Diablo Canyon 1
3Q/2003 Plant Inspection Findings

Initiating Events

Significance: G Jun 28, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain Design Drawings Lead to Inadvertent Inward Rod Motion
A self-revealing, noncited violation of 10 CFR Part 50, Appendix B, Criterion V occurred because of a failure to accurately reflect wiring changes in drawings following a design modification. Subsequently, deficient drawings were used by maintenance personnel in another design modification and contributed to inadvertent, inward control rod motion that reduced reactor power by approximately 2 percent.

Using Example 4.b of Inspection Manual Chapter 0612, Appendix E, the finding is greater than minor since maintenance personnel performed activities with the deficient drawings and without verifying the function of the leads, caused a small plant transient. The finding, which is under the initiating events cornerstone, was of very low safety significance since operators performed in a timely, appropriate manner. Also, the transient was not severe enough to challenge the capability of the plant's mitigating equipment. The finding was reviewed against the initiating event screening criteria documented in Inspection Manual Chapter 0609, Appendix A, Attachment 1, Significance Determination Process Phase 1 Screening Worksheet for Initiating Event, Mitigating Systems and Barrier Cornerstones. The finding is of very low safety significance because the condition did not contribute to a loss of coolant initiator, would not contribute to the likelihood a mitigating system would not be available and did not involve an external event initiator. In addition, the operators responded in a timely and appropriate manner. Plant mitigating equipment was not challenged by the transient..
Inspection Report# : 2003006*(pdf)*

Mitigating Systems

Significance: G Sep 27, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Promptly Identify and Correct Diesel Engine Generator Lube Oil Carbonization
The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI for Pacific Gas & Electric Company's failure to promptly identify and correct lube oil carbonization in diesel engine generators. This failure resulted in increased lube oil filter differential pressures and partial clogging of precirculation lube oil lines for Diesel Engine Generators 1-3 and 2-2.

The finding impacted the mitigating systems cornerstone and was more than minor when assessed using Inspection Manual Chapter 0612, Appendix E, Example 3.b. In Example 3.b, a discrepancy between an actual condition and the design was more than minor if the operation of the system was adversely affected. With respect to this finding, the carbonized oil clogged the precirculation lube oil line requiring Diesel Engine Generator 1-3 unavailability to clean the

line. Additionally, the carbonized lube oil caused an increase in lube oil filter differential pressure. The finding is of very low safety significance since there was no loss of an actual safety function, no loss of a safety-related train for greater than the Diesel Engine Generator 1-3 Technical Specification allowed outage time, and the finding is not potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event.

Inspection Report# : 2003007*(pdf)*

Significance: G Sep 27, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Two Examples of a Violation of Technical Specification 5.4.1.d for Inadequate Fire Protection Implementation
The inspectors identified two examples of a violation of Technical Specification Section 5.4.1.d, for failure to establish, implement, and maintain adequate procedures covering fire protection program implementation.

Example 1: The licensee failed to adequately implement fire protection program requirements specified in Calculation M-944 "10 CFR 50 Appendix R, Alternate Shutdown Methodology Time and Manpower Study/Safe Shutdown System Considerations." Specifically, in a control room fire scenario requiring control room evacuation and remote shutdown, operators failed to complete actions required for achieving safe shutdown specified in Procedure OP AP-8A, "Control Room Inaccessibility Hot Standby," within the times assumed in Calculation M-944.

This finding was of greater than minor significance because it impacted the mitigating systems cornerstone and adversely affected the ability of the licensee to manually operate certain components required for safe shutdown within the analyzed times. Specifically, in a simulated field walkdown, operators were not able to establish auxiliary feedwater within 30 minutes as required by analysis nor close a stuck open power operated relief valve within 5 minutes. The inspectors used Appendix F of Manual Chapter 0609 and determined that the inability to perform the safe shutdown procedures required a Phase 2 and Phase 3 analysis in the significance determination process. The Phase 2 and 3 analysis of the ignition frequencies and the potential heatup of the core in this degraded condition, revealed that this finding was of very low safety significance.

Example 2: The licensee failed to adequately implement fire protection program requirements for a fire in the control room requiring control room evacuation and remote shutdown. Specifically, the licensee failed to provide adequate information in procedure OP AP-8A, "Control Room Inaccessibility Hot Standby," or on the Unit 2 hot shutdown panel concerning the correct hot shutdown panel switch positions of certain components required for safe shutdown. Consequently, in stepping through procedure OP AP-8A, operators failed to transfer control of the auxiliary feedwater throttle valves and steam generator atmospheric dump valves from the control room to the hot shutdown panel.

This finding was of greater than minor significance because it impacted the mitigating systems cornerstone and adversely affected the ability of the licensee to take control of certain components required for safe shutdown. Specifically, information identifying the correct hot shutdown panel switch positions for the auxiliary feedwater throttle valves and steam generator atmospheric dump valves were not provided to the operators. During a control room fire and remote shutdown, if not placed in the correct positions, these components would have remained vulnerable to fire damage that could cause spurious operation. The inspectors used Appendix F of Manual Chapter 0609 and determined that the inability to perform the safe shutdown procedures required a Phase 2 and Phase 3 analysis in the significance determination process. The Phase 2 and 3 analysis of the ignition frequencies and the potential heatup of the core in this degraded condition, revealed that this finding was of very low safety significance.
Inspection Report# : 2003007*(pdf)*

Significance: G Jun 28, 2003

Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Promptly Identify and Correct a Faulty Automatic Voltage Regulator Card
An NRC-identified NCV of 10 CFR Part 50, Appendix B, Criterion XVI was determined for the failure to identify and correct a faulty automatic voltage regulator card that resulted in Diesel Engine Generator 1-3 failures. Diesel Engine Generator 1-3 remaining in service for over 6 months with a faulty automatic voltage regulator card. Overall there were three occasions where the diesel engine generator did not achieve its required voltage rise time.

The finding was more than minor when assessed using Inspection Manual Chapter 0612, Appendix E, Example 4.f. Similar to the example, Diesel Engine Generator 1-3 was inoperable from August 31, 2002, to February 23, 2003, which is the time period that the fault in the automatic voltage regulator card was determined to exist. Using the Significance Determination Process Phase 1 Worksheet in Inspection Manual Chapter 0609, the inspectors determined that there was an actual loss of a safety function for greater than the diesel engine generator Technical Specification allowed outage time, which required a Significance Determination Process Phase 2 analysis. The finding was reviewed by senior reactor analysts and an engineer with the Office of Nuclear Reactor Regulation to identify the sequences to be analyzed. Specifically, the sequences involving a loss of offsite power with a large break loss-of-coolant-accident were evaluated since Diesel Engine Generator 1-3 exhibited a slow voltage rise time only. In all other sequences, the emergency alternating current safety function was credited. An additional mitigating factor is the two residual heat removal pumps were located on the other two vital buses. The Significance Determination Process Phase 2 analysis determined that the finding was of very low safety significance.
Inspection Report# : 2003006*(pdf)*

Significance:  Dec 28, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Procedure Resulted in Debris Left Inside Containment.
Failure to implement procedures related to the removal of debris from Unit 1 Containment resulted in an accumulation of debris that exceeded the original design margin by 2 square feet. The licensee discovered paper and small incidental items such as pens that were left inside containment following the last refueling outage, which occurred five months earlier. Additionally, the licensee found a blue paper towel inside the containment recirculation sump near the containment recirculation sump valve inlet.

A self-revealing non-cited violation of Technical Specification 5.4.1.a was identified. The finding was greater than minor because, if left uncorrected, the finding would become a more significant safety concern. Specifically, if licensee personnel do not perform an adequate containment walkdown to remove debris, there is a potential for a sufficient amount of debris to be left inside containment that would impact the post-accident containment recirculation function. This finding is under the mitigating system cornerstone and of very low risk significance since the licensee subsequently determined that the material left inside containment would not have prevented the post-accident containment recirculation function.
Inspection Report# : 2002005*(pdf)*

Significance:  Dec 28, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Correct a Degraded Battery Charger Termination
A violation of Technical Specification 5.4.1.a was identified for failure to initiate a prompt operability assessment when a degraded termination associated with Battery Charger 1-3-1 was identified. In July 23, 2002, the licensee identified a warm termination in the charger when it was lightly loaded and the subsequent engineering evaluation

recommended that the termination not be subjected to heavy loads and be repaired as soon as possible. Additional analysis was necessary to determine charger operability during design basis loading. During a full load test on December 4, 2002, operators declared Battery Charger 131 inoperable due to high termination temperature.

The finding is greater than minor because it affects the cornerstone objective of mitigating systems, and in particular, the equipment performance objective as it relates to reliability of the battery charger. The finding is of very low safety significance because the battery charger is a backup charger, placed in service when one of the primary chargers is unavailable. In addition, licensee performed further testing on the termination and determined that it would be able to perform its function for the required amount of time.
Inspection Report# : 2002005*(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Significance: G Oct 05, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to post a radiation area.
The inspector identified a noncited violation of 10 CFR 20.1902 because the licensee failed to post radiation areas. Specifically, the licensee did not post two discrete areas within Vault 26 in which the radiation dose rates were approximately 10 millirem per hour at 30 centimeters from the surfaces of radioactive material storage containers. Radiation area means an area, accessible to individuals, in which radiation levels could result in an individual receiving a dose equivalent in excess of 5 millirem in 1 hour at 30 centimeters from the radiation source or from any surface that the radiation penetrates.

The failure to post a radiation area is a performance deficiency. The finding was more than minor because it was associated with one of the cornerstone attributes (exposure control and monitoring) and the finding affected the Occupational Radiation Safety cornerstone objective (adequate protection from exposure). Because the finding involved the potential for unplanned, unintended dose resulting from conditions that were contrary to NRC regulations, the finding was evaluated using the Occupational Radiation Safety Significance Determination Process. The inspector determined that the finding had no more than very low safety significance because it did not involve ALARA planning and controls, there was no personnel overexposure, there was no substantial potential for personnel overexposure, and the finding did not compromise the licensee's ability to assess dose. This violation is in the licensee's corrective action program as Action Request A0562085.
Inspection Report# : 2002004*(pdf)*

Public Radiation Safety

Physical Protection

Significance: N/A Jan 10, 2003
Identified By: NRC
Item Type: FIN Finding
Verification of Compliance With Interim Compensatory Measures Order
On February 25, 2002, the NRC imposed by Order, Interim Compensatory Measures to enhance physical security. The inspectors determined that, overall, the licensee appropriately incorporated the Interim Compensatory Measures into the site protective strategy and access authorization program; developed and implemented relevant procedures; ensured that the emergency plan could be implemented; and established and effectively coordinated interface agreements with offsite organizations.
Inspection Report# : 2003003*(pdf)*

Miscellaneous

Last modified : December 01, 2003