

# Diablo Canyon 2

## 3Q/2008 Plant Inspection Findings

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### Initiating Events

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### Mitigating Systems

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**Significance:** Sep 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Perform a Safety Assessment for Following Discovery of Explosive Gas in the Auxiliary and Containment Buildings**

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criteria V, "Instructions, Procedures, and Drawings," after Pacific Gas and Electric personnel failed to perform a safety assessment prior to implementing a temporary procedure on July 20, 2008, to transfer an explosive gas mixture from the waste gas system to the Unit 2 vent. The explosive mixture of oxygen and hydrogen was discovered in the Unit 2 reactor coolant drain tank, waste gas surge tank, and interconnecting piping. The licensee also identified that the Unit 2 pressurizer relief tank vapor space exceeded the lower flammable limits. The explosive and flammable gas created a condition outside the plant design bases and was inconsistent with safety analysis. Plant Procedure TS3.ID2, "Licensing Basis Impact Evaluation," required the licensee to have performed a safety assessment prior to conducting activities outside the design bases and inconsistent with safety analysis. The licensee entered this condition into the corrective actions system as Action Request A0741069.

This finding is greater than minor because explosive and flammable gas within the containment and auxiliary buildings affected the Initiating Events Cornerstone objective to limit the likelihood of events that may upset plant stability and challenge critical safety functions during power operations and protect against external factors such as fire and explosions. The inspectors used Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," to analyze the significances of the finding. The inspectors determined this finding was a fire prevention and administrative controls category due to the failure to meet the equipment control guideline for combustible gas flammability limits. The inspectors concluded that that this finding is of very low safety significance because the condition represented a low degradation rating due to the lack of a direct ignition source. This finding has a crosscutting aspect in human performance in the area of Decision Making because the licensee failed to use the systematic process provided in Procedure TS3.ID when making a safety significant or risk-significant decision when faced with the unexpected explosive gas mixture within containment and auxiliary building plant systems. Inspection Report# : [2008004](#) (*pdf*)

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**Significance:** Jun 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Follow Operability Procedure**

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," after the licensee failed to adhere to several requirements in Administrative Procedure OM7.ID12, "Operability Determination," Revision 11. Specifically, the licensee identified that it did not perform a prompt operability assessment for a condition adverse to quality until approximately 1 year after the immediate operability determination was performed. Also, the inspectors identified that when the prompt operability assessment was performed, it relied inappropriately on engineering judgment, for a complex issue, without an adequately documented basis for that judgment. The adverse condition was an identified nonconformance related to the design basis because both units were operating at a full power average temperature less than the design value. The licensee has entered this into their corrective action program as Action Request A0723331 which details their planned correction actions.

The inspectors determined that the finding was more than minor because it is similar to Inspection Manual Chapter 0612, Appendix E, Minor Example 3(j) in that operability was questioned and both the licensee and the vendor had to perform significant work and analysis in order to fully address the operability impact of a low average temperature on operating Unit 1. In accordance with Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 4, Phase 1 - Initial Screening and Characterization of Findings, the inspectors concluded the finding was of very low safety significance (Green) because it did not 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 human performance associated with the decision making component because the licensee did not use conservative assumptions when it decided that engineering judgment alone was a sufficient basis for operability without a supporting plant specific analysis [H.1(b)] .

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

**G****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*)**G****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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## Barrier Integrity

**G****Significance:** Sep 30, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**Inadequate Procedure Resulting in Inoperable Auxiliary Building Ventilation System**

The inspectors reviewed a self-revealing noncited violation of Technical Specification 5.4.1, "Procedures," after Pacific Gas and Electric personnel failed to provide adequate work instructions for removal of equipment from service, resulting in the inoperability of both Unit 2 auxiliary building ventilation system trains, a condition prohibited by plant technical specifications. The work instruction did not provide a step for properly realigning the system to maintain operability of one train. The licensee entered this condition into the corrective actions system as Notification 50070612.

This finding was more than minor because the loss of both ventilation trains affected the Barrier Integrity cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events and the inadequate procedure affected the attribute of procedure quality. The finding was of very low safety significance because it only represented a degradation of the radiological barrier function provided for the auxiliary building. This finding had a crosscutting aspect in the area of human

performance with a Work Practices component because Pacific Gas & Electric staff failed to perform an adequate prejob brief to address questions regarding the sequence of steps and operators proceeded with the clearance in the face of uncertainty.

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

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## Emergency Preparedness

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## Occupational Radiation Safety

**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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