



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
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October 31, 2006

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SUBJECT: DIABLO CANYON POWER PLANT - NRC INTEGRATED INSPECTION  
REPORT 05000275/2006004 AND 05000323/2006004

Dear Mr. Keenan:

On September 30, 2006, the U.S. Nuclear Regulatory Commission completed an inspection at your Diablo Canyon Power Plant, Units 1 and 2, facility. The enclosed integrated report documents the inspection findings that were discussed on October 13, 2006, with Mr. James Becker and members of your staff.

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

There were two NRC-identified findings of very low safety significance (Green) identified in this report. These findings involved violations of NRC requirements. Additionally, two licensee-identified violations which were determined to be of very low safety significance (Green), are listed in Section 4OA7 of this report. However, because of their very low risk significance and because they are entered into your corrective action program, the NRC is treating these findings as noncited violations (NCVs) consistent with Section VI.A of the NRC Enforcement Policy. If you contest any NCV in this report, 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, DC 20555-0001; with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011-4005; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Diablo Canyon Power Plant.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document

system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

*/RA/*

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Dockets: 50-275  
50-323

Licenses: DPR-80  
DPR-82

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and 05000323/2006004  
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SUNSI Review Completed:  GEW  ADAMS:  Yes  No Initials:  GEW  
 Publicly Available  Non-Publicly Available  Sensitive  Non-Sensitive

R:\ REACTORS\ DC\2006\DC2006-04RP-TWJ.wpd

RIV:RI:DRP/B	SRI:DRP/B	C:DRS/OB	C:DRS/PSB	C:DRS/EB1
TAMcConnell	TWJackson	RLNease	MPShannon	JAClark
<b>E - GEWerner</b>	<b>E - GEWerner</b>	<b>/RA/</b>	<b>/RA/</b>	<b>/RA/</b>
10/30/06	10/30/06	<b>10/31/06</b>	10/27/06	10/27/06
C:DRS/EB2	C:DRP/B			
LJSmith	GEWerner			
<b>/RA/</b>	<b>/RA/</b>			
10/27/06	10/27/06			

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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Dockets: 50-275, 50-323  
Licenses: DPR-80, DPR-82  
Report: 05000275/2006004, 05000323/2006004  
Licensee: Pacific Gas and Electric Company (PG&E)  
Facility: Diablo Canyon Power Plant, Units 1 and 2  
Location: 7 ½ miles NW of Avila Beach  
Avila Beach, California  
Dates: July 2 through September 30, 2006  
Inspectors: T. Jackson, Senior Resident Inspector  
T. McConnell, Resident Inspector  
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Approved By: G. E. Werner, Chief, Projects Branch B  
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## SUMMARY OF FINDINGS

IR 05000275/2006-004, 05000323/2006-004; 07/02/06 - 9/30/06; Diablo Canyon Power Plant Units 1 and 2; Fire Protection, and Flood Protection.

This report covered a 13-week period of inspection by resident inspectors and Region-based emergency preparedness, health physics, and reactor inspectors. Two NRC-identified, Green, noncited violations 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." 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 3, dated July 2000.

### A. NRC-Identified and Self-Revealing Findings

#### Cornerstone: Mitigating Systems

- Green. The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to promptly identify a condition adverse to quality. Specifically, Pacific Gas and Electric Company failed to promptly identify that it had prestaged the wrong equipment (a flange hose connection with the wrong tread pattern) necessary to cross-connect the fire main water system to the auxiliary feedwater system during a loss of core cooling event. This performance deficiency was entered into Pacific Gas and Electric Company's corrective action program as Action Request A0676729.

The finding is greater than minor because it is associated with the Mitigating Systems Cornerstone attribute of procedure quality and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the inspectors determined that this finding is of very low safety significance because the condition did not represent a loss of system safety function, did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time, did not represent an actual loss of one or more risk-significant non-TS trains of equipment for greater than 24 hours, and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding has a crosscutting aspect in the area of human performance associated with resources because the licensee did not ensure that equipment needed to perform an EOP was available and adequate to assure nuclear safety (Section 1R05).

- Green. The NRC inspectors identified a noncited violation of 10 CFR 50.65(b) for the failure of engineering staff to include the auxiliary feedwater pump room floor drains within the scope of Pacific Gas and Electric Company's program for monitoring the effectiveness of maintenance at the Diablo Canyon Power Plant. Despite their credited function in the flood analysis, engineering staff did not



scope them into their monitoring program. This issue was entered into Pacific Gas and Electric Company's corrective action program as Action Request A0678658.

The finding is greater than minor because it is associated with the Mitigating Systems cornerstone attribute of protection against external factors and affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the inspectors determined that this finding is of very low safety significance because the condition did not represent a loss of system safety function, did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, did not represent an actual loss of one or more risk-significant non-Technical Specification trains of equipment for greater than 24 hours, and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding has a crosscutting aspect in the area of problem identification and resolution associated with operating experience because engineering personnel did not effectively incorporate pertinent industry operating experience into their program for evaluating the effectiveness of maintenance performed on auxiliary feedwater pump room floor drains (Section 1R06).

B. Licensee-Identified Violations

Violations of very low safety significance, which have been identified by Pacific Gas and Electric Company, have been reviewed by the inspectors. Corrective actions taken or planned by Pacific Gas and Electric Company have been entered into their corrective action program. These violations and corrective actions are listed in Section 4OA7 of this report.

## REPORT DETAILS

### Summary of Plant Status

Diablo Canyon Unit 1 operated at 100 percent power for the entire inspection period.

Diablo Canyon Unit 2 began this inspection period at 100 percent power. On August 31, 2006, operators reduced reactor power to 73 percent due to reactor coolant system (RCS) thimble tube leakage beneath the incore seal table. Reactor power was returned to 100 percent on September 1 upon isolation of the leak. Unit 2 remained at 100 percent power for the duration of the inspection period.

#### 1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

#### 1R01 Adverse Weather (71111.01)

##### a. Inspection Scope

Readiness For Seasonal Susceptibilities

The inspectors completed a review of Pacific Gas and Electric (PG&E) Company's readiness of seasonal susceptibilities involving extreme winter storm surges and cold temperatures. The inspectors: (1) reviewed plant procedures, the Final Safety Analysis Report (FSAR) Update, and Technical Specifications (TS) to ensure that operator actions defined in adverse weather procedures maintained the readiness of essential systems; (2) walked down portions of the one system listed below to ensure that adverse weather protection features (heat tracing, space heaters, weatherized enclosures, etc.) were sufficient to support operability, including the ability to perform safe shutdown functions; (3) evaluated operator staffing levels to ensure PG&E could maintain the readiness of essential systems required by plant procedures; and (4) reviewed the corrective action program (CAP) to determine if PG&E identified and corrected problems related to adverse weather conditions.

- September 19, 2006, Units 1 and 2, auxiliary saltwater system
- September 19, 2006, Units 1 and 2, ultimate heat sink and intake structure

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed two samples (site-specific and cold weather).

##### b. Findings

No findings of significance were identified.

## 1R04 Equipment Alignments (71111.04)

### Partial System Walkdowns

#### a. Inspection Scope

The inspectors: (1) walked down portions of the four below listed risk-important systems and reviewed plant procedures and documents to verify that critical portions of the selected systems were correctly aligned; and (2) compared deficiencies identified during the walkdown to the FSAR Update and CAP to ensure problems were being identified and corrected.

- July 5, 2006, Unit 1, Auxiliary Saltwater Pump 1-1
- July 12, 2006, Unit 2, Centrifugal Charging Pump 2-2
- July 27, 2006, Units 1 and 2, 230 kV offsite power source
- August 22, 2006, Unit 1, Component Cooling Water (CCW) Pumps 1-1 and 1-2

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed four samples.

#### b. Findings

No findings of significance were identified.

## 1R05 Fire Protection (71111.05)

### .1 Quarterly Inspection

#### a. Inspection Scope

The inspectors walked down the six below listed plant areas to assess the material condition of active and passive fire protection features and their operational lineup and readiness. The inspectors: (1) verified that transient combustibles and hot work activities were controlled in accordance with plant procedures; (2) observed the condition of fire detection devices to verify they remained functional; (3) observed fire suppression systems to verify they remained functional and that access to manual actuators was unobstructed; (4) verified that fire extinguishers and hose stations were provided at their designated locations and that they were in a satisfactory condition; (5) verified that passive fire protection features (electrical raceway barriers, fire doors, fire dampers, steel fire proofing, penetration seals, and oil collection systems) were in a satisfactory material condition; (6) verified that adequate compensatory measures were established for degraded or inoperable fire protection features and that the compensatory measures were commensurate with the significance of the deficiency; and (7) reviewed the FSAR Update to determine if PG&E identified and corrected fire protection problems.

- July 18, 2006, Units 1 and 2, 480 V vital switchgear rooms
- July 19, 2006, Unit 2, 12 kV switchgear room
- July 20, 2006, Units 1 and 2, 73 ft auxiliary building
- July 21, 2006, Units 1 and 2, 115 ft auxiliary building
- August 16, 2006, Units 1 and 2, diesel engine generator corridor
- August 23, 2006, Units 1 and 2, fuel handling building 100 ft corridor

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed six samples.

b. Findings

Introduction: The inspectors identified a Green noncited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to promptly identify a condition adverse to quality. Specifically, PG&E failed to promptly identify that it had prestaged the wrong equipment (a flange hose connection with the wrong tread pattern) necessary to cross-connect the fire main water system to the auxiliary feedwater (AFW) system during a loss of core cooling event.

Description: On August 23, 2006, inspectors conducted an inspection of the contents of the Unit 2 Emergency Operating Procedure (EOP) equipment box for cross-connecting the site fire main to the turbine-driven AFW system. The inspectors identified that the components provided in Units 1 and 2 could not have been assembled as required by Appendix Z, "Firewater to AFW Discharge Cross-Tie Instructions," of EOP FR-C.1, "Response to Inadequate Core Cooling," Revision 16, due to the fact that the thread pattern for the flange hose connection was different from the threads on the end of the 1.5-inch hose intended for use.

The entry condition of EOP FR-C.1 would be a red condition on the safety parameter display system, which would indicate a loss of core cooling critical safety function, or by reference from EOP FR-H.1, "Response to Loss of Secondary Heat Sink." The parameters that would require entry into EOP FR-C.1 would be core thermocouples being greater than 1200°F, or greater than 700°F with no reactor coolant pumps and reactor vessel level indication system at less than 32 percent. The FSAR Update identified the raw water storage reservoirs as a source of water to be utilized to ensure core cooling. Operators would be required to use the hose and flange to provide an alternate source of water to the steam generator in the event that the condensate and feed system was not available for core cooling. During a walkdown of this procedure, operators verified that the procedure was unclear and could not be performed as written.

The licensee used its recurring work order system (PIMS) to periodically inventory the prestaged equipment used for implementation of EOPs. However, PG&E had not entered this EOP equipment box into the list of items requiring periodic verification. Normally, PG&E inspects prestaged EOP equipment on a 2-year frequency.

Analysis: The performance deficiency associated with this finding was the failure to ensure that equipment staged for EOP completion was adequate for timely completion

of the procedure. The finding is greater than minor because it is associated with the Mitigating Systems Cornerstone attribute of procedure quality and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the inspectors determined that this finding is of very low safety significance because the condition did not represent a loss of system safety function, did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time, did not represent an actual loss of one or more risk-significant non-TS trains of equipment for greater than 24 hours, and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding has a crosscutting aspect in the area of human performance associated with resources because the licensee did not ensure that equipment needed to perform an EOP was available and adequate to assure nuclear safety.

Enforcement: Title 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requires, in part, that measures be established to assure that conditions adverse to quality, such as deficiencies, defective material and equipment, and nonconformances, are promptly identified and corrected. Contrary to this requirement, from 1998 to August 2006, PG&E's measures failed to promptly identify a condition adverse to quality. Specifically, PG&E failed to promptly identify that it had prestaged the wrong equipment (a flange hose connection with the wrong tread pattern) required to cross-connect the fire main water to the auxiliary feedwater (AFW) system during a loss of core cooling event. The cause of the violation was the licensee's failure to ensure that all equipment required by the EOP was identified in its work order system for periodic checking. Because the failure to verify equipment necessary to implement EOP FR-C.1 is of very low safety significance and has been entered into the CAP as Action Request (AR) A0676729, this violation is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy, NCV 05000275; 05000323/2006004-01, "Failure to Promptly Identify that the Correct Equipment Necessary for Implementing EOP for Inadequate Core Cooling was Not Pre-staged."

1R06 Flood Protection Measures (71111.06)

Semiannual Internal Flooding

a. Inspection Scope

The inspectors: (1) reviewed the FSAR Update, the flooding analysis, and plant procedures to assess susceptibilities involving internal flooding; (2) reviewed the FSAR Update and CAP to determine if PG&E identified and corrected flooding problems; (3) verified that operator actions for coping with flooding can reasonably achieve the desired outcomes; and (4) walked down the one below listed area to verify the adequacy of: (a) equipment seals located below the floodline, (b) floor and wall penetration seals, (c) watertight door seals, (d) common drain lines and sumps, (e) sump pumps, level alarms, and control circuits, and (f) temporary or removable flood barriers.

- August 10, 2006, Units 1 and 2, auxiliary building floor drains

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed one sample.

b. Findings

Introduction: The NRC inspectors identified a Green NCV of 10 CFR 50.65(b) for the failure of engineering staff to include the AFW pump room floor drains within the scope of PG&E's program for monitoring the effectiveness of maintenance at the Diablo Canyon Power Plant. Specifically, PG&E's flood analysis for the AFW pump rooms assumed that at least two of the three floor drains would be able to remove up to 316 gpm of water. Despite their credited function in the flood analysis, engineering staff did not scope them into their monitoring program.

Description: During the routine internal flooding inspection, the inspectors observed in Calculation 76060, "Flooding Analysis G Area and Auxiliary Building," Revision 1, that PG&E credited the floor drains of the AFW pump rooms in the flood analysis. Specifically, the calculation stated that, assuming one of the three floor drains in the turbine-driven and motor-driven AFW pump rooms were blocked, the remaining drains would be capable of removing up to 316 gpm to prevent any impact to the AFW pumps. The inspectors observed that, while the floor drains were not safety-related, they were credited to mitigate flooding in the AFW pump rooms. The inspectors reviewed PG&E's maintenance rule scoping review (as required by 10 CFR 50.65(b)) for the floor drains. Engineering staff determined that the floor drains were not within the scope of 10 CFR 50.65(b) since water accumulation would not preclude safe shutdown and across-the-floor drainage was deemed acceptable. However, the inspector observed that the engineering staff did not have analysis to demonstrate their scoping determination. Therefore, the inspectors concluded that engineering staff should have included the AFW pump room floor drains into the scope of their program to monitor the effectiveness of maintenance.

The inspectors questioned PG&E on the type of testing and maintenance performed on the AFW pump room floor drains. PG&E stated that the floor drains were tested prior to plant operation, but they do not routinely test or perform maintenance on the floor drains. Instead, PG&E stated they have a housekeeping program to ensure floor drains are not blocked and, if it is discovered that a drain is clogged during normal plant activities, then they would take action to clear the drain. The inspectors observed that the site has prior operating experience demonstrating that floor drains become clogged despite housekeeping activities. For example, in 1996, AR A0412577 recorded an instance when a floor drain in the Unit 2 turbine-driven AFW pump room was clogged and required hydrolazing. Recently, during Refueling Outage 1R13, an auxiliary building floor drain was found clogged and would pass less than 5 gpm, as described in AR A0651966.

The inspectors also reviewed industry operating experience and discovered NRC Information Notice 2005-11, "Internal Flooding/Spray-Down of Safety-Related Equipment Due to Unsealed Equipment Hatch Floor Plugs and/or Blocked Floor Drains."

The information notice discussed an event at another plant where resin and rust displaced from inside the drain lines resulted in the floor drain header becoming blocked. The information notice stated that, if the drain system is required for water removal, licensees should consider periodic verification that the floor drain system performs as intended and perform maintenance to assure that the system can perform the water removal function assumed in the FSAR and design calculations. Engineering staff reviewed Information Notice 2005-11 in AR A0638978, but they did not specifically address the recommendation to periodically verify floor drain performance and perform maintenance to assure that water removal functioned as specified in the design calculations.

Analysis: The performance deficiency associated with this finding involved the failure of engineering personnel to include the AFW pump room floor drains within the scope of their program to monitor the effectiveness of maintenance at Diablo Canyon Power Plant. The finding is greater than minor because it is associated with the Mitigating Systems cornerstone attribute of protection against external factors and affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the inspectors determined that this finding is of very low safety significance because the condition did not represent a loss of system safety function, did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time, did not represent an actual loss of one or more risk-significant non-TS trains of equipment for greater than 24 hours, and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding has a crosscutting aspect in the area of problem identification and resolution associated with operating experience because engineering personnel did not effectively incorporate pertinent industry operating experience into their program for evaluating the effectiveness of maintenance performed on AFW pump room floor drains

Enforcement: Title 10 CFR 50.65(a)(1) states, in part, that licensees shall monitor the performance or condition of structures, systems, and components (SSCs) against licensee-established goals in a manner sufficient to provide reasonable assurance that such SSCs, as defined in paragraph (b), are capable of fulfilling their intended functions. Paragraph (b) states, in part, that the scope of the monitoring program shall include nonsafety-related SSCs that are relied upon to mitigate accidents or transients or whose failure could prevent safety-related SSCs from fulfilling their safety-related function. Contrary to this, the inspectors discovered on September 25, 2006, that engineering personnel failed to include the AFW pump room floor drains into the scope of their 10 CFR 50.65 monitoring program. Specifically, Calculation 76060 credits two of the three floor drains in the AFW pump rooms to be able to remove up to 316 gpm of water in the event of a medium energy line break. Since the floor drains are relied upon to mitigate a transient (flooding in the AFW pump room), and their failure may prevent the AFW pump from fulfilling their safety function, the floor drains should have been included in the scope of their maintenance monitoring program. The cause of the noncompliance was the failure of engineering staff to verify the functions of the AFW pump room floor drains. The licensee has taken action to assess the scoping of the AFW pump room floor drains. Because the finding is of very low safety significance and

has been entered into PG&E's CAP as AR A0678658, this violation is being treated as an NCV consistent with Section VI.A of the Enforcement Policy, NCV 05000275; 05000323/2006004-02, "Failure to Include Floor Drains Credited in the Flood Analysis Into the Maintenance Rule Program."

1R11 Licensed Operator Requalification (71111.11)

a. Inspection Scope

On August 1, 2006, the inspectors observed testing and training of senior reactor operators and reactor operators to identify deficiencies and discrepancies in the training, to assess operator performance, and to assess the evaluator's critique. The training scenario involved a nuclear instrument failure, main feedwater pump high vibration, a faulted and ruptured steam generator, and an anticipated transient without scram.

Documents reviewed by the inspectors included Lesson ECA3132-B, "STGR With Loss of Reactor Coolant," Revision 10.

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 Routine Maintenance Effectiveness Inspection

a. Inspection Scope

The inspectors reviewed the four below listed maintenance activities to: (1) verify the appropriate handling of SSC performance or condition problems; (2) verify the appropriate handling of degraded SSC functional performance; (3) evaluate the role of work practices and common cause problems; and (4) evaluate the handling of SSC issues reviewed under the requirements of the Maintenance Rule, 10 CFR Part 50, Appendix B, and the TSs.

- July 19, 2006, Unit 1, AFW system motor-operated valves
- July 21, 2006, Unit 2, Diesel Engine Generator 2-3
- August 22, 2006, Unit 2, torque switch adjustment on component cooling motor-operated valves
- September 15, 2006, Units 1 and 2, Vital 480 V switchgear ventilation

Documents reviewed by the inspectors are listed in the attachment.



The inspectors completed four samples.

b. Findings

No findings of significance were identified.

.2 Triennial Periodic Evaluation Inspection

a. Inspection Scope

The inspectors reviewed the last two periodic assessments performed in August 2003 and August 2005.

The inspectors reviewed the program for monitoring the risk-significant functions associated with SSCs using reliability and unavailability. The performance monitoring of nonrisk-significant functions using plant level criteria was also reviewed.

The inspectors evaluated whether the report contained adequate assessment of the performance of the Maintenance Rule Program as well as conformance with applicable programmatic and regulatory requirements. To accomplish this, the inspectors verified that PG&E appropriately and correctly addressed the following attributes in the assessment reports:

- Program treatment of nonrisk-significant SSC functions monitored against plant level performance criteria
- Program adjustments made in response to unbalanced reliability and availability
- Application of industry operating experience
- Performance review of Category (a)(1) systems
- Evaluation of the bases for system category status change, e.g., (a)(1) to (a)(2) or (a)(2) to (a)(1)
- Effectiveness of performance and condition monitoring at component, train, system, and plant levels
- Review and adjustment of definitions of functional failures

The inspectors reviewed procedures, ARs, and Category (a)(1) recovery plans associated with the above activities for components in the following systems, which completed the required minimum of four samples:

- Diesel Engine Generators 2-1 and 2-3
- Diesel engine generator fuel oil pumps
- CCW pumps
- Auxiliary Saltwater Pump 2-2

- Residual heat removal pumps
- AFW system valves
- Vital 125 Vdc batteries

The inspectors completed seven samples.

b. Findings

No findings of significance were identified.

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

.1 Risk Assessments and Management of Risk

a. Inspection Scope

The inspectors reviewed the one below listed assessment activity to verify: (1) performance of risk assessments when required by 10 CFR 50.65(a)(4) and PG&E procedures prior to changes in plant configuration for maintenance activities and plant operations; (2) the accuracy, adequacy, and completeness of the information considered in the risk assessment; (3) that PG&E recognizes, and/or enters as applicable, the appropriate risk category according to the risk assessment results and PG&E procedures; and (4) that PG&E identified and corrected problems related to maintenance risk assessments.

- July 26, 2006, Units 1 and 2, offsite power availability during heightened grid susceptibility

Documents reviewed by the inspectors included Procedure AD7.DC6, "On-line Maintenance Risk Management," Revision 9, and AR A0673952.

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

.2 Emergent Work

a. Inspection Scope

The inspectors: (1) verified that PG&E performed actions to minimize the probability of initiating events and maintained the functional capability of mitigating systems and barrier integrity systems; (2) verified that emergent work-related activities such as troubleshooting, work planning/scheduling, establishing plant conditions, aligning equipment, tagging, temporary modifications, and equipment restoration did not place

the plant in an unacceptable configuration; and (3) reviewed the FSAR Update to determine if PG&E identified and corrected risk assessment and emergent work control problems.

- July 5, 2006, Unit 1, rod control system
- August 12, 2006, Unit 1, vital Inverter PY-11

Documents reviewed by the inspectors included Procedure AD7.DC6, "On-line Maintenance Risk Management," Revision 9, DCPD Risk Assessment 06-07, and AR A0675227.

The inspectors completed two samples.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors: (1) reviewed plant status documents such as operator shift logs, emergent work documentation, deferred modifications, and standing orders to determine if an operability evaluation was warranted for degraded components; (2) referred to the FSAR Update and design bases documents to review the technical adequacy of the operability evaluations; (3) evaluated compensatory measures associated with operability evaluations; (4) determined degraded component impact on any TS; (5) used the Significance Determination Process to evaluate the risk significance of degraded or inoperable equipment; and (5) verified that PG&E has identified and implemented appropriate corrective actions associated with degraded components.

- July 6, 2006, Unit 2, Valve RHR-2-8742B, Residual Heat Removal Heat Exchanger 2-2 Outlet Check Valve
- July 1, 2006, Unit 1, Valve MU-1-1555, Condensate Storage Tank 1-1 Hydrazine Mixing Pump Discharge Check Valve
- August 3, 2006, Unit 2, main steam safety valve header for Steam Lead 2-3
- August 14, 2006, Unit 2, Diesel Engine Generator 2-2 fire roll-up door
- August 23, 2006, Unit 2, containment recirculation sump inner screen
- September 1, 2006, Unit 1, Pressurizer Safety Relief Valve RCS-1-8010C
- September 19, 2006, Unit 2, small-break loss-of-coolant accident peak clad temperature

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed seven samples.

b. Findings

Section 4OA7 discusses two licensee-identified violations.

1R19 Postmaintenance Testing (71111.19)

a. Inspection Scope

The inspectors selected the one below listed postmaintenance test activities of risk-significant systems or components. For each item, the inspectors: (1) reviewed the applicable licensing basis and/or design basis documents to determine the safety functions; (2) evaluated the safety functions that may have been affected by the maintenance activity; and (3) reviewed the test procedure to ensure it adequately tested the safety function that may have been affected. The inspectors either witnessed or reviewed test data to verify that acceptance criteria were met, plant impacts were evaluated, test equipment was calibrated, procedures were followed, jumpers were properly controlled, the test data results were complete and accurate, the test equipment was removed, the system was properly realigned, and deficiencies during testing were documented. The inspectors also reviewed the FSAR Update to determine if PG&E identified and corrected problems related to postmaintenance testing.

- September 16, 2006, Unit 2, digital feedwater control system

Documents reviewed by the inspectors included Procedure PMT 03.25, "DFWCS Power Ascension Verification Test," Revision 0.

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the FSAR Update, procedure requirements, and TS to ensure that the two below listed surveillance activities demonstrated that the SSCs tested were capable of performing their intended safety functions. The inspectors either witnessed or reviewed test data to verify that the following significant surveillance test attributes were adequate: (1) preconditioning; (2) evaluation of testing impact on the plant; (3) acceptance criteria; (4) test equipment; (5) procedures; (6) jumpers; (7) test data; (8) testing frequency and method demonstrated TS operability; (9) test equipment

removal; (10) restoration of plant systems; (11) fulfillment of American Society of Mechanical Engineers Code requirements; (12) updating of performance indicator data; (13) engineering evaluations, root causes, and bases for returning tested SSCs not meeting the test acceptance criteria were correct; (14) reference setting data; and (15) annunciators and alarm setpoints. The inspectors also verified that PG&E identified and implemented any needed corrective actions associated with the surveillance testing.

- July 6, 2006, Unit 2, Inservice test of CCW Pump 2-2
- July 10, 2006, Units 1 and 2, Auxiliary saltwater crosstie Valve SW-0-FCV-601

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed two samples.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

The inspectors reviewed the FSAR Update, plant drawings, procedure requirements, and TSs to ensure that the two below listed temporary modifications were properly implemented. The inspectors: (1) verified that the modifications did not have an effect on system operability/availability; (2) verified that the installation was consistent with modification documents; (3) ensured that the postinstallation test results were satisfactory and that the impact of the temporary modifications on permanently installed SSCs were supported by the test; (4) verified that the modifications were identified on control room drawings and that appropriate identification tags were placed on the affected drawings; and (5) verified that appropriate safety evaluations were completed. The inspectors verified that PG&E identified and implemented any needed corrective actions associated with temporary modifications.

- July 19, 2006, Unit 1, Valve MS-1-5399, Inspection Port Test Valve FCV-41
- July 20, 2006, Unit 1, Valve FW-1-566, Downstream Vent Valve FCV-1520

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed two samples.

Cornerstone: Emergency Preparedness

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

a. Inspection Scope

The inspectors performed in-office reviews of Revision 4, Change 8 to Section 5, Change 6 to Section 6, Change 8 to Section 7, and Change 5 to Section 8 of the Diablo Canyon, Units 1 and 2, Emergency Plan, submitted in August 2006. The revisions

(1) updated the emergency plan to address NRC Regulatory Issue Summary 2005-13 to incorporate changes to the National Response Plan, (2) relocated the evacuation kits from the learning services building to Warehouse B, and (3) incorporated other administrative changes and editorial corrections.

The revision was compared to its previous revisions, 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 requirements of 10 CFR 50.47(b) to determine if PG&E adequately implemented 10 CFR 50.54(q). This review was not documented in a safety evaluation report and did not constitute approval of PG&E's changes; therefore, these changes are subject to future inspection.

The inspectors completed one sample of inspection.

b. Findings

No findings of significance were identified.

1EP6 Emergency Preparedness Evaluation (71114.06)

a. Inspection Scope

For the one below listed drill contributing to Drill/Exercise Performance and Emergency Response Organization Performance Indicators, the inspectors: (1) observed the training evolution to identify any weaknesses and deficiencies in classification, notification, and Protective Action Recommendation development activities; (2) compared the identified weaknesses and deficiencies against PG&E identified findings to determine whether PG&E is properly identifying failures; and (3) determined whether PG&E performance is in accordance with the guidance of the Nuclear Energy Institute (NEI) 99-02, "Voluntary Submission of Performance Indicator Data," acceptance criteria.

- September 20, 2006, Units 1 and 2, large break loss-of-coolant accident with inadequate core cooling and loss of containment

Documents reviewed by the inspectors included the Diablo Canyon Power Plant Emergency Plan, Revision 4.

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

## 2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

### 2OS1 Access Control to Radiologically Significant Areas (71121.01)

#### a. Inspection Scope

This area was inspected to assess PG&E's performance in implementing physical and administrative controls for airborne radioactivity areas, radiation areas, high radiation areas, and worker adherence to these controls. The inspectors used the requirements in 10 CFR Part 20, the TSs, and PG&E's procedures required by TSs as criteria for determining compliance. During the inspection, the inspectors interviewed the radiation protection manager, radiation protection supervisors, and radiation workers. The inspectors performed independent radiation dose rate measurements and reviewed the following item:

- Adequacy of PG&E's internal dose assessment for any actual internal exposure greater than 50 mRem committed effective dose equivalent

The inspectors completed one sample.

#### b. Findings

No findings of significance were identified.

### 2OS2 As Low As is Reasonably Achievable (ALARA) Planning and Controls (71121.02)

#### a. Inspection Scope

The inspectors assessed PG&E's performance with respect to maintaining individual and collective radiation exposures ALARA. The inspectors used the requirements in 10 CFR Part 20 and PG&E's procedures required by TSs as criteria for determining compliance. The inspectors interviewed PG&E personnel and reviewed the following:

- Site-specific trends in collective exposures, plant historical data, and source-term measurements
- Interfaces between operations, radiation protection, maintenance, maintenance planning, scheduling, and engineering groups
- Assumptions and basis for the current annual collective exposure estimate, the methodology for estimating work activity exposures, the intended dose outcome, and the accuracy of dose rate and man-hour estimates
- Exposures of individuals from selected work groups

- Records detailing the historical trends and current status of tracked plant source terms and contingency plans for expected changes in the source term because of changes in plant fuel performance issues or changes in plant primary chemistry
- Declared pregnant workers during the current assessment period, monitoring controls, and the exposure results
- Source-term control strategy or justifications for not pursuing such exposure reduction initiatives
- Specific sources identified by PG&E for exposure reduction actions and priorities established for these actions, and results achieved compared against the last refueling cycle
- Resolution through the CAP of problems identified through postjob reviews and postoutage ALARA report critiques
- Corrective action documents related to the ALARA program and follow-up activities, such as initial problem identification, characterization, and tracking

The inspectors completed ten samples.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification (71151)

Cornerstone: Mitigating Systems

a. Inspection Scope

The inspectors sampled PG&E submittals for the one PI listed below for the period of July 2004 to June 2006, for Units 1 and 2. The definitions and guidance of NEI 99-02, "Regulatory Assessment Indicator Guideline," Revision 4, were used to verify PG&E's basis for reporting each data element in order to verify the accuracy of PI data reported during the assessment period. The inspectors reviewed licensee event reports, monthly operating reports, and operating logs as part of the assessment.

- Safety System Functional Failures

The inspectors completed one sample.



b. Findings

No findings of significance were identified.

Cornerstone: Barrier Integrity

a. Inspection Scope

The inspectors sampled PG&E submittals for the two PIs listed below for the period of July 2004 to June 2006, for Units 1 and 2. The definitions and guidance of NEI 99-02, "Regulatory Assessment Indicator Guideline," Revision 4, were used to verify PG&E's basis for reporting each data element in order to verify the accuracy of PI data reported during the assessment period. The inspectors: (1) reviewed the RCS chemistry sample analysis for dose equivalent Iodine-131 and compared the results to the TS limit; (2) observed a chemistry technician obtain and analyze an RCS sample; (3) reviewed operating logs and surveillance results for measurements of RCS identified leakage; and (4) observed a surveillance test that determined RCS identified leakage.

- RCS Specific Activity
- RCS Leakage

The inspectors completed two samples.

b. Findings

No findings of significance were identified.

Cornerstone: Occupational Radiation Safety

a. Inspection Scope

The inspectors reviewed PG&E's documents from April 1 through June 30, 2006. The review included corrective action documentation that identified occurrences in locked high radiation areas (as defined in PG&E's TSs), very high radiation areas (as defined in 10 CFR 20.1003), and unplanned personnel exposures (as defined in NEI 99-02). Additional records reviewed included ALARA records and whole body counts of selected individual exposures. The inspectors interviewed PG&E personnel who were accountable for collecting and evaluating the PI data. In addition, the inspectors toured plant areas to verify that high radiation, locked high radiation, and very high radiation areas were properly controlled. PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline," Revision 4, were used to verify the basis in reporting for each data element.

- Occupational Exposure Control Effectiveness

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

Cornerstone: Public Radiation Safety

a. Inspection Scope

The inspectors reviewed PG&E's documents from April 1 through June 30, 2006. The documents reviewed included corrective action documentation that identified occurrences for liquid or gaseous effluent releases that exceeded PI thresholds and those reported to the NRC. The inspectors interviewed PG&E personnel who were accountable for collecting and evaluating the PI data. PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline," Revision 4, were used to verify the basis in reporting for each data element.

- Radiological Effluent TS/Offsite Dose Calculation Manual Radiological Effluent Occurrences

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

The inspectors performed a daily screening of items entered into PG&E's CAP. This assessment was accomplished by reviewing ARs and event trend reports and attending daily operational meetings. The inspectors: (1) verified that equipment, human performance, and program issues were being identified by PG&E at an appropriate threshold and that the issues were entered into the CAP; (2) verified that corrective actions were commensurate with the significance of the issue; and (3) identified conditions that might warrant additional follow-up through other baseline inspection procedures.

b. Findings

No findings of significance were identified.

## .2 Selected Issue Follow-Up Inspection

### a. Inspection Scope

In addition to the routine review, the inspectors selected the one below listed issue for a more in-depth review. The inspectors considered the following during the review of PG&E's actions: (1) complete and accurate identification of the problem in a timely manner; (2) evaluation and disposition of operability/reportability issues; (3) consideration of extent of condition, generic implications, common cause, and previous occurrences; (4) classification and prioritization of the resolution of the problem; (5) identification of root and contributing causes of the problem; (6) identification of corrective actions; and (7) completion of corrective actions in a timely manner.

- August 16, 2006, Units 1 and 2, control room ventilation system compressors

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed one sample.

### b. Findings

No findings of significance were identified.

## .3 Routine Review of Maintenance Rule

### a. Inspection Scope

As part of the Maintenance Rule biennial periodic evaluation inspection (Section 1R12), the inspectors evaluated the use of the corrective action system within the Maintenance Rule program for issues associated with risk significant systems. The review was accomplished by the examination of a sample of corrective action documents associated with systems that were or had been in Maintenance Rule Category (a)(1), including recovery plans for improving system performance. The purpose of the review was to establish that the CAP was entered at the appropriate threshold for the purpose of:

- Implementation of the CAP when a performance criterion was exceeded
- Correction of performance-related issues or conditions identified during the periodic evaluation
- Correction of generic issues or conditions identified during programmatic assessments, audits, or surveillances

### b. Findings

No findings of significance were identified.

.5 Radiation Safety

a. Inspection Scope

The inspectors evaluated the effectiveness of PG&E's problem identification and resolution process with respect to the following inspection areas:

- Access Control to Radiologically Significant Areas (Section 2OS1)
- ALARA Planning and Controls (Section 2OS2)

b. Findings and Observations

No findings of significance were identified.

4OA3 Event Followup (71153)

a. Inspection Scope

The inspectors evaluated the one event listed below that occurred at the Diablo Canyon Power Plant during the inspection period. The inspectors: (1) observed plant parameters and status, (2) evaluated performance of mitigating systems and operators, (3) confirmed that PG&E properly classified the event in accordance with emergency action level procedures and made timely notifications to the NRC and state/local governments, and (4) communicated the details of the events and conditions to NRC management as input to determining the need for additional inspection effort.

- August 31, 2006, Unit 2, RCS leakage of approximately 1 to 2 gpm through an in-core thimble tube

The inspectors completed one sample.

b. Findings

Introduction: An unresolved item (URI) was identified to further evaluate PG&E's root cause and corrective actions following the RCS leakage on August 31, 2006. Additionally, the inspectors will continue to evaluate PG&E's response to a leak on the threaded connection on the high pressure side of the In-core Path L-13 manual isolation valve.

Description: On August 31, 2006, the inspectors reviewed the actions taken prior to, during, and following a 1-2 gpm RCS leak that occurred on Unit 2. The inspectors responded to the control room at the time of the event and followed operator actions to identify, quantify, and mitigate the leakage. The inspectors observed that operators took appropriate actions as outlined in their procedures to address the leakage. Since the leakage was initially assessed to be greater than 1 gpm, and the source of the leakage was unidentified, operators took appropriate action in accordance with their TSs to initiate a reactor shutdown within 4 hours of identifying the onset of leakage. Maintenance and operations personnel entered Unit 2 containment and identified the

leakage as coming from the movable in-core detector system. Maintenance and operations personnel determined the source of the leakage to be coming from In-core Path L-13. Licensee personnel ascertained that the in-core thimble tube had developed a leak within the reactor vessel and the leakage was traveling through the in-core thimble tube and coming out of the 5 and 10 path selectors in the movable in-core detector system. When the source of the leakage was identified, operators considered the leakage to be identified leakage, for which their TSs allow up to 10 gpm. Therefore, operators terminated the reactor shutdown when reactor power was 73 percent. Maintenance personnel isolated the leakage by closing the manual isolation valve for In-core Path L-13 at the in-core seal table. Operators then returned reactor power to 100 percent.

Following the RCS leakage on August 31, maintenance personnel began activities to repair the moveable in-core detector system, which had been damaged by water. On September 6, maintenance personnel noticed leakage from the In-core Path L-13 manual isolation valve at the threaded connection on the high pressure side. The leakage was determined to be 4 to 6 drops per minute. Maintenance personnel initially installed a freeze seal to isolate the leakage, enabling them to tighten the threaded connection 3 flats to stop the leakage. The licensee subsequently continued with repair activities on the moveable in-core detector system.

The licensee initiated Nonconformance Report N0002211 to identify the root cause of the leakage and ensure that appropriate corrective actions have been taken. The inspectors plan to review the root cause and corrective actions once they have been completed. Additionally, the inspectors are continuing to review PG&E actions regarding the 4 to 6 drop per minute leak on the high pressure side of the manual valve for In-core Path L-13.

Analysis: No analysis has been performed since additional inspection is needed to determine whether a performance deficiency exists. The inspectors will consider PG&E's root cause determination and corrective actions and PG&E's actions associated with the 4 to 6 drop per minute leak.

Enforcement: No enforcement action has been identified. URI 05000323/2006004-03, "Corrective Actions Regarding RCS Leakage Through In-core Thimble."

#### 4OA5 Other

.1 (Closed) URI 05000275; 05000323/2005006-07: Assess Peak Pressure Effects Due to Tsunami

In January 2005, an engineering design team inspection raised a question about the design basis of the plant for withstanding the effects of a tsunami, which was not documented in PG&E's analysis. PG&E had not determined what the peak pressure could be in the cooling water system as a result of the dynamic wave effects. In response, PG&E had performed an operability evaluation, documented in AR A0630734, which concluded that the expected dynamic effects should be within the capability of the system.

The NRC inspectors reviewed the final results of PG&E's analyses for plant response to a tsunami. The calculations confirmed the earlier preliminary conclusion that the cooling water systems and the associated structures would remain within design limits during the tsunami. This was based on computer modeling of the ocean response near the Diablo Canyon site, which showed that the peak hydrodynamic conditions would not challenge cooling water systems.

The NRC inspectors concluded that the calculation methodology and inputs were conservative in assessing the peak conditions in the systems of interest. No additional issues were identified during the inspectors' review.

#### 40A6 Management Meetings

##### Exit Meeting Summary

On July 25, 2006, the inspectors presented the results of the in-office review of URI 05000275; 05000323/2005006-07 to Mr. S. Hamilton, Engineer, Regulatory Services, who acknowledged the findings.

On August 4, 2006, the inspectors presented the results of the onsite portion of the occupational radiation safety inspection to Mr. J. Becker, Vice President and Station Director, and other members of the staff who acknowledged the findings. On August 22, 2006, the inspectors conducted an exit interview by telephone, and presented additional inspection results to Mr. R. Hite, Radiation Protection Manager and Mr. L. Parker, Supervisor, Regulatory Services. The licensee acknowledged the findings presented.

On August 16, 2006, the inspectors conducted a telephone exit meeting with Mr. S. Ketelsen, Manager, Regulatory Services, and other licensee personnel on the triennial periodic evaluation on maintenance rule implementation and the routine review of maintenance rule identification and resolution of problems. No proprietary information was reviewed.

On August 31, 2006, the inspectors conducted a telephone exit meeting to present the inspection results of the emergency plan change inspection to Mr. R. Waltos, Manager, Emergency Planning. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

On September 8, 2006, the inspectors conducted a telephone exit meeting to present the inspection results associated with URI 05000275; 05000323/2006009-02 with Mr. L. Parker, Supervisor, Regulatory Services, and other licensee personnel.

The resident inspection results were presented on October 13, 2006, to Mr. J. Becker, Vice President, Diablo Canyon Operations and Station Director, and other members of PG&E management. The licensee acknowledged the findings presented.

The inspectors asked PG&E whether any materials examined during the inspection should be considered proprietary. Proprietary information was reviewed by the inspectors and left with PG&E at the end of the inspection.

#### 40A7 Licensee-Identified Violations

The following two violations of very low safety significance (Green) were identified by PG&E and are violations of NRC requirements which meet the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as NCVs.

- Title 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," states, in part, that measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. Contrary to this, on February 12, 2006, Hydrazine Mixing Check Valve MU-1-1555 failed Surveillance Test Procedure V-3U1, "Exercise and Leak Check of Hydrazine Mixing Check Valve MU-1-1555," Revision 9, due to failure to reposition to the closed position. Valve MU-1-1555 serves as a design Class I boundary valve for the condensate storage tank boundary and has a safety function of closing to prevent the contents of the condensate storage tank from draining during a seismic event. No prompt operability assessment (POA) was performed after the failure of Valve MU-1-1555 on February 12. During a review of a surveillance test overdue report, operations personnel discovered the inoperable valve. Subsequently, operations personnel closed the upstream manual isolation valve, issued a POA declaring the valve operable, and documented the failure to issue a POA after the February 12 test failure in AR A0673108. The finding is determined to be of very low safety significance because the condition did not represent a loss of system safety function, did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time, did not represent an actual loss of one or more risk-significant non-TS trains of equipment for greater than 24 hours, and did not screen as potentially risk-significant due to seismic, flooding, or severe weather.
- Title 10 CFR Part 50, Appendix B, Criterion III, "Design Control," states, in part, that measures shall be established to assure that applicable regulatory requirements and the design basis are correctly translated into specifications, drawings, procedures, and instructions. Contrary to this, during Refueling Outage 2R13, PG&E personnel removed sections of the 3/16 inch screen from the inner grating of the Unit 2 containment recirculation sump. The purpose of removing the screen was to address generic sump clogging concerns in regard to a fiber mat that may build up on the screen. However, engineering personnel failed to recognize that the NRC had accepted the inner grating with the 3/16-inch screen on it for redundancy of the outer sump screen, as described in FSAR Update Section 6.2.3.3.7. Following Refueling Outage 2R13, on August 16, 2006, engineering personnel discovered the missed design basis for the containment recirculation sump, as described in AR A0675603. Subsequently, PG&E staff assessed the current configuration of the Unit 2 containment recirculation sump and determined that the sump remained operable due to lack

of mechanisms that could penetrate the outer sump screen and gratings. The finding is determined to be of very low safety significance because it was a design deficiency confirmed not to result in a loss of function per Part 9900, Technical Guidance, "Operability Determinations & Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse To Quality or Safety"

ATTACHMENT: SUPPLEMENTAL INFORMATION



## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### PG&E personnel

J. Becker, Vice President - Diablo Canyon Operations and Station Director  
S. David, Director, Operations Services  
R. Hite, Manager, Radiation Protection  
D. Jacobs, Vice President - Nuclear Services  
S. Ketelsen, Manager, Regulatory Services  
M. Meko, Director, Site Services  
K. Peters, Director, Engineering Services  
J. Purkis, Director, Maintenance Services  
P. Roller, Director, Performance Improvement  
D. Taggart, Manager, Quality Verification  
R. Waltos, Manager, Emergency Preparedness

### **LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED**

#### Opened

05000323/2006004-03	URI	Corrective Actions Regarding RCS Leakage Through In-core Thimble (Section 4OA3.1)
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#### Opened and Closed

5000275; 05000323/2006004-01	NCV	Failure to Promptly Identify that the Correct Equipment Necessary for Implementing EOP for Inadequate Core Cooling was Not Pre-staged (Section 1R05)
05000275; 05000323/2006004-02	NCV	Failure to Include Floor Drains Credited in the Flood Analysis Into the Maintenance Rule Program (Section 1R06)

#### Closed

05000275; 05000323-2005006-07	URI	Assess Peak Pressure Effects Due to Tsunami (Section 4OA5.1)
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**LIST OF DOCUMENTS REVIEWED**

**Section 1R01: Adverse Weather (71111.01)**

Action Requests

A0631582	A0657460	A0660814	A0661909	A0662500	A0663806
A0664245	A0672126	A0675752			

<u>Procedures</u>	<u>Title</u>	<u>Revision</u>
OP O-28	Intake Management	9
OP AP-7	Degraded Condenser	34
AR PK13-01	Bar Racks/Screen	18
OP AP-10	Loss of Auxiliary Salt Water	9

**Section 1R04: Equipment Alignment (71111.04)**

Action Requests

A0673952	A0677755
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<u>Calculations</u>	<u>Title</u>	<u>Revision</u>
357F-DC	Guidelines for Motor Data Entered Into ETAP Database	3A
357I-DC	Startup Transformer SST11/12 Settings for LTC Control Devices	2
359-DC	Determination of 230 kV Grid Capability Limits as a DCPD Offsite Power Source	8

<u>Drawings</u>	<u>Title</u>	<u>Revision</u>
106717, Sheet 7	Saltwater	132
106717, Sheet 8	Saltwater	139

<u>Drawings</u>	<u>Title</u>	<u>Revision</u>
107708, Sheet 5	CVCS	96
106714 Sheet 3	Component Cooling Water	49

<u>Procedures</u>	<u>Title</u>	<u>Revision</u>
ECG 8.7	Reactivity Control Systems - Charging Pumps - Operating	1
OP B-1A:IX	CVCS - Alignment Verification For Plant Startup	35
OP B-1A:XI	CVCS-Charging Pumps-Clearing for Maintenance and Returning to Service	14A
OP J-2:VIII	Guidelines for Reliable Transmission Service for DCPD	10

Other Documents

<u>Title</u>	<u>Date</u>
“Overview of PG&E System,” by Ben Morris	July 22, 1997
“Los Padres Area Load Forecasting,” by Jon Eric Thalman	Sept. 5, 2006
Memorandum from Steven Bloom, NRC, to Gregory Rueger, PG&E, “Issuance of Amendments for Diablo Canyon Power Plant, Unit No. 1 (TAC No. MA0743) and Unit No. 2 (TAC No. MA0744)”	April 29, 1999
PCD T35523, “Monitoring Future Load Growth on Los Padres District”	Aug. 12, 1996
PG&E Letter DCL-06-042, “60-Day Response to NRC Generic Letter 2006-02, Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power”	Mar. 31, 2006

**Section 1R05: Fire Protection**

Action Requests

A0673716      A0673722

<u>Procedures</u>	<u>Title</u>	<u>Revision</u>
EOP FR-C.1	Response to Inadequate Core Cooling	15 / 16
EOP FR-H.1	Response to Loss of Secondary Heat Sink	21

AD1.ID2	Procedure Review and Approval	26
OM8	Fire Protection Program	2B
OP D-1:V	Auxiliary Feedwater System - Alternate Auxiliary Feedwater Supplies	17

**Section 1R06: Flood Protection Measures (71111.06)**

Action Requests

A0160344	A0186793	A0205014	A0412577	A0638978	A0651966
A0676321	A0677707				

<u>Calculations</u>	<u>Title</u>	<u>Revision</u>
NSC 76060	Flood Analysis of G Area and Auxiliary Building	1

<u>Drawings</u>	<u>Title</u>	<u>Revision</u>
500128	Drainage and Fire Fighting - Auxiliary Building, Area J, Plan at 100'	11

<u>Generic Communication</u>	<u>Title</u>
NRC Information Notice 2005-11	Internal Flooding/Spray-Down of Safety-Related Equipment Due to Unsealed Equipment Hatch Floor Plugs and/or Blocked Floor Drains

**Section 1R12: Maintenance Effectiveness (71111.12)**

Action Requests

A0555968	A0560825	A0589785	A0592791	A0595257	A0600174
A0601544	A0606373	A0606376	A0612080	A0612092	A0612469
A0613767	A0613769	A0616766	A0618135	A0624699	A0628179
A0629528	A0629702	A0629704	A0632455	A0634201	A0645218
A0645819	A0645855	A0648203	A0648853	A0649293	A0652302

A0652664	A0654467	A0656856	A0656868	A0656878	A0657460
A0658028	A0658073	A0658946	A0658986	A0663615	A0663705
A0671448	A0672933	A0673181	A0673214		

<u>Drawings</u>	<u>Title</u>	<u>Revision</u>
106703, Sheet 3	Feedwater	71
445086, Sheet 1	Ventilation Fan Motors	4
494432	Auxiliary Building Switchgear Room Supply Fans	2

<u>Generic Letters</u>	<u>Title</u>
Generic Letter 89-10	Safety-Related Motor-Operated Valve Testing and Surveillance
Generic Letter 96-05	Periodic Verification of Design Basis Capability of Safety Related Motor Operated Valves

<u>Industry Guidance</u>	<u>Title</u>	<u>Revision</u>
NEI 96-03	Industry Guideline for Monitoring the Condition of Structures at Nuclear Power Plants	D1
NUMARC 93-01	Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants	2
Regulatory Guide 1.160	Monitoring the Effectiveness of Maintenance at Nuclear Power Plants	2

<u>Lesson Plans</u>	<u>Title</u>	<u>Revision</u>
CLRSCH	Sub-Clearance Holder	5
SEMR01	System Engineer Maintenance Rule Training	0
SEMR01WB	System Engineer Maintenance Rule Workbook	0

<u>Lesson Plans</u>	<u>Title</u>	<u>Revision</u>
SEMRJ01	System Engineer Maintenance Rule Training	0A

<u>Maintenance Rule Assessments and Reports</u>	<u>Date</u>
Maintenance Rule Periodic Assessment	Sept. 10, 2003
Quarterly Maintenance Rule Monitoring Report	April 7, 2006

<u>Procedures</u>	<u>Title</u>	<u>Revision</u>
AD8.DC55	Outage Safety Scheduling	23
AWP E-016	Inspection Guidelines For The Maintenance Rule Monitoring Program - Civil Implementation	3
MA1.ID17	Maintenance Rule Monitoring Program	16
MA1.ID4	Control and Trending of Motor Operated Valve Diagnostic Information	2
MA1.ID1	Motor-Operated Valve (MOV) Program Plan	9
MA1.NE1	Maintenance Rule Monitoring Program - Civil Implementation	2B
OM4.ID3	Assessment of Industry Operating Experience	11
OP1.DC17	Control of Equipment Required by the Plant Technical Specifications or Other Designated Programs	11
OP2.ID1	Clearances	18

<u>Other Documents</u>	<u>Revision</u>
Maintenance Rule Technical Basis Document	10
Qualification Card ENGNTS9, "Perform Tasks Associated With The Maintenance Rule"	10

**Section 1R15: Operability Evaluations (71111.15)**

Action Requests

A0592204	A0632859	A0638076	A0659725	A0672417	A0672592
A0672618	A0673108	A0642552	A0642566	A0674190	A0674251
A0674672	A0673936	A0676656			

<u>Drawings</u>	<u>Title</u>	<u>Revision</u>
107710, Sheet 2	Residual Heat Removal System	27
Bechtel SK-G-031-02A	Stress Isometric - Main Steam Lead 3 - Hanger and Snubber Location - Stress Problem G-031-02	2
Bechtel SK-G-031-02B	Stress Isometric - Main Steam Lead 3 - Hanger and Snubber Location - Stress Problem G-031-02	1
Bechtel SK-G-031-02C	Stress Isometric - Main Steam Lead 3 - Hanger and Snubber Location - Stress Problem G-031-02	1

<u>Procedures</u>	<u>Title</u>	<u>Revision</u>
STP V-3U1	Exercise and Leak Check of Hydrazine Mixing Check Valve MU-1555	10
OM7.ID12	Operability Determination	9
CAP A-1	Primary Cycle Sampling Schedule	17

**Section 1R22: Surveillance Testing (71111.22)**

<u>Calculations</u>	<u>Title</u>	<u>Revision</u>
J-103	ASW Bypass Piping PME Temperature and Flow Channel Indication Uncertainty	13
M-917	ASW System - Evaluate Flow Split for Alternate Configurations When Using the Inter-Unit Crosstie	3

<u>Procedures</u>	<u>Title</u>	<u>Revision</u>
STP P-CCW-21	Routine Surveillance Test of Component Cooling Water Pump 2-2	18
STP P-CCW-A	Performance Test of Component Cooling Water Pumps	6A
STP M-26A	FCV-601, ASW Unit 1 and 2 Cross-Tie Dividing Valve, Flow Test	11

**Section 1R23: Temporary Plant Modifications (71111.23)**

Action Requests

A0654240      A0655170

<u>Drawings</u>	<u>Title</u>	<u>Revision</u>
106704, Sheet 3	Unit 1 Main Steam	18
106703, Sheet 2	Unit 1 Main Feedwater	70

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
CF4.ID7	Temporary Modifications	18

Work Orders

C0203181      C0202425

**Section 2OS1: Access Controls to Radiologically Significant Areas (71121.01)**

Action Request

A0665818      A0666426      A0667093      A0677677      A0674391

<u>Procedures</u>	<u>Title</u>	<u>Revision</u>
RCP D-211	Control of Work in Radiologically Significant Areas	2



<u>Procedures</u>	<u>Title</u>	<u>Revision</u>
RCP D-220	Control of Access to High, Locked High, and Very High Radiation Areas	31
RCP D-222	Radiation Protection Lock and Key Control	4
RCP D-230	Radiological Control for Containment Entry	16
RCP D-240	Radiological Posting	16
RCP D-250	Radiological Occurrence Reports	11
RCP D-363	Operation of the Canberra Bed Counter	0
RCP D-370	Evaluation of Internal Deposition of Radioactive Material	7
RCP D-420	Sampling and Measurement of Airborne Radioactivity	18A
OM7.ID1	Problem Identification and Resolution-Action Requests	22

**Section 2OS2: ALARA Planning and Controls (71121.02)**

Action Requests

A0666314      A0667623      A0667968      A0674098      A0670704

<u>Procedures</u>	<u>Title</u>	<u>Revision</u>
RCP D-205	Performing ALARA Reviews	15
RP1.ID1	Requirements for the ALARA Program	2C
RP1.ID2	Use and Control of Temporary Radiation Shielding	5B
RP1.DC4	Radiological Hot Spot Identification and Control Program	1A
RCP RW-4	Solid Radioactive Waste Shipment	27

<u>Other Documents</u>	<u>Date/Revision</u>
Strategic Water Chemistry Plan	2
Quality Performance Assessment Report-2R13	June 13, 2006

**Section 4OA2: Problem Identification and Resolution (71152)**

Action Requests

A0570808	A0608934	A0615563	A0629567	A0651545	A0659810
A0593495	A0612010	A0616888	A0633243	A0653657	A0663637
A0594783	A0612096	A0617965	A0639427	A0658444	A0664593
A0600440	A0613833	A0621187	A0640691	A0659209	A0675841
A0602217	A0614527				

**Section 4OA3: Event Followup (71153)**

Action Requests

A0630734

<u>Calculations</u>	<u>Title</u>	<u>Revision</u>
STA-221	ASW and CW Flow Evaluation Due to Tsunami Waves	0

<u>Letters</u>	<u>Date</u>
PG&E Memorandum, "Tsunami Runup and Velocity Values for DCPD Discharge Structure"	May 5, 2006

## LIST OF ACRONYMS

ADAMS	agency-wide documents access and management system
AFW	auxiliary feedwater
ALARA	as low as is reasonably achievable
AR	action request
CAP	corrective action program
CCW	component cooling water
CFR	<i>Code of Federal Regulations</i>
EOP	emergency operating procedure
FSAR	Final Safety Analysis Report
NCV	noncited violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
PARS	publicly available records system
PG&E	Pacific Gas and Electric Company
PI	performance indicator
POA	prompt operability assessment
RCS	reactor coolant system
SSCs	structures, systems, and components
TS	Technical Specifications
URI	unresolved item