restoration of plant systems
- Fulfillment of ASME Code requirements
- Updating of performance indicator data
- Engineering evaluations, root causes, and bases for returning tested systems, structures, and components not meeting the test acceptance criteria were correct
- Reference setting data
- Annunciators and alarms setpoints

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

- Routine surveillance test of the Unit 1turbine-driven auxiliary feedwater pump 1-1, October 4, 2011
- Routine surveillance test of the Unit 2 control room ventilation system flow and differential pressure, October 22, 2011
- Routine surveillance test of the Unit 1 control room ventilation system tracer gas in-leakage, November 2, 2011
- Routine surveillance test of Unit 1 pressurizer pressure channel November 15, 2011
- Inservice test of Unit 1, safety injection pump, November 25, 2011
- Inservice test of Unit 1, safety injection pump 1-1 Suction Valve 8923A, November 28, 2011
- Units 1 and 2 Routine reactor coolant system leak rate surveillance tests, December 10, 2011,
- Routine Unit 1 emergency diesel generator 1-2 engine analysis test, December 13, 2011
- Routine Unit 2, emergency diesel 2-3 surveillance test,December 21, 2011

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

These activities constitute completion of nine total samples as defined in Inspection Procedure 71111.22-05.

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope

The inspector performed an in-Office review of the Diablo Canyon Power Plant Emergency Plan Section 7, “Emergency Facilities and Equipment,” Revision 4, Change 15, submitted by letter dated July 26, 2011. This plan change implemented the dose assessment method described in Diablo Canyon Design Change Package (DDP) 1000000351, “Upgrade the Meteorological Instrumentation and Dose Assessment System (MIDAS). This change implemented a multiple regional meteorology tower input wind field dispersion model dose assessment system vice a terrain specific dispersion model. Included in this change was the addition of a seventh regional meteorological tower and a thirteenth pressurized ion chamber monitoring instrument.

This revision was compared to its previous revision, to the criteria of NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1, and to the standards in 10 CFR 50.47(b) to determine if the revision adequately implemented the requirements of 10 CFR 50.54(q). This review was not documented in a safety evaluation report and did not constitute approval of licensee-generated changes; therefore, this revision is subject to future inspection. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one sample as defined in Inspection Procedure 71114.04-05.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

.1 Training Observations

a. Inspection Scope

The inspectors observed a simulator training evolution for licensed operators on November 15, 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.

2. RADIATION SAFETY

Cornerstone: Occupational and Public Radiation Safety

2RS04 Occupational Dose Assessment (71124.04)

a. Inspection Scope

This area was inspected to: (1) determine the accuracy and operability of personal monitoring equipment; (2) determine the accuracy and effectiveness of the licensee's methods for determining total effective dose equivalent; and (3) ensure occupational dose is appropriately monitored. The inspectors used the requirements in

10 CFR Part 20, the technical specifications, and the licensee's procedures required by technical specifications as criteria for determining compliance. During the inspection, the inspectors interviewed licensee personnel, performed walkdowns of various portions of the plant, and reviewed the following items:

- External dosimetry accreditation, storage, issue, use, and processing of active and passive dosimeters
- The technical competency and adequacy of the licensee's internal dosimetry program
- Adequacy of the dosimetry program for special dosimetry situations such as declared pregnant workers, multiple dosimetry placement, and neutron dose assessment
- Audits, self-assessments, and corrective action documents related to dose assessment since the last inspection

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

These activities constitute completion of the one required sample as defined in Inspection Procedure 71124.04-05.

b. Findings

No findings were identified.

2RS05 Radiation Monitoring Instrumentation (71124.05)

a. Inspection Scope

This area was inspected to verify the licensee is assuring the accuracy and operability of radiation monitoring instruments that are used to: (1) monitor areas, materials, and workers to ensure a radiologically safe work environment; and (2) detect and quantify radioactive process streams and effluent releases. The inspectors used the requirements in 10 CFR Part 20, the technical specifications, and the licensee's procedures required by technical specifications as criteria for determining compliance. During the inspection, the inspectors interviewed licensee personnel, performed walkdowns of various portions of the plant, and reviewed the following items:

- Selected plant configurations and alignments of process, post accident, and effluent monitors with descriptions in the FSARU and the offsite dose calculation manual
- Selected instrumentation, including effluent monitoring instrument, portable survey instruments, area radiation monitors, continuous air monitors, personnel contamination monitors, portal monitors, and small article monitors to examine their configurations and source checks

- Calibration and testing of process and effluent monitors, laboratory instrumentation, whole body counters, post accident monitoring instrumentation, portal monitors, personnel contamination monitors, small article monitors, portable survey instruments, area radiation monitors, electronic dosimetry, air samplers, continuous air monitors

- Audits, self-assessments, and corrective action documents related to radiation monitoring instrumentation since the last inspection

Specific documents reviewed during this inspection are listed in the attachment. These activities constitute completion of the one required sample as defined in Inspection Procedure 71124.05-05.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

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

.1 Data Submission Issue

a. Inspection Scope

The inspectors performed a review of the data submitted by the licensee for the third quarter 2011 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 Reactor Coolant System Specific Activity (BI01)

a. Inspection Scope

The inspectors sampled licensee submittals for the reactor coolant system specific activity performance indicator for Units 1 and 2 for the period from the fourth quarter 2010 through the third quarter 2011. 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 reactor coolant system chemistry samples, technical specification requirements, issue reports, event

reports, and NRC integrated inspection reports for the period of October 2010 through September 2011 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. In addition to record reviews, the inspectors observed a chemistry technician obtain and analyze a reactor coolant system sample. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of two reactor coolant system specific activity samples as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.3 Reactor Coolant System Leakage (BI02)

a. Inspection Scope

The inspectors sampled licensee submittals for the reactor coolant system leakage performance indicator for Units 1 and 2 for the period from the fourth quarter 2010 through the third quarter 2011. 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 logs, reactor coolant system leakage tracking data, issue reports, event reports, and NRC integrated inspection reports for the period of October 2010 through September 2011 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 reactor coolant system leakage samples as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems (71152)

.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 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's corrective action program and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors focused their review on repetitive equipment issues, but also considered the results of daily corrective action item screening discussed in Section 4OA2.2 above, licensee trending efforts, and licensee human performance results. The inspectors nominally considered the 6-month period of July 2011 through December 2011 although some examples expanded beyond those dates where the scope of the trend warranted.

The inspectors also included issues documented outside the normal corrective action program in major equipment problem lists, repetitive and/or rework maintenance lists, departmental problem/challenges lists, system health reports, quality assurance audit/surveillance reports, self-assessment reports, and Maintenance Rule assessments. The inspectors compared and contrasted their results with the results contained in the licensee's corrective action program trending reports.

Corrective actions associated with a sample of the issues identified in the licensee's trending reports were reviewed for adequacy.

These activities constitute completion of a single semi-annual trend inspection sample as defined in Inspection Procedure 71152-05.

b. Observations and Findings

Adverse Trend in Missed Technical Specification Required Surveillances

The inspectors identified an adverse trend related to the failure of the licensee to implement technical specification required surveillance tests. This trend included:

- SAPN 50222280, Failure to perform a power range nuclear instrumentation calibration during a reactor startup, March 24, 2009
- SAPN 50284723, Containment temperature surveillance test not performed, November 16, 2009
- SAPN 50323184, Inadequate emergency diesel generator power factor tests, April 9, 2010
- SAPN 50310054, Failure to perform containment concrete inspections, April 14, 2010
- SAPN 50328653, Inadequate remote shutdown equipment surveillance testing, July 13, 2010
- SAPN 50337146, Failure to adequately perform reactor coolant system leak rate surveillance due to calculation error, August 24, 2010
- SAPN 50044703, Inadequate engineering safety feature pump vibration testing, September 8, 2010
- SAPN 50368931, Failure to meet emergency diesel generator load rejection testing requirements due to a non-conservative Technical Specification, January 5, 2011
- SAPN 50371073, Failure to perform reactor protection system testing within the required frequency, January 20, 2011
- SAPN 50388482, Failure to perform reactor protection system turbine stop valve test, April 11, 2011
- SAPN 50416026, Less than adequate power operated pressurizer relief valve test, July 21, 2011

The licensee completed a common cause evaluation of the adverse trend on October 5, 2010. The licensee updated this evaluation in April 2011. The independent assessment organization also evaluated the adverse trend as part of the Technical

Specification Audit in October 2011. The licensee concluded that the trend was the result of various factors, including problems with:

- Screening and use of operating experience,
- Maintaining configuration control,
- Latent errors associated with the integration of licensing requirements into test procedures,
- Human performance errors, including poor communication between work groups,
- Inadequate oversight and awareness of the Surveillance Test Program, and
- Ineffective test coordinators.

The inspectors concluded that the licensee's common cause evaluation was effective in identifying the underlying causes contributing to the adverse trend. The licensee's corrective actions included the long term Licensing Basis Verification Project to address latent problems with the plant design and licensing basis documentation as well as reinforcing expectations and establishing accountability for an effective Technical Specification Surveillance Program. The inspectors will continue to monitor the licensee's actions to address the adverse trend.

Adverse Trend in Problem Evaluation

The inspectors concluded that licensee corrective actions were effective to reduce the adverse trend in problem evaluation. The inspectors first identified the adverse trend in September 2008 (described in Section 4OA2 of Inspection Report 05000275; 05000323/2008005). The NRC subsequently identified a substantive cross-cutting issue associated with this theme in the 2009 annual assessment. This theme continued through the 2011 NRC Mid-Cycle Assessment.

During the summer of 2011, inspectors completed a focused review of Pacific Gas and Electric's actions to address the substantive cross-cutting issue. The inspectors concluded that the licensee's recovery plan addressed the actions needed to improve performance. However, many of the licensee's initiatives had not been in place for an adequate time to allow the inspectors to assess the overall effectiveness of the recovery plan. The inspectors also identified a gap between the licensee's corrective actions and the supporting root cause analysis. The corrective action plan did not include specific actions to address deficiencies with the extended leadership team demonstrating or reinforcing behaviors among the staff.

The inspectors identified three new examples of less than adequate problem evaluation during the current semiannual trend:

- An inadequate extent of condition review of Fire Protection Program implementation issues during the third quarter 2011 (NCV 05000323/2011004-04, "Failure to Perform Surveillances on Fire Barriers").

- Several inadequate evaluations and extent of condition reviews associated with the control room habitability system during the third and fourth quarters 2011(NCV 05000323/2011005-01, “Less than Adequate Evaluations of a Degraded/Nonconforming Control Room Habitability Train”).

- An inadequate diesel generator operability evaluation on December 22, 2011 (Notification 50449149). This issue was determined to be minor because testing demonstrated that the diesel generator was fully operable despite the unexpected indication from test equipment.

The inspectors also identified three examples of thorough problem evaluation of complex issues. The inspectors observed the extended leadership team was highly engaged and effectively reinforcing behaviors among the staff during in each evaluation:

- Prompt operability determination of the control room habitability system, November 3, 2011 (SAPN 50438661)

- Containment fan cooler wiring exceeded equipment qualification temperatures, November 30, 2011 (SAPN 50443002)

- Operability determination following identification of unqualified reactor coolant pump under frequency and under voltage reactor protection system inputs on December 7, 2011 (SAPN 50445580)

In December 2011, inspectors completed a second focused review of Pacific Gas and Electric’s corrective actions. The results of this inspection are documented in Section 4OA2.4.

.4 Focused Review of the Substantive Cross-cutting Issue in Problem Identification and Resolution

In its March 4, 2009, Annual Assessment Letter (ML090630794) for Diablo Canyon, the NRC identified a cross-cutting theme in the thoroughness of problem evaluation aspect of the problem identification and resolution cross-cutting area [P.1(c)]. In its March 3, 2010, Annual Assessment Letter (ML100620897), the NRC opened a substantive cross-cutting issue based on this theme. This theme has continued, and the substantive cross-cutting issue has remained open, through the most recent assessment period, as discussed in the 2011 Mid-cycle Assessment Letter dated September 1, 2011 (ML112440169).

In July 2011, inspectors performed a focused inspection of the licensee’s root cause evaluation and of the resulting corrective actions developed to address this substantive cross-cutting issue. During the inspection, the inspectors noted that the licensee had performed a comprehensive and thorough root cause analysis and had developed a plan to address the deficiencies which led to the substantive cross-cutting issue. However, the inspectors concluded that many of the process improvements initiated through this plan had not been in place for a sufficient length of time to provide assurance that the intended goals would be met. Further, the inspectors identified a weakness in the corrective actions taken by the licensee to address one of the causes identified in its root cause analysis: a failure of the extended leadership team to effectively demonstrate and reinforce positive behaviors among the licensee staff.

The results of this inspection were further discussed in Inspection Report 05000275 and 05000323/2011004 (ML113220067).

a. Inspection Scope

On December 19 and 20, 2011, the NRC performed a follow-up focused inspection of the licensee's corrective actions implemented to correct the portion of its root cause statement regarding the role of management and supervision in demonstrating and reinforcing behaviors which led to thorough and complete problem evaluations. The inspectors noted that the majority of the recent NRC findings which led to the continuing cross-cutting theme were the result of weak or inadequate determinations of operability for safety-related equipment. Therefore, this inspection focused on the quality of these evaluations and on management's demonstration and reinforcement of behaviors which tended to support quality operability determinations.

The inspectors reviewed the revisions made to the licensee's root cause evaluation and the additional corrective actions to prevent recurrence (CAPRs) that were implemented following the July 2011 inspection. The inspectors evaluated the licensee's progress in implementing these CAPRs and reviewed the licensee's metrics and measures used to track their effectiveness. The inspectors reviewed changes to plant program procedures that were implemented as part of these CAPRs or as a part of other corrective actions initiated through the root cause evaluation. The inspectors reviewed communications from management to site personnel regarding quality of evaluations. Finally, the inspectors interviewed 13 operations and engineering personnel who were routinely involved in the development and documentation of operability determinations and a number of management and supervisory personnel who were responsible for oversight of operability determinations.

These activities constitute completion of one in-depth problem identification and resolution sample as defined in Inspection Procedure 71152-01.05.

b. Observations and Findings

The inspectors determined that the licensee had made significant changes to its programs, processes, and procedures which, if continued, will likely result in improvement in the quality of evaluation products. Further, the inspectors noted that there was evidence that the licensee continued to periodically review the status of these changes and to adjust them as necessary to ensure continued improvement.

During interviews, the inspectors noted that there appeared to be recognition at all levels of the organization of the changes the licensee was implementing to improve the quality of its evaluations. Particularly, both engineers and operators expressed positive feedback on the level of management support for the development of high quality evaluation products and on the resources provided (including training) to ensure evaluations of operability were completed in a high quality manner, according to communicated management expectations.

The inspectors noted an overall positive performance trend in the licensee's implementation or revision of programs, processes, and procedures designed to ensure complete, thorough, and accurate evaluations. However, the inspectors noted three areas of continued concern:

- Licensee staff do not fully understand the requirements of the new or revised procedures. Though the inspectors identified only a minor instance in which these procedures might fail to adequately provide for quality evaluations
- (see SAPN 50448164), several of the personnel interviewed did not have a thorough understanding of the requirements of the operability evaluation process.

- The licensee's new qualification program for performing prompt operability assessments was a one-time qualification, with no requalification required. The licensee entered this into the corrective action program as SAPN 50448197. Prior to the inspection, the licensee's training committee had made a recommendation to implement a requalification process.

- The inspectors determined that the Evaluation Work Product Quality metric (used to trend the quality of prompt operability assessments and other engineering evaluation products) was based on data that were too variable to provide meaningful trend information. The Engineering Work Product Review Teams that grade the evaluations and other work products were of varied composition, the mix of work product types reviewed by the teams varied significantly from period to period, and the grading system employed by the teams was subjective. The inspectors noted that these subjective, non-normalized criteria may not provide a consistent measure for monitoring performance trends in evaluation quality. The licensee entered this observation into the corrective action program as SAPN 50448495.

No findings were identified.

.5 Selected Issue Follow-up Inspection

a. Inspection Scope

During a review of items entered in the licensee's corrective action program, the inspectors recognized a corrective action item documenting:

- SAPN 5042678, Self-declaration of fatigue per fitness for duty rule, September 7, 2011

- SAPN 50443002, Containment fan cooler wiring exceeded equipment qualification temperatures, November 30, 2011

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.

.6 In-depth Review of Operator Workarounds

a. Inspection Scope

The inspectors conducted a cumulative review of operator workarounds on November 21, 2011, for Units 1 and 2, and assessed the effectiveness of the operator workaround program to verify that the licensee was: (1) identifying operator workaround problems at an appropriate threshold; (2) entering them into the corrective action program; and (3) identifying and implementing appropriate corrective actions. The review included walkdowns of the control room panels, interviews with licensed operators and reviews of the control room discrepancies list, the lit annunciators list, the operator burden list, and the operator workaround list.

These activities constitute completion of one review of operator workarounds sample as defined in IP 71152-05.

b. Findings

No findings were identified.

4OA3 Event Follow-up (71153)

.1 (Closed) Licensee Event Report 05000275/2011-002-01: Diablo Canyon Power Plant Units 1 and 2 Auxiliary Building Ventilation System Single Failure Vulnerability and Loss of Unit 2 Auxiliary Building Ventilation System

On January 11, 2011, Pacific Gas and Electric identified a condition prohibited by Technical Specification 3.7.12, “Auxiliary Building Ventilation System,” after both ventilation trains became inoperable following a single failure. This design vulnerability existed as part of the original plant design for both units. The licensee had an opportunity to identify and correct the problem when the ventilation control system was replaced in November 2010. The failure of the licensee to ensure the auxiliary building ventilation system met the single failure design basis was previously dispositioned as NCV 05000275/2011002-04 and 05000323/2011002-04, “Inadequate Design Control for the Auxiliary Building Ventilation System Control Panel Modification.”

This supplemental Licensee Event Report provided additional information related to the cause of the condition and corrective actions taken. The licensee determined that the design change process was deficient because the failure modes and effects analyses did not include a check for legacy issues. Corrective actions included system modifications to ensure the design basis criteria were met and provide for manual operation if automatic actuation is unavailable.

No additional findings of significance were identified during this review.

.2 (Closed) Licensee Event Report 05000275/2011-002-02: Diablo Canyon Power Plant Units 1 and 2 Auxiliary Building Ventilation System Single Failure Vulnerability and Loss of Unit 2 Auxiliary Building Ventilation System

On January 11, 2011, Pacific Gas and Electric identified a condition prohibited by Technical Specification 3.7.12, “Auxiliary Building Ventilation System,” after both ventilation trains became inoperable following a single failure. This design vulnerability

existed as part of the original plant design for both units. The licensee had an opportunity to identify and correct the problem when the ventilation control system was replaced in November 2010. The failure of the licensee to ensure the auxiliary building ventilation system met the single failure design basis was dispositioned as NCV 05000275/2011002-04 and 05000323/2011002-04, "Inadequate Design Control for the Auxiliary Building Ventilation System Control Panel Modification."

This supplemental Licensee Event Report clarified that only Unit 2 experienced an event that could have prevented fulfillment of its safety function.

No additional findings of significance were identified during this review.

.3 (Closed) Licensee Event Report 05000275/2011-004-01: Emergency Diesel Generators Actuated Upon 230 kV Isolation Due to Maintenance Activities on Relay Panel. On May 17, 2011, Unit 1 lost the preferred source of offsite power source due to inappropriate modification activities on energized equipment. All three emergency diesel generators automatically started as expected following the loss of offsite power. The loss of offsite power occurred as a technician was cutting an opening on the startup bus using a reciprocating saw. Mechanical vibration from the saw caused an electrical protective relay to actuate and separate the startup bus from preferred offsite power. The licensee's failure to adequately evaluate the impact of cutting activity in the vicinity of energized plant equipment was dispositioned as FIN 05000275/2011003-02, "Unplanned Loss of Preferred Offsite Power Due to Less than Adequate Work Planning."
This supplemental Licensee Event Report provided additional information related to the licensee's root cause evaluation and corrective actions. The licensee concluded that plant personnel failed to perform an adequate risk assessment during the planning stage of the modification. While evaluating the work to be performed on the panel, personnel overlooked the possible effects of mechanical agitation to the protective relays. The licensee's corrective actions included revising station procedures to require a risk assessment and provide additional protective steps for work being performed in panels that can potentially impact both units.

No additional findings of significance were identified during this review.

.4 (Closed) Licensee Event Report 05000275/2011-005-01: Emergency Diesel Generator Actuations Upon Loss of 230 kV Startup Due to Electrical Maintenance Testing Activities

On May 26, and May 27, 2011, 230 kV preferred offsite power supply was lost to Unit 1. All three emergency diesel generators automatically started as expected. The loss of offsite resulted from personnel error during the installation of post modification test equipment on the Unit 2 startup bus The failure of plant technicians to follow post-modification testing work instructions was previously dispositioned as FIN 05000275/2011003-03; "Unplanned Loss of Preferred Offsite Power Due to the Failure to Follow Work Instructions".

This supplemental Licensee Event Report provided additional information related to the licensee's root cause evaluation and corrective actions. The licensee concluded that the events were the result of human error and inconsistent reinforcement of human performance. An inadequate post modification procedure contributed to the event. The licensee's corrective actions included strengthening expectations for correct component

identification during maintenance activities, uses of robust barriers on adjacent components, and developing maintenance supervisor coaching.

No additional findings of significance were identified during this review.

4OA6 Meetings

Exit Meeting Summary

On September 29, 2011, the inspectors presented the preliminary inspection results on evaluations of changes, tests, or experiments and permanent plant modifications to Mr. K. Peters, Vice President of Engineering and Projects, and other members of the licensee's staff. The licensee acknowledged the results as presented. While some proprietary information was reviewed during this inspection, no proprietary information was included in this report.

On December 8, 2011, the inspectors presented the results of the radiation safety inspections to Mr. J. Welsh, Station Director, 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.

On December 20, 2011, the inspectors presented the problem identification and resolution focused baseline inspection results to Mr. J. Becker, Site Vice President, and other members of the licensee staff. The licensee acknowledged the issues presented. The licensee confirmed that no proprietary information was reviewed during the inspection or retained by the inspectors.

On December 23, 2011, the inspector discussed the results of the in-office review of emergency preparedness plan changes with Ms. P. Grefen, Director, Operations, and other members of the licensee's 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 January 4, 2012, 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 inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. All proprietary information provided during the inspection was clearly identified.

4OA7 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 meet the criteria of Section 2.3.2 of the NRC Enforcement Policy for being dispositioned as non-cited violations.

Failure to Evaluate the Cumulative Effect of Operator Work Arounds

Title 10 CFR, Part 50, Appendix B, Criteria V, “Instructions, Procedures, and Drawings,” required the licensee to perform activities affecting quality in accordance with procedures appropriate to the circumstances. Quality Procedure OP1.DC40, “Operations Equipment Deficiency Tracking,” Revision 5, required the shift manager or designee to identify and evaluate operator work arounds for the cumulative effect on the capability of plant operators to implement compensatory actions during plant transients. On November 21, 2011, the licensee identified that neither the shift manager nor designee had identified or evaluated the cumulative effect of operator work arounds. The finding was more than minor because the performance deficiency was associated with the Mitigating Systems Cornerstone human performance attribute and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events. The inspectors concluded that the finding was of very low safety significance, Green, because the performance deficiency was not a design or qualification deficiency, did not result in the loss of operability or functionality of Technical Specification equipment, or potentially risk significant due to a seismic, flooding, or severe weather initiating event. Pacific Gas and Electric entered the issue into the corrective action program as Notification 50441633.

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
L. Walter, Director Learning Services
L. Hopson, Acting Director Site Services
W. Guldemond, Special Assistant to the Site Vice President
T. Baldwin, Manager, Regulatory Services
N. Jahangir, Manager Engineering
P. Gerfen, Manager, Operations
T. Irving, Manager, Radiation Protection
L. Hopson, Manager, Site Services
J. Summy, Director, Engineering Services
M. Zawalick, Senior Advising Coordinator, Emergency Preparedness
M. Barnby, Engineer, Radiation Protection
T. Irving, Manager, Radiation Protection
J. Knemeyer, Effluents Engineer, Chemistry
K. O'Neil, System Engineer, Engineering Services
L. Sewell, Engineering Leader, Radiation Protection
D. Shippey, ALARA Team Leader, Radiation Protection
S. Stoffel, Dosimetry Laboratory and Office Supervisor, Radiation Protection

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000275; 05000323/-2011005-01	NCV	Less than Adequate Evaluations of a Degraded/Nonconforming Control Room Habitability Train (Section 1R15.1)
05000275; 05000323/-2011005-02	NCV	Failure to Perform an Operability Determination for New Seismic Information (Section 1R15.2)

Closed

05000275; 323/2011002-03	URI	Failure to Perform an Operability Evaluation Following Receipt of New Seismic Information (Section 1R15.2)
05000275/2011-002-01	LER	Diablo Canyon Power Plant Units 1 and 2 Auxiliary Building Ventilation System Single Failure Vulnerability and Loss of Unit 2 Auxiliary Building Ventilation System (Section 4OA3.1)
05000275/2011-002-02	LER	Diablo Canyon Power Plant Units 1 and 2 Auxiliary Building Ventilation System Single Failure Vulnerability and Loss of Unit 2 Auxiliary Building Ventilation System (Section 4OA3)

05000275/2011-004-01	LER	Emergency Diesel Generators Actuated Upon 230 kV Isolation Due to Maintenance Activities on Relay Panel (Section 4OA3.2)
05000275/2011-005-01	LER	Emergency Diesel Generator Actuations Upon Loss of 230 kV Startup Due to Electrical Maintenance Testing Activities (Section 4OA3.3)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

PROCEDURES

NUMBER	TITLE	REVISION
STP M-90A	Monthly Surveillance of Diablo Canyon Breakwaters	3
STP M-90B	Annual Surveillance of Diablo Canyon Breakwaters	3
STP M-90C	Hillside Evaluation of Earth Cover Over ASW Pipes	0

NOTIFICATIONS

50439506

DRAWINGS

NUMBER	TITLE	REVISION
40166771	Auxiliary Saltwater System Bypass Piping – Grading and Paving Plan	1
4016692	Auxiliary Saltwater System Bypass Piping Tie-In Grading and Paving Plan	1
4001982	Intake Structure Underground Utilities and Finished Grade	4

MISCELLANEOUS DOCUMENTS

TITLE	DATE
Auxiliary Seawater System, Erosion Protection for New Bypass Piping Final Report	October 1996
Auxiliary Seawater Cooling System, Erosion Protection for New Bypass Piping – Evaluation of As-built Configuration	May 1997

Section 1R04: Equipment Alignment

PROCEDURES

NUMBER	TITLE	REVISION
DCM S-9	Safety Injection System	27
DCM S-14	Component Cooling Water System	17
DCM S-21	Diesel Engine System	21A

DRAWINGS

102009	Piping Schematic Safety Injection System	56
108014	Piping Schematic Component Cooling Water System	51
102021	Diesel Engine-Generator Associated Systems	67

Section 1R05: Fire Protection

NOTIFICATIONS

50431759 50431800

Section 1R07: Heat Sink Performance

PROCEDURES

NUMBER	TITLE	REVISION / DATE
BIO D-5	CCW Heat Exchanger Microfouling Stamping and Analysis	1
BIO D-4	CCW Heat Exchanger Microfouling Stamping and Analysis	1
STP M-26	ASW System flow Monitoring	30
File 420DC-11.19	DCPP CCE 2-1 and 2-2 heat Exchanger Tests	May 25, 2011

NOTIFICATIONS

50365261 5037898 50445793 64068293

Section 1R11: Licensed Operator Requalification Program

PROCEDURES

NUMBER	TITLE	REVISION
Lesson ECA1-MS3	Seismic Event with Small Break LOCA	2

Section 1R12: Maintenance Effectiveness

PROCEDURES

NUMBER	TITLE	REVISION
MA1.ID17	Maintenance Rule Monitoring Program	23

NOTIFICATIONS

50086255	50419169	50414785	50379381	50344783

DOCUMENTS

Maintenance Rule Expert Panel Meeting 179, November 17, 2011

Section 1R15: Operability Evaluations

PROCEDURES

NUMBER	TITLE	REVISION
STP M-9A	Diesel Engine Generator Routine Surveillance Test	90
STP P-AFW-22	Routine Surveillance Test of Motor-Driven Auxiliary Feedwater Pump 2-1	16
OP H-5: III	Control Room Ventilation System, Shutdown and Clearing	17
NUCON 12-366	Envelope Leakage Testing and Characterization Using the Constant Injection Test Method	2
AD13.DC12	Control Room Envelope Habitability Program	0
STP M-57	Control Room Ventilation System Tracer Gas Test	2
STP M-57	Control Room Ventilation System Tracer Gas Test	3XPR
STP M-53	Control Room Ventilation System – DOP and Halide Penetration Tests	16
PMT 23.39	Control Room Ventilation Test to Satisfy Generic Letter 2003-01	0
TP TB-11012	CRVS Flow and D/P Test with Opposite Unit CRVS Off	0
OM7.ID12	Operability Determinations	22
OP1.DC10	Conduct of Operations	29

NOTIFICATIONS/ACTION REQUESTS

50428811	50373996	50447696	50449027	A0562732
50445429	50445801	50427025	50445801	50445429
50445612	50432954	50432955	50424714	

CALCULATIONS/OTHER DOCUMENTS

NUMBER	TITLE	REVISION / DATE
9000041233	Fuel Handling Cranes/Containment Polar Crane	Draft

ASTM E 741	Standard Test Method for Determination Air change in a Single Zone by Means of Tracer Gas Dilution	2006
2252C-2	Seismic Analyses of DCPP Polar Crane Reflecting Current Unit 1 Configuration	A
96-01	Control Room Ventilation System	0
DCM S-23F	Design Criteria Memorandum – Control Room HVAC	17
60039328	Refurbish Unit 1 S-36 Fan Internals	August 9, 2011

Section 1R17: Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications

PROCEDURES

NUMBER	TITLE	REVISION
TS3.ID2	Licensing Basis Impact Evaluations	29
CF3.ID6	Drawing Change Transmittal Processing	21
CF3. ID9	Design Change Development	39
CF3. ID13	Replacement Part Evaluation and CITE	21
CF4. ID1	Modification Request and Authorization	14
CF4. ID3	Modification Implementation	26
CF4. ID4	Field Change Process	16A
CF7. ID4	Processing of Documents Received from Suppliers	10
STP M-122	Diesel Fuel Oil Underground Storage Tanks (DFOUST) 0-1 and 0-2 Interstitial Test and Leak Detection Test	4
MA1.ID14	Plant Crane Operating Restrictions	20
STP M-87	Operation Leak Inventory of ECCS Systems Outside Containment Likely to Contain Highly Radioactive Fluids Following an Accident	17
OP AP-15	Loss of Feedwater Flow	24
EOP E-1	Loss of Reactor or Secondary Coolant	22
OP J-2: VIII	Guidelines for Reliable Transmission Service for DCPP	17
OP J-6B: III	Diesel Generator 2-3 Make Available	24
PEP M-246	Feed and Bleed of the CCW System	5
STP V-18S	Nonintrusive Test of MU-1-971	6
STP V-18S	Nonintrusive Test of MU-2-971	2
OP F-2: III	Component Cooling Water System – Shutdown and Clearing	27
OP F-2: III	Component Cooling Water System – Shutdown and Clearing	23
OP L-5	Plant Cooldown From Minimum Load to Cold Shutdown	89

OP L-5	Plant Cooldown From Minimum Load to Cold Shutdown	74
EOP E-3	Steam Generator Tube Rupture	33
CF3.ID9	Design Change Development	39
MP M-7.36	Pressurizer Safety Valve Lift Point Setting Using Steam	27
STP M-77	Safety and Relief Valve Testing	32

CALCULATIONS

NUMBER	TITLE	REVISION / DATE
HVAC 82-09	Auxiliary Building Ventilation System	14
M-912	Fire Protection (Appendix R) Station Blackout	6
STA-270	CVCS System – CCP 1-1 & 1-2 Discharge Orifice Sizing	0
M-410	CCW System Pressure and Temperature	17
M-305	CCW System Pressure and Temperature	25
M-1143	Heads and Heat Removal Rates for the Spent Fuel Pool Temporary Cooling System	0
STA-195	Design Bases Dose Consequences and Recirculation Loop Margin Leakage Rates	1
N-231	Evaluate Containment Spray Volume for CSS	0
M-1109	Diablo Canyon Units 1 and 2 GSI-191 Containment Recirculation Sump Evaluation: Debris Transport Calculation	2
STA-220	RHR System Pressurization Due to INPO OE 20893 SBLOCA Scenario	0
M-1152	Determine Head Loss Through Reactor Cavity Hatch During Post-LOCA Recirculation	0
STA-237	LOCA /MSLB Containment EQ Envelope P/T Curves for RSGs	1
N-013	Motor Operated Valve Limiting Process Conditions Evaluation (For GL-89-10)	20
W-042-01	Reactor Coolant System – Pressurizer Safety Valves	September 18, 2008
SQE-50	Seismic Qualification – Pressurizer	8

DRAWINGS

NUMBER	TITLE	REVISION / DATE
07-45546-01	In-Line Check Valve Carbon Steel, Flanged Ends Normally Open	October 29, 2007
500003	Piping and Mechanical Area A - Miscellaneous Sections and Details	14

500002	Piping and Mechanical Area A - Plans at Elevation 85'-0" & 107'-0"	15
108021	Turbo Charger Air Assist System 2-1, Sht. 4	43
102021	Turbo Charger Air Assist System, Sht. 4	61
108021	Starting Air System 2-1, Sht. 3	41
102021	Starting Air System, Sht. 3	60
106704	Auxiliary Feedwater Pump 1-1, Sht. 4	88
106704	High Pressure Turbine East Side Main Steam Supply, Sht. 3	109
102023	Containment Atmosphere Ventilation and A/C Penetrations, Sht. 3	109
102009	Safety Injection System, Sht. 3	67
108009	Safety Injection System, Sht. 3	54
108009	Safety Injection System, Sht. 5	6
104628	ASME Code Boundaries for ISI Program Safety Injection System, Sht. 19	53
102036	Multivariable Instrument Systems, Sht. 8	109
102004	Turbine Steam Supply System, Sht. 4	100
102004	Turbine Steam Supply System, Sht. 6	96
6011930	¾" – 1878 LB Piston Check Valve, Sht. 80	8
108007	Reactor Coolant System, Sht. 4	55

SCREENS

NUMBER	TITLE	DATE
2008-030	"Locking Out" up to 3 Cylinders on EDG	March 1, 2008
2007-068	POA for MU-1-1555 Leakage	July 3, 2007
9000019170	STA-061 FSAR Table 6.3-5 Update	October 30, 2008
9000019736	LBIE & TCOA Screen SBLOCA RHR/CCW	June 19, 2009
1000000175	CCP Discharge Orifice Contingency DCP – Unit 1	January 19, 2009
1000000282	Replaced Check Valves MS-1-5166 and MS-1-5167	October 14, 2009
1000000385	DG Turbo and Starting Air Compressor Hydraulic Unloader Sensing Tubing Relocation	September 15, 2010
1000000397	Replaced RCDT Concrete Hatch Covers with Grating	October 29, 2010
1000000343	Unit 2 Auxiliary Transformer 2-2 Cooler Replacement	June 23, 2010

9000039632	Calculation M-876, Determine the Required Fuel Oil Storage to Meet DCPP Licensing Basis	May 28, 2010
9000039286	Error in Calculation M-550, Revision 3	February 22, 2010
1000000251	Replacement of interior coating for the Condensate Storage Tanks	March 18, 2009
1000000391	Unit 1 Traveling Screen Speed Control	July 28, 2011
9000019634	Temporary Change to STP M-87, Operation Leak Inventory	September 13, 2011
50414294	OP J-2: VIII, Guidelines for Reliable Transmission Service for DCPP	September 6, 2011
50080913	Raise EH TS-9 Alarm Setpoint – Unit 1, Rev. 0	October 23, 2008
EOP ECA-0.1	Loss of All AC Power without SI Required	April 23, 2009
1000000275	SI Test Line Isolation Valves	May 24, 2010
1000000233	DRPI Cable Replacement, Unit 1	June 4, 2009
OP J-6B: III	Unloader Configurations for Diesel Generator 2-3 Compressor	December 12, 2010

DESIGN CHANGE PACKAGES

NUMBER	TITLE	REVISION / DATE
DDP 1000000205	Diesel Fuel Oil Storage Tank Cathodic Protection Abandonment	April 21, 2009
DDP 1000000175	Installation of Centrifugal Charging Pump Discharge Trimming Orifice	January 15, 2009
DDP 1000000126	Removal of the Cask Pit Rack and Installation of the Restraint Cup	January 7, 2009
1000000397	Install Grating Over RCDT at 91' Containment	0
1000000282	MS-1-5166 and MS-1-5167 Check Valve Replacement	0
1000000385	Relocation of Turbo Air Compressor and Starting Air Compressor Hydraulic Unloader Sensing Lines	0
1000000165	Convert the Pressurizer Safety Valves from Water-Seated to Steam-Seated	June 2, 2009
1000000247	Replace Check Valve Spring with a Stiffer Spring in CVCS-1-8109	February 20, 2009
1000000154	Replace 2" Safety Injection Lift Check Valves with Piston Check Valves	November 11, 2008

EVALUATIONS

NUMBER	TITLE	DATE
2010-013	Revised Calculation to Incorporate a Pressure Drop Penalty for the Potential of the Sump Isolation Valve not Being Fully Open	September 8, 2010
2010-023	FSARU 15.4.3 Steam Generator Tube Rupture Revised Analysis for Margin to Overfill	October 22, 2011
2010-024	Replaced RCDT Concrete Hatch Covers with Grating	October 30, 2010
2011-009	Replace the existing containment fan cooler unit motor to fan couplings with a combination coupling and anti-reverse rotation device, Unit 2	August 4, 2010
2010-017	Installation of a backup spent fuel pool cooling system	August 10, 2010
2010-015	Replacement Licensing Basis Impact Evaluation for the elimination of the gross failed fuel detector indications	June 2, 2011
2010-008	Unit 1 SI Test Header Project (Revision 1) – DCP 1*275)	May 24, 2010
2010-011	Bypass the P-12 Interlock in Mode 3	June 30, 2010
2011-013	PEP M-246, STP V-18s, and OP F-2: III Section 6.6 and 6.7	July 14, 2011

MISCELLANEOUS DOCUMENTS

NUMBER	TITLE	REVISION / DATE
DCM S-9	Safety Injection System	31
WCAP-10698-P-A	Westinghouse SGTR Analysis Methodology to Determine the Margin to Steam Generator Overfill	August 1987
SMALL VLV.ADV	Design Specification for Gate, Globe and Check Valves – two inch nominal pipe size and smaller	G
DCM T-20	Environmental Qualification	9
2294	Engineering Specification for System Pressure Tests	May 11, 2007
P-9389	Replacement Part Evaluation	0
PO# 3500886907	Certificate of Conformance for PSV's	February 5, 2011
10087-M-NPG	Specification for Converting Pressurizer Safety Valves from Water Seated to Steam Seated	1

NOTIFICATIONS/ACTION REQUESTS

50233991	50087398	50337317	A0741278	50181325
50178786	50237461	50044478	50304423	50196587
50041909	50383957	50355946	50302332	50388490

EVALUATIONS

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2010-008	Unit 1 SI Test Header Project (Revision 1) – DCP 1*275)	May 24, 2010
2010-011	Bypass the P-12 Interlock in Mode 3	June 30, 2010
2011-013	PEP M-246, STP V-18s, and OP F-2: III Section 6.6 and 6.7	July 14, 2011

MISCELLANEOUS DOCUMENTS

NUMBER	TITLE	REVISION / DATE
DCM S-9	Safety Injection System	31
WCAP-10698-P-A	Westinghouse SGTR Analysis Methodology to Determine the Margin to Steam Generator Overfill	August 1987
SMALL VLV.ADV	Design Specification for Gate, Globe and Check Valves – two inch nominal pipe size and smaller	G
DCM T-20	Environmental Qualification	9
2294	Engineering Specification for System Pressure Tests	May 11, 2007
P-9389	Replacement Part Evaluation	0
PO# 3500886907	Certificate of Conformance for PSV's	February 5, 2011
10087-M-NPG	Specification for Converting Pressurizer Safety Valves from Water Seated to Steam Seated	1

50350918	50275213	50153193	50286775	50356557
50428772	50428975	50428998	50429670	50429841
50292680	50306357	50288021	50286013	50289590
50429844	50429877			

Section 1R18: Plant Modifications

PROCEDURES

NUMBER	TITLE	REVISION / DATE
MP E-64.6A	Maintenance of ABB K-Line Circuit Breakers	36
AD7.DC8, Att.2	Configuration Documentation Sheet, WO 60038652	October 25, 2006

Section 1R19: Postmaintenance Testing

PROCEDURES

NUMBER	TITLE	REVISION
MP E-64.6A	Maintenance of ABB K-Line Circuit Breakers	36
STP P-DFO-02	Routine Surveillance Test of Diesel Fuel Oil Transfer Pump 0-2	7
MP E-57.10B	Generic 115 VAC and 480 VAC Motor Preventive Maintenance	15
MP E-57.10C	Generic 4kV Motor Preventive Maintenance	2
OP B-1A:V	CVCS – Transfer Charging Pumps	29
STP M-12B	Battery Charger Performance Test	15
MP E-67.3C	Maintenance of Solidstate Controls 400A Vital Station Battery Chargers	8
OP H-1:I	Auxiliary Building Safeguards Ventilation (ABVS) – Make Available	14
STP P-CSP-21	Routine Surveillance Test of Containment Spray Pump 2-1	12
STP M-9X	Diesel Generator Operability Verification	23

NOTIFICATIONS

50414813

Section 1R22: Surveillance Testing

PROCEDURES

NUMBER	TITLE	REVISION
STP I-1B	Routine Daily Checks Required By Licenses	121
STP-P-AFW-11	Routine Surveillance Test of Turbine-Driven Auxiliary Feedwater Pump 1-1	31
TP TB-11012	CRVS Flow and D/P Test with Opposite Unit CRVS Off	0
STP M-57	Control Room Ventilation System Tracer Gas Testing	1

STP M-9A	Diesel Engine Generator Routine Surveillance Test	90
STP I-7-P457.A	Pressurizer Pressure Channel P457 Channel Operational Test	1
STP V-3L10A	Exercising Valve SI-8923A, Safety Injection Pump 1 Suction Valve	4
STP M-21-A.1	Diesel Engine Analysis	7
OP J-6B:V	Diesel Generators – Manual Operation of DG 1-2	29
STP M-9I	Diesel Generator Start and Load Tracking	22
MA1.DC51	Preventive Maintenance Program	15
AD13.DC1	Control of the Surveillance Testing Program	36

NOTIFICATIONS

50434824 50446784 50446785 50446786

Section 1EP4: Emergency Action Level and Emergency Plan Changes

NUMBER	TITLE
LBIE 2011-001	Emergency Plan Revision for MIDAS Upgrade
DDP 1000000351	MIDAS Upgrade Project

Section 1EP6: Drill Evaluation

PROCEDURES

NUMBER	TITLE	REVISION
ECA1-MS3	Simulator Event Sequence	2

Section 2RS04: Occupational Dose Assessment

PROCEDURES

NUMBER	TITLE	REVISION
RP1	Radiation Protection	7
RP1.ID6	Personnel Dose Limits and Monitoring Requirements	10A
RP1.ID10	Embryo/Fetus Protection Program	5
RCP-DP-1.1	Personnel Dosimetry Program Overview	6
RCP-D-200	ALARA Planning and Controls	47
RCP-D-201	Writing Radiation Work Permits	1
RCP-D-202	RP Work Instructions	3
RCP-D-215	Radiological Coverage of Underwater Work	8
RCP-D-220	Control of Access to High, Locked High, and Very High	38

	Radiation Areas	
RCP-D-310	RCA Access Control	24
RCP-D-320	TLD Issue and Control	23
RCP-D-328	Implementation of Personnel Dosimetry Effective Dose Equivalent	1
RCP-D-330	Personnel Dosimetry Evaluations	9A
RCP-D-353	Canberra Fastscan Whole Body Counter Operation	15
RCP-D-363	Operation of the Canberra Bed Counter	2
RCP-D-370	Evaluation of Internal Deposition of Radioactive Material	12
RCP-D-410	Issuing Respiratory Protective Equipment	17
RCP-D-420	Sampling and Measurement of Airborne Radioactivity	26
RCP-D-430	Plant Airborne Radioactivity Surveillance	20
RCP-D-600	Personnel Decontamination and Evaluation	26A

AUDIT, SELF-ASSESSMENTS, AND SURVEILLANCES

NUMBER	TITLE	DATE
22684	NUPIC Audit of Thermo Fisher Scientific West Columbia, DC	May 19, 2010
20345	NUPIC Audit of Mirion Technologies (Conax Nuclear), Inc. Buffalo, NY	November 17, 2009
22992	NUPIC Audit of GE Reuter Stokes Inc Twinsburg, OH	March 23, 2011
20371	NUPIC Audit of Eberline Services, Richmond, CA Laboratory Richmond, CA	September 23, 2009
23094	NUPIC Audit of Eckert & Ziegler Analytics Atlanta, GA	May 5, 2011
22582	NUPIC Audit of Canberra Industries, Inc. Meridan, CT	April 15, 2010
06-03	Supplier Audit Ludlum Measurements Inc. Sweetwater, TX	November 2-3, 2006
	Pacific Gas and Electric Company NUPIC Checklist Rev. 13/14/15 Format Mirion Technologies (MGPI) Smyrna, GA	October 31, 2011
	Supplier Quality Assurance Program Qualification Battele Pacific Northwest Lab	January 25, 2011
	Diablo Canyon Power Plant Quality Performance Assessment Report (QPAR) - Second Period 2011	April 1, 2011 - June 6, 2011
	Diablo Canyon Power Plant Quality Performance Assessment Report (QPAR) - First Period 2011	November 12, 2010 - March 31, 2011

	Diablo Canyon Power Plant Quality Performance Assessment Report (QPAR) - Third Period 2010	August 6, 2010 – November 11, 2010
	Diablo Canyon Power Plant Quality Performance Assessment Report (QPAR) - Second Period 2010	April 17, 2010 – August 5, 2010
	Diablo Canyon Power Plant Quality Performance Assessment Report (QPAR) - First Period 2010	November 14, 2009 – April 16, 2010
	Diablo Canyon Power Plant Quality Performance Assessment Report (QPAR) - Third Period 2009	July 20, 2009 – November 13, 2009
	Diablo Canyon Power Plant Quality Performance Assessment Report (QPAR) Second Period 2009	March 19, 2010 - July 19, 2009
100610010	Radiation Protection Programs Audit	March 18, 2010 - July 8, 2010

NOTIFICATIONS

50251084	50281734	50262810	50263315	50276273
50268429	50350630	50350902	50367597	50385796
50388734	50309422	50440598	50404164	50437162
50417444	50437447			

MISCELLANEOUS DOCUMENTS

NUMBER	TITLE	DATE
RCP-D-330 Att.10.1	Lost or Damaged TLD Report	September 15, 2009
RCP-D-370 Att. 10.4	Assessment of Internal Dose	January 28, 2011
	Distributed Particle Skin Dose Evaluation	October 13, 2009
	Discrete Particle Skin Dose Evaluation	November 4, 2009
	Whole Body Count Analysis Report	November 27, 2011
	Whole Body Count Analysis Report	November 29, 2011
	Whole Body Count Analysis Report	November 8, 2010

Section 2RS05: Radiation Monitoring Instrumentation

PROCEDURES

NUMBER	TITLE	REVISION
CY2ID1	Radioactive Effluents Control Program	11
RCP D-900	Performance Tests for Radiation Protection Instruments	44A
RCP D-954	Thermo Electronic Dosimeter Operation	16
MP 1-RD01	Eberline RO2 and RO2A Ion Chamber Calibration	6

AUDIT, SELF-ASSESSMENTS, AND SURVEILLANCES

NUMBER	TITLE	DATE
100610010	Radiation Protection Programs Audit	July 27, 2010

NOTIFICATIONS

50309422	50313866	50254783	50208791	50251973
50401701	50420373	50417444	50401282	50420373
50206723	50261394			

CALIBRATION RECORDS – EFFLUENT AND PROCESS MONITORS

NUMBER	TITLE	DATE
64019828	Unit 1 Plant Vent Noble Gas Monitor 1-R-14	June 2, 2010
64021585	Unit 1 Plant Vent Iodine Monitor 1-R-24	June 2, 2010
64019842	Unit 1 Plant Vent Particulate Monitor 1-R-28	June 2, 2010
64021688	Liquid Radwaste Discharge Monitor 0-R-18	April 2, 2010
64035768	Liquid Radwaste Discharge Monitor 0-R-18	September 23, 2011

CALIBRATION RECORDS – POST ACCIDENT MONITORS

NUMBER	TITLE	DATE
64006074	Unit 2 Containment High Range Area Monitor 2-R-31	May 13, 2010
64022161	Unit 2 High-Range Plant Vent Gas Monitor 2-R-29	February 24, 2011

CALIBRATION RECORDS – WHOLE BODY COUNTERS

NUMBER	TITLE	DATE
	Canberra ABACOS-2000 Fastscan Counting System	June 14, 2011

CALIBRATION RECORDS – PERSONNEL CONTAMINATION MONITORS

NUMBER	TITLE	DATE
05-12-009	Canberra Argos	August 4, 2011
05-13-006	Canberra GEM-5	August 5, 2011

CALIBRATION RECORDS – CABINET MONITORS

NUMBER	TITLE	DATE
RP 06.25.02	Small Article Monitor	September 1, 2011

CALIBRATION RECORDS – PORTABLE SURVEY INSTRUMENTS

NUMBER	TITLE	DATE
RP 03.09.085	Eberline RO-2	December 2, 2011
RP 03.30.010	Ludlum 9-2	November 15, 2011
RP 03.28.005	Thermo FH-40GL	November 30, 2011

CALIBRATION RECORDS – AREA RADIATION MONITORS

NUMBER	TITLE	DATE
64028044	Control Room Area Monitor 0-R-1	October 7, 2011
64019111	Plant Vent Area Monitor 1-R-34	February 8, 2011

CALIBRATION RECORDS – ELECTRONIC DOSIMETERS

NUMBER	TITLE	DATE
137996	Thermo Electronic Dosimeter	October 11, 2011
173621	Thermo Electronic Dosimeter	April 13, 2011

CALIBRATION RECORDS – AIR SAMPLERS

NUMBER	TITLE	DATE
RP 04.15.051	Eberline RAP-1	May 18, 2011

MISCELLANEOUS DOCUMENTS

NUMBER	TITLE	DATE
	Annual Validation of Verification of the J. L. Shepherd Model 89 Irradiators: RS-001 & RS-002	December 7, 2011
	2010 Radwaste Correlation Factors	
	Counting laboratory performance trending charts	

Section 4OA1: Performance Indicator Verification

PROCEDURES

NUMBER	TITLE	REVISION / DATE
AWP E-004	Work Guideline: NRC Performance Indicator, RCS Leakage	5
STP R-10C	Reactor Coolant System Water Inventory Balance	40
CAP D-6	Dose Equivalent I-131 Calculation Sheet	August 30, 2010

Section 4OA2: Identification and Resolution of Problems

PROCEDURES

NUMBER	TITLE	REVISION
AD13.DC1	Control of the Surveillance Testing Program	36
MA1.DC51	Preventive Maintenance Program	15
OM7.ID1	Problem Identification and Resolution	39
OM7.ID12	Operability Determinations	22
OP1.DC.40	Operations equipment Deficiency Tracking	5
OM7.DC3	Engineering Decision Making	0
TS5.DC3	Engineering Work Product Review Team	2
XI1.ID4	NRC Interface and Inspection Support	0
TQ2.DC9	Leadership Development Program	2
OM7.ID12	Operability Determinations	21
OM7.ID12	Operability Determinations	22

NOTIFICATIONS

50443002	50443005	50443004	50371532	50441848
5040334	50337846	50337146	50337146	50310054
50368931	50367376	50438661	50426925	50448495
50303502	50430780	50441983	50448164	60024480

50415351	50433955	50445772	50448190	50448086
50415706	50440155	50446353	50448197	50441556
50421376				

OTHER

NUMBER	TITLE	REVISION / DATE
	Plant Performance Improvement Report	December 2011
	Plant Performance Improvement Report	July 2011
WG-6	Processing NRC Inspection Reports	4
DCLD-1104	Continuing Leadership Training: Station Program Effectiveness	2
	Survey Results: DCPP Safety Follow-Up Communications	November 3, 2011
	Presentation: Leadership Alignment Meeting	December 8, 2011

LIST OF ACRONYMS

CAPR	Corrective actions to prevent recurrence
CEDE	Committed effective dose equivalent
DDE	Double design earthquake
DCP	Design Change Package
FSARU	Final Safety Analysis Report Update
g	gravity
LTSP	Long Term Seismic Program
ADAMS	Agencywide Document Access and Management System
MIDAS	Meteorological Instrumentation and Dose Assessment System
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
SSCs	Structures, systems and components
SAPN	Systems applications process notification
SSE	Safe shutdown earthquake

Attachment B

The following items are requested for the
Occupational and Public Radiation Safety Inspection
at Diablo Canyon
December 5, 2011 – December 9, 2011

Integrated Report 2011005

Inspection areas are Occupational Dose Assessment (71124.04), Radiation Monitoring Instrumentation (71124.05)

Please provide the requested information in Sections C, D, F, and the other selected sections of each program area have it available for Regional Inspector review by November 21, 2011; and the balance of the information by December 5, 2011. Thank you for your support.

If you have any questions or comments, please contact me at (817)276-6547 or e-mail me at casey.alldredge@nrc.gov.

1. Occupational Dose Assessment (Inspection Procedure 71124.04) to be reviewed by Casey Alldredge

NOTE: Please submit this information using the same lettering system as below. For example, all contacts and phone numbers for the above inspector should be in a file/folder titled 1- A, Applicable organization charts in file/folder 1- B, etc.

A List of contacts and telephone numbers for the following areas:

1 Dose Assessment personnel

B Applicable organization charts

C Audits, self assessments, surveillances, vendor or NUPIC audits of contractor support, and LERs written since June 1, 2009, related to:

1. Occupational Dose Assessment

D Procedure indexes for the following areas

1. Occupational Dose Assessment

E Please provide specific procedures related to the following areas. Additional Specific Procedures will be requested by number after the inspector reviews the procedure indexes.

1. Radiation Protection Program
2. Radiation Protection Conduct of Operations
3. Personnel Dosimetry Program
4. Radiological Posting and Warning Devices
5. Air Sample Analysis

6. Performance of High Exposure Work
7. Declared Pregnant Worker
8. Bioassay Program

F List of corrective action documents (including corporate and subtiered systems) written since June 1, 2009, associated with:

1. NVLAP accreditation
2. Dosimetry (TLD/OSL, etc.) problems
3. Electronic alarming dosimeters
4. Bioassays or internally deposited radionuclides or internal dose
5. Neutron dose

NOTE: The lists should indicate the significance level of each issue and the search criteria used.

G List of positive whole body counts since June 1, 2009, names redacted if desired

H Part 61 analyses/scaling factors

2. Radiation Monitoring Instrumentation (71124.05) to be reviewed by Larry Ricketson

NOTE: In an effort to keep the requested information organized, please submit this information to us using the same lettering system below. For example, all contacts and phone numbers for the above inspector should be in a file/folder titled 2- A, Applicable organization charts in file/folder 2- B, etc.

A. List of contacts and telephone numbers for the following areas:

1 Effluent monitor calibration

3 Radiation protection instrument calibration

4 Installed instrument calibrations

5 Count room and Laboratory instrument calibrations

B. Applicable organization charts

C. Copies of audits, self-assessments, surveillances, vendor or NUPIC audits for contractor support and LERs, written since January 1, 2009, related to:

1 Area radiation monitors, continuous air monitors, criticality monitors, portable survey instruments, electronic dosimeters, teledosimetry, personnel contamination monitors, or whole body counters

2 Installed radiation monitors

D. Procedure index for:

1 Calibration, use and operation of continuous air monitors, criticality monitors, portable survey instruments, temporary area radiation monitors, electronic

dosimeters, teledosimetry, personnel contamination monitors, and whole body counters.

2 Calibration of installed radiation monitors

E. Please provide specific procedures related to the following areas. Additional Specific Procedures will be requested by number after the inspector reviews the procedure indexes.

1 Calibration of portable radiation detection instruments (for portable ion chambers)

2 Whole body counter calibration

3. Laboratory instrumentation quality control

F. A summary list of corrective action documents (including corporate and subtiered systems) written since January 1, 2009, related to the following programs:

1 Area radiation monitors, continuous air monitors, criticality monitors, portable survey instruments, electronic dosimeters, teledosimetry, personnel contamination monitors, whole body counters,

2 Installed radiation monitors,

3 Effluent radiation monitors

4 Count room radiation instruments

NOTE: The lists should indicate the significance level of each issue and the search criteria used.

G. Offsite dose calculation manual, technical requirements manual, or licensee controlled specifications which lists the effluent monitors and calibration requirements.

H. Current calibration data for the whole body counter's.

I. Primary to secondary source calibration correlation for installed instruments - area radiation monitors, post accident monitors, and process monitors.

J. (1) The two most recent effluent discharge points (stack and liquid) calibration packages for the monitor and associated flow rate device. For multi-unit sites, the inspector will provide a list of the selected monitors to be reviewed.

PAPERWORK REDUCTION ACT STATEMENT

This letter does not contain new or amended information collection requirements subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). Existing information collection requirements were approved by the Office of Management and Budget, control number 3150-0011.