

## Diablo Canyon 1 2Q/2013 Plant Inspection Findings

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### Initiating Events

**Significance:** G Jun 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Implement the Fire Protection Program Requirements for the Control of Transient Combustible Material**

Green. The inspectors identified a Green non-cited violation of the licensee's approved fire protection program as defined in Diablo Canyon Facility Operating License Conditions 2.C(5) for Unit 1 and 2.C(4) for Unit 2 involving the failure to effectively implement the fire protection program. Specifically, the inspectors identified multiple examples where the licensee failed to maintain control and tracking of combustible materials, welding equipment, and oxygen/acetylene rigs in the plant. The licensee entered the condition into the corrective action program as Notifications 50510062, 50511864, 50561959, and 50537650.

The failure to effectively implement all fire prevention controls and processes as required in the approved fire protection program was a performance deficiency. The performance deficiency was more than minor because it was associated with the protection against external events (fire) attribute of the Initiating Events Cornerstone and it adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions. Using Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," the inspectors concluded that the finding was of very low safety significance (Green) because each deficiency was rated as "Low" degradation because for the violations of the hot work permitting program, all normally required fire prevention measures remained in place and for the violations of the transient combustibles control program, the materials involved did not significantly increase the fire frequency. This finding had a cross-cutting aspect in the area of human performance associated with the work practices component, because the cause of the performance deficiency involved the licensee not ensuring supervisory and management oversight of work activities, such that nuclear safety was supported.

Inspection Report# : [2013003](#) (*pdf*)

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### Mitigating Systems

**Significance:** G Dec 20, 2012

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

#### **Failure to Maintain Required Firewater System Configuration**

The team reviewed a self-revealing non-cited violation of License Conditions 2.C(4) for Unit 1 and 2.C(5) for Unit 2, "Fire Protection Program," due to the licensee inadvertently isolating the firewater yard loop for approximately three days, reducing the plant's fire protection capability without compensatory actions. The licensee entered this issue in their corrective action program as Notification 50513006.

The failure to maintain the fire water system configuration as required in the approved fire protection program was a performance deficiency. The performance deficiency was more than minor because it was associated with the

protection against external events (fire) attribute of the Mitigating Systems Cornerstone and it adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The performance deficiency affected the fire protection defense-in depth strategies involving post-fire safe shutdown systems. The major fire loading in the yard area resulted from the 12 large transformers. The senior reactor analyst made the bounding assumption that any transformer fire without suppression would result in an unrecoverable loss of offsite power. A bounding value was calculated by multiplying the fire ignition frequency by the conditional core damage probability. This resulted in a change to core damage frequency of  $1.2 \times 10^{-7}$ . Therefore, the subject finding was of very low safety significance (Green).

This performance deficiency had a cross-cutting aspect in the area of resources associated with providing complete, accurate and up-to-date design documentation, procedures, and work packages, and correct labeling of components. Specifically, the licensee did not provide sufficient details in procedures for operators to successfully align an infrequently operated valve with no position indication. [H.2(c)]

Inspection Report# : [2012008](#) (*pdf*)

**Significance:**  Dec 20, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Inadequate Compensatory Measures for Fire Protection Program Deficiencies**

The team identified a non-cited violation of License Conditions 2.C(4) for Unit 1 and 2.C(5) for Unit 2, “Fire Protection Program,” due to the licensee’s failure to establish or adequately implement compensatory measures for non-compliances with the licensee’s approved fire protection program. These non-compliances were identified during the licensee’s ongoing transition to a new fire protection program in compliance with National Fire Protection Association Standard 805, “Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants,” (NFPA 805). The licensee entered this issue in their corrective action program as Notifications 50521360 and 50531363.

The failure to establish or maintain appropriate compensatory measures for identified deficiencies in the approved fire protection program was a performance deficiency. The performance deficiency was more than minor because it was associated with the protection against external events (fire) attribute of the Mitigating Systems Cornerstone and it adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. A senior reactor analyst evaluated the significance of this performance deficiency.

A fire that results in the loss of switchgear room ventilation would cause a loss of all ac and dc power if operators did not take action to recover cooling. The analyst determined that the licensed operators would have at least two clear annunciators indicating that ventilation had been lost and that room temperatures were increasing. Additionally, Procedure CP-M10, “Fire Protection of Safe Shutdown Equipment”, was available to assist in providing portable fan cooling to the rooms.

For a fire to result in an intersystem loss of coolant accident, it would have to cause a 3 phase hot short on both of two shutdown cooling suction valves. Given that each valve is on a different electrical train, the analyst determined that the conditional probabilities of the hot shorts involved would best be modeled as independent. Accounting for the risk associated with both issues evaluated, the analyst estimated the change to core damage probability to be  $1.5 \times 10^{-7}$  per unit. Therefore, the performance deficiency was considered to be of very low safety significance (Green).

This finding did not have a cross-cutting aspect because it was not indicative of the licensee’s present performance.

Inspection Report# : [2012008](#) (*pdf*)

**Significance:**  Sep 30, 2012

Identified By: NRC

Item Type: VIO Violation

**Inadequate Corrective Actions to Update the Final Safety Analysis Report Update (FSARU) with Required Information**

The inspectors identified a cited violation of 10 CFR Part 50.71(e), “Maintenance of Records, Making of Reports,” for failing to update the Final Safety Analysis Report. Specifically, the licensee failed to update the Final Safety Analysis Report to include the information describing the extent to which plant structures, systems, and components met 10 CFR 50, Appendix A, or describing and justifying exceptions to those General Design Criteria. This failure to update the Final Safety Analysis Report was previously identified as a non-cited violation in NRC’s “Diablo Canyon Power Plant Integrated Inspection Report 05000275/2009003 and 05000323/2009003.” The licensee entered the condition into the corrective action program as Notification 50513243.

The failure to correct missing information that was required to be in the Final Safety Analysis Report Update was a performance deficiency. The inspectors concluded that the finding is more than minor because, if left uncorrected, this could lead to a more significant safety concern because future changes to the facility, procedures, and programs would not be able to consider the licensing basis information that was removed or never inserted. The finding was screened using Manual Chapter 0609, “Significance Determination Process.” The inspectors concluded that the finding was of very low safety significance (Green) because while the finding was a deficiency affecting design or qualification of a mitigating system, it did not result in the loss of operability or functionality of a system. The finding also affected the NRC’s ability to perform its regulatory function and was evaluated using the traditional enforcement process. The finding was determined to be Severity Level IV because the required information was not used to make an unacceptable change to the facility or procedures, which was consistent with the determination that the issue had very low safety significance. The inspectors concluded that this finding had a crosscutting aspect in the area of human performance associated with the decision making component because the licensee did not use conservative assumptions in decision making and did not adopt a requirement to demonstrate that the proposed action is safe in order to proceed.

Inspection Report# : [2012004](#) (*pdf*)

## Barrier Integrity

**Significance:**  Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Perform Operability Evaluation**

The inspectors identified a non-cited violation of 10 CFR, Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” after personnel failed to adequately assess the impact of an unanalyzed condition on control room envelope operability. Specifically, personnel performed a problem screening for a nonconforming condition that impacted operability of the control room ventilation system operability and determined that a review by the Shift Foreman, work control Shift Foreman, or Shift Manager was not required. The licensee entered the condition into the corrective action program as Notification 50497774.

The failure to adequately assess the impact of an unanalyzed, non-conservative condition on control room habitability system operability was a performance deficiency. This finding was more than minor because it was associated with the Barrier Integrity Cornerstone objective design control attribute to provide reasonable assurance for the control room physical design to protect from radionuclide releases caused by accidents or events. Using the Inspection Manual Chapter 0609, Appendix A, “Significance Determination Process (SDP) for Findings At-Power,” the

inspectors concluded that the finding was of very low safety significance (Green) because the finding only represented a degradation of the radiological barrier function provided for the control room. This finding had a cross-cutting aspect in the area of problem identification and resolution, associated with the corrective action program component, because the licensee did not thoroughly evaluate the impact of non-conservative control room atmospheric dispersion factor methodology on control room habitability system operability,

Inspection Report# : [2012005](#) (*pdf*)

**Significance:**  Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

**Non-conservative Decision Making Resulted in a Violation of Technical Specification**

The inspectors identified a non-cited violation of Technical Specification 3.7.10, "Control Room Ventilation System (CRVS)," after the control room envelope boundary for both units was inoperable for a greater duration than permitted by the out-of-service time. Specifically, the licensee operated Units 1 and 2 without an operable control room envelope from between at least September 2011 and December 2012, which is greater than the 90 day allowed outage time. The licensee entered the condition into the corrective action program as Notifications 50483820, 50497328, and 50485800

The failure to comply with Technical Specification 3.7.10 was a performance deficiency. The finding was more than minor because it was associated with the Barrier Integrity Cornerstone objective design control attribute to provide reasonable assurance that the control room physical design would protect operators from radionuclide releases caused by accidents or events. Using Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," the inspectors concluded that the finding was of very low safety significance (Green) because the finding only represented a degradation of the radiological barrier function provided for the for the control room. This finding had a crosscutting aspect in the area human performance associated with decision-making component because the licensee did not use conservative assumptions in their decision to implement compensatory actions following the inoperability of the control room envelope boundary,

Inspection Report# : [2012005](#) (*pdf*)

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission

has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

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## Miscellaneous

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