

# Diablo Canyon 1

## 3Q/2008 Plant Inspection Findings

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### Initiating Events

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### Mitigating Systems

**Significance:**  Jun 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Scope a Radiation Monitoring System into the Maintenance Rule Program**

The inspectors identified a noncited violation of 10 CFR 50.65(b) after Pacific Gas and Electric Company failed to include a radiation monitoring system in the maintenance rule scope for monitoring of maintenance effectiveness. The licensee relied on the radiation monitoring system for use in plant emergency operating procedures. The inspectors concluded that radiation monitoring system maintenance had not been effective. Between June 2006 and April 2008, twenty failures of the system had occurred. The licensee has taken corrective action to remove the radiation monitoring system from the emergency operating procedures and entered the condition into the corrective action program as Action Request A0728599.

This finding is greater than minor because it is associated with the Mitigating Systems Cornerstone attribute of equipment performance and affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors concluded that the finding is of very low safety significance because it did not represent a loss of system safety function, an actual loss of safety function of a single train for greater than the Technical Specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution, associated with the corrective action program component, because Pacific Gas and Electric Company failed to perform an adequate extent of condition review following a similar finding described in NRC Integrated Inspection Report 05000275 and 05000323/2007003 [P.1(c)].

Inspection Report# : [2008003](#) (*pdf*)

**Significance:**  Jun 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Inadequate Emergency Diesel Generator Snubber Valve Receipt Inspection**

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XV, "Nonconforming Materials, Parts, or Components," after Pacific Gas and Electric failed to perform an adequate receipt inspection to identify defective emergency diesel generator fuel injector snubber valves. On March 13, 2008, Entergy Nuclear Operations issued Part 21, Report 2008 004 00, "Potential Defect in Fairbanks Morse Emergency Diesel Generator Snubber Valve Material and Heat Treatment," after observing repetitive diesel generator snubber valve failures. Pacific Gas and Electric evaluated the Part 21 report and concluded that the current receipt inspection was adequate to identify defective snubber valves. However, the inspectors identified that the receipt inspection Procedure RPE M-7297, "DEG - Fuel Injection Pump Snubber Valve," did not include verification that the snubber valve material had been properly heat treated as described in the 10 CFR Part 21 notification. The inspectors concluded that the potential existed for defective snubber valves to be installed on station emergency diesel generators. The licensee took corrective actions to inspect the installed snubber valves, revise the receipt inspection, and enter the condition into the corrective action program as Action Request A0729807. The subsequent inspection did not identify any defective snubber valves installed in the plant or in the warehouse stock.

The finding is greater than minor because if left uncorrected, less than adequate receipt inspections would become a more significant safety concern. The inspectors concluded this finding is of very low safety significance because it did not represent a loss of system safety function, an actual loss of safety function of a single train for greater than the Technical Specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution, associated with the operating experience component because Pacific Gas and Electric Company failed to adequately evaluate a Part 21 notification [P.2(a)].

Inspection Report# : [2008003](#) (*pdf*)

**Significance:**  Mar 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Demonstrate that the Unit 2 Containment Atmosphere Particulate Radioactivity Monitor Performance was Being Effectively Controlled per 10 CFR 50.65(a)(2)**

The inspectors identified a noncited violation of 10 CFR 50.65(a)(2), after Pacific Gas and Electric Company failed to effectively control performance monitoring of the Unit 2 containment atmosphere particulate radiation monitor through appropriate preventive maintenance. Eight functional failures of the radiation monitor occurred between November 2006 and January 2008. The licensee did not categorize any of these failures as Maintenance Rule functional failures.

This finding is greater than minor because it is associated with the mitigating systems cornerstone attribute of equipment performance and it affects the cornerstone objective to ensure the availability, reliability, and capability of the systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of this finding using Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1, Appendix A. The inspectors determined that this finding was of very low safety significance because this is not a design or qualification deficiency, does not represent a loss of a system safety function or safety function of a single train, and does not screen as potentially risk significant due to external events. The inspectors also determined that this finding has a crosscutting aspect in the area of human performance associated with the work practices component because engineering staff failed to follow the November 2006 revision to the licensee maintenance rule procedure that would have required each failure to be counted as a maintenance rule functional failure. Engineering staff incorrectly concluded that the revision was not applicable to the radiation monitors and therefore did not implement the change. [H4(b)]

Inspection Report# : [2008002](#) (*pdf*)

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**Significance:** Feb 17, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Maintain the Integrity of an Auxiliary Building Fire Door**

On February 17, 2008, the inspectors identified a noncited violation of Technical Specification 5.4.1.d, "Fire Protection Program," after Pacific Gas and Electric failed to maintain the integrity of an auxiliary building fire door. The inspectors identified that the latching mechanism on Fire Door 348 was degraded and not engaged. The unlatched fire door resulted in a reduction in fire confinement capability. The door was required to provide a 1½-hour fire barrier between two plant fire areas. The licensee had several prior opportunities to identify the degraded fire door. Security and operations personnel passed through the affected fire area several times each day.

This finding is greater than minor because the degraded fire barrier affected the mitigating systems cornerstone external factors attribute objective to prevent undesirable consequences due to fire. Using Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," the inspectors determined this finding is within the fire confinement category and the fire barrier was moderately degraded because the door latch was not functional. The inspectors concluded that this finding is of very low safety significance because a non-degraded automatic full area water based fire suppression system was in place in the exposing fire area. This finding was entered into the corrective action program as Action Request A0719774. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program component because plant personnel did not maintain a low threshold for identifying issues.

Inspection Report# : [2008002](#) (*pdf*)

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**Significance:** Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

**Plant Operators Failed to Identify a Degraded Emergency Diesel Generator**

The inspectors identified a noncited violation of 10 CFR 50, Appendix B, "Corrective Action," after Pacific Gas and Electric failed to identify a degraded emergency diesel generator. On October 15, 2007, the inspectors identified a buildup of black soot on the Emergency Diesel Generator 1-1 exhaust manifold. Licensee personnel subsequently identified that one of the four fasteners connecting the exhaust manifold to the turbo charger was missing. The licensee declared the diesel generator inoperable based on the potential reduction of electrical power output due to exhaust gas bypassing the turbo charger and the adverse affect of the missing fastener on seismic qualification. Plant operators determined that overall plant risk was significantly degraded (Orange) due to the combination of the unavailable diesel generator and other plant equipment removed from service at the time. The licensee had prior opportunity to identify the degraded diesel generator during operator rounds between September 23 and October 15, 2007.

This finding is greater than minor because, if left uncorrected, continued failure to perform adequate operator rounds would become a more significant safety concern. This finding affected the mitigating systems cornerstone because the issue involved an emergency diesel generator. Using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, this finding was determined to have very low safety significance because it did not result in a loss of operability of a single train, for greater than Technical Specification allowed outage time, did not result in the loss of safety function, and was not potentially risk significant from a seismic, flooding or severe weather perspective. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program component because plant operators did not maintain a low threshold for identifying issues P.1(a). This issue was entered into the licensee's corrective action program as Action Request A0710082.

Inspection Report# : [2007005](#) (pdf)

**Significance:** SL-IV Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Inadequate 50.59 Evaluation for Unit 1 Containment Sump Modification**

The inspectors identified a noncited Severity Level IV violation of 10 CFR 50.59 after Pacific Gas and Electric failed to perform an adequate safety evaluation of Unit 1 containment sump modifications. As a result, the licensee failed to obtain prior NRC approval for a change to the technical specifications incorporated in the license. On March 6, 2007, the licensee identified that the current refueling water storage tank minimum technical specification level was not adequate to ensure that the new containment sump would perform the required safety function. On April 20, 2007, Pacific Gas and Electric completed a 10 CFR 50.59, "Licensing Basis Impact Evaluation Screen of the Containment Sump Modification." The licensee concluded that the modification did not involve a change to the plant technical specifications and that the required refueling water storage tank level was unaffected by the modification. On May 25, 2007, Pacific Gas and Electric placed Unit 1 into Mode 4 without an approved technical specification change.

The inspectors concluded that the finding was more than minor because the modification required prior NRC approval. Because the issue affected the NRC's ability to perform its regulatory function, this finding was evaluated using the traditional enforcement process. The issue was classified as Severity Level IV because the violation of 10 CFR 50.59 involved conditions evaluated as having very low safety significance by the Significance Determination Process. The finding was determined to be of very low safety significance because the safety function was maintained since Pacific Gas and Electric had administratively maintained the refueling water storage tank at an adequate level during plant operation. On this basis, the item impacts the mitigating systems cornerstone and screens to Green, using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 evaluation, Appendix A, because (a) the finding is not a design or qualification deficiency, (b) there is no loss of safety function for the mitigating system; and, (c) there are no seismic, fire, flooding or severe weather initiating implications associated with the finding. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program component because the licensee did not appropriately prioritize and evaluate the problem of an inadequate refueling water storage tank level after the problem was entered into the corrective action program, P.1(c). This issue was entered into the licensee's corrective action program as Action Request A07145625.

Inspection Report# : [2007005](#) (pdf)

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## **Barrier Integrity**



**Significance:** G Sep 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Inadequate Operability Evaluation of Reactor Coolant Leakage Detection System**

The inspectors identified a noncited violation of Technical Specification 3.4.15, "RCS Leakage Detection Instrumentation," after the Unit 1 containment atmosphere gaseous radioactivity monitor reactor coolant leak detection system was inoperable for greater than the allowed out of service time. On August 13, 2008, the inspectors identified that the source term assumed in the leak detector design basis was not present in the reactor coolant system. Pacific Gas and Electric personnel performed an operability evaluation of the degraded condition and concluded that the detector was operable. The inspectors identified that the licensee's evaluation did not consider the effect of the current reactor coolant conditions on the functionality of the detector. The inspectors subsequently concluded that the detector was inoperable from August 16 through September 18, 2008. The licensee declared the leak detector inoperable on September 23, 2008, and entered the condition into their corrective action program as Action Request A0737958.

This finding was more than minor because less than adequate operability evaluations, if left uncorrected, would become a more significant safety concern. The inspectors determined this finding affected the Barrier Integrity Cornerstone. The inspectors used Inspection Manual Chapter 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," to analyze the significance of this finding. The inspectors concluded that the finding is of low safety significance because the condition was not related to pressurized thermal shock, loss of cooling to the spent fuel pool, or fuel handling errors or the loss of spent fuel pool inventory. This finding has a crosscutting aspect in the

area of problem identification and resolution, associated with the corrective action program component, because Pacific Gas and Electric personnel failed to perform an adequate operability evaluation of a degraded reactor coolant leak detection system.

Inspection Report# : [2008004](#) (pdf)

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## **Emergency Preparedness**

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## Occupational Radiation Safety

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**Significance:** Feb 13, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Follow Procedures, per Technical Specification 5.4.1**

The inspectors identified a noncited violation of Technical Specification 5.4.1 for failure to follow a licensee procedure. Specifically, while touring the Unit 2 spent fuel pool on February 13, 2008, the inspectors observed workers performing fuel inspections on the fuel bridge. The inspectors noted that the physical location of a continuous air monitor, an AMS-4, was in the southeast corner of the floor. Ventilation flow in this area was north to south with negative ventilation centered on the spent fuel pool. Section 2.2 of Procedure RCP D-430 states, in part, the purpose of the continuous air monitors was to alert personnel to changes in radiological conditions and that locations are selected based on their potential as contributors to airborne activity. The location of the continuous air monitor was not appropriate to alert the workers of changing radiological conditions. During review of this occurrence, the inspectors were made aware of a similar issue. Specifically, Action Request A0666110 was opened on May 3, 2006, to evaluate the adequacy of AMS 4 placement in the fuel building during fuel moves. This action request was currently open with a resolution date of December 15, 2008.

This finding is greater than minor because it is associated with the occupational radiation safety program and process attribute and affected the cornerstone objective, in that the failure to monitor for radioactive material in the air had the potential to increase personnel dose. This occurrence involves workers unplanned, unintended or potential for such dose; therefore, this finding was evaluated using the occupational radiation safety significance determination process. The inspectors determined that this finding was of very low safety significance because it did not involve: (1) an as low as is reasonably achievable planning or work control issue; (2) an overexposure; (3) a substantial potential for overexposure; or (4) an impaired ability to assess dose. This finding also has a crosscutting aspect in the area of problem identification and resolution, corrective action component, because the licensee failed to take timely corrective actions to address safety issues.

Inspection Report# : [2008002](#) (*pdf*)

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## Public Radiation Safety

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### Physical Protection

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

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### Miscellaneous

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