Diablo Canyon 1
1Q/2003 Plant Inspection Findings

Initiating Events

Mitigating Systems

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)*

Significance: G Jul 11, 2002
Identified By: NRC
Item Type: FIN Finding
Grounding resistor vulnerability
The plant electrical distribution consisted of a design where the three redundant 4160 V safety buses and a non-safety bus were supplied from a common transformer winding during both normal and emergency operation. The 4160 V buses were interconnected by conductors so that a voltage disturbance on any part of the system would affect the entire system. The system had a high resistance grounding design to limit the magnitude of ground faults and to enable continued operation of a faulted load. The grounding resistor admits sufficient fault current to prevent severe over-voltages that could occur. However, if the grounding resistor developed an open circuit, the entire system would be susceptible to over-voltage. The licensee was periodically checking the continuity, but not the actual resistance of the grounding resistors and, thus, assumptions in the design were not being verified. The licensee issued Action Request A0561002 to evaluate the preventive maintenance program of the high resistance grounding program. This issue did not involve a violation of NRC requirements, but was considered to be a finding because it revealed a vulnerability in the licensee's design and maintenance that could result in a safety problem. However, the finding was determined to be of very low safety significance because there was no evidence that the grounding resistor had ever been degraded and that the probability of a grounding resistor failure in combination with a sparking ground fault was very small.
Inspection Report# : 2002006*(pdf)*

Significance: G Jul 06, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform Adequate Postmaintenance Test on Auxiliary Saltwater Pump
The inspectors identified a violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," for the failure to perform an adequate post-maintenance test on Auxiliary Saltwater Pump 1-2 prior to placing the pump in service. The licensee installed new packing on Auxiliary Saltwater Pump 1-2 as part of the pump replacement that occurred between May 9 -16, 2002. The licensee performed a post-maintenance test on Auxiliary Saltwater Pump 1-2 on May 17 and documented there was adequate packing leak-off flow. Then on May 30 operators started Auxiliary Saltwater Pump 1-2 but identified no leak-off flow. The post maintenance test was not adequate to identify that the packing had been improperly installed and that the packing had shifted and swelled following the May 17 pump run. This violation is being treated as a noncited violation consistent with Section VI.A.1 of the NRC Enforcement Policy. This item was placed in the corrective action system as Action Request A0560036. This violation was more than minor because if the same condition, under similar circumstances, were present for a longer period of time, the finding would be of greater safety significance. An NRC senior reactor analyst performed a significance determination process Phase 3 safety assessment. The senior reactor analyst reviewed the licensee's risk assessment, and the safety significance insights obtained from the NRC's Standardized Plant Analysis Risk (SPAR) model for Diablo Canyon Units 1 and 2 (Revision 3i) as well as NRC Manual Chapter 0609, Significance Determination Process, Appendices A and G, Significance Determination of Reactor Inspection Findings for At-Power Situations and Shutdown Safety SDP [significance determination process] for those plant conditions utilizing residual heat removal, respectively. The senior reactor analyst considered, in part, the plant conditions, availability of the steam generators as a heat sink and the low decay heat for each of the plant modes during which the condition existed, and the availability of the Auxiliary Saltwater Unit 2 crosstie in assessing the overall safety significance. It was also noted that the temperature at the packing gland was elevated following the pump run on May 30 but did not indicate early pump failure was likely. Based on the quantitative and qualitative assessment for this condition, the senior reactor analyst concluded the condition was of very low safety significance (Section 1R19).
Inspection Report# : 2002003*(pdf)*

Significance: TBD May 31, 2002

Identified By: NRC
Item Type: FIN Finding
The installation of the ventilation louver, and the subsequent electrical fault associated with Startup Transformer 1-1 Grounding Transformer Fuse Box.
The inspectors identified a finding with respect to the placement of ventilation louvers on 12 kV grounding transformer fuse boxes. On August 4, 2001, Units 1 and 2 experienced a loss of startup power as a result of multiple electrical faults in Startup Transformer 1-1 Grounding Transformer Fuse Box. Nonconformance Report N0002130, "Loss of Unit 1 and 2 Startup Power," determined the primary cause of the electrical faults to be condensation inside the fuse box. The contributory cause of the event was the ventilation louver, which allowed outside (salty) air to be drawn into the fuse box. The inspectors' Phase 2 evaluation of this issue using the Significance Determination Process indicated a condition that was potentially greater than green. The inspectors determined that the installation of the ventilation louver, and the subsequent electrical fault associated with Startup Transformer 1-1 Grounding Transformer Fuse Box represented an actual impact on safety since the preferred offsite power was momentarily lost from both units. Subsequently, auxiliary power continued to supply power to plant loads during the loss of startup power, and diesel generators were also available to supply power to safety-related equipment. This issue will remain as an unresolved issue (URI 50-275; 323/2002-02-01) pending completion of the significance determination process (Section 4OA2).
Inspection Report# : 2002002*(pdf)*

Significance: May 31, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
The failure to initiate an operability assessment for a nonconforming condition associated with adequate fuel storage capacity to address increases of diesel generator loads in Calculation M-786.
The inspectors identified a violation of Technical Specification 5.4.1.a for the failure to initiate an operability assessment for a nonconforming condition associated with adequate fuel storage capacity to address increases of diesel generator loads in Calculation M-786. The licensee, contrary to the procedural requirements, placed the issue in a process to validate the initial perception that diesel fuel oil tank capacity would meet design requirements. The licensee documented on July 19, 2001, that Calculation M-786 had not been updated with regard to changes that would affect diesel fuel usage in the Technical Specifications, Design Criteria Memorandum, the Final Safety Analysis Report Update, and the Emergency Operating Procedures. The licensee determined that such changes could have an adverse impact on the design and licensing basis related to adequate diesel fuel oil storage. The issue was determined to be of very low risk significance during Phase 1 of the NRC Significance Determination Process, because the Calculation M-786 was found to be conservative with respect to diesel generator loads and, therefore, the diesels remained operable. The failure to adequately address operability of potentially nonconforming conditions, if left uncorrected, could become a more significant safety concern, therefore, the issue was determined to be more than minor. This violation is being treated as a noncited violation consistent with Section VI.A.1 of the NRC Enforcement Policy. This violation is in the corrective action program as Action Request A0553285. (Section 4OA2).
Inspection Report# : 2002002*(pdf)*

Significance: Apr 05, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Licensee Restarted Unit 2 Before Recognizing Reactor Trip and Engineered Safety Features Actuation Associated with Lo-lo Steam Generator Water Level was Inoperable
The failure to promptly identify and correct the steam generator narrow range water level-low low reactor trip system and engineered safety system instrumentation nonconservative setpoint bias following the Unit 2 manual reactor trip on February 9, 2002, is a violation of 10 CFR Part 50, Criterion XVI. The licensee's event review failed to recognize that an engineered safety feature, including a reactor trip, failed to actuate when required during a loss of feedwater event to

Steam Generator 2-4. This failure resulted in the licensee restarting Unit 2 with the reactor trip and engineered safety system instrumentation inoperable, and in the operation of both units with the same instrumentation inoperable, in violation of Technical Specification 3.3.1. This issue is being treated as a noncited violation, consistent with Section VI.A of the Enforcement Policy (50-275; 323/2002-07-01). The licensee documented this deficiency in Action Request A0549031. The failure to promptly recognize inoperable trip and actuation functions and comply with Technical Specification requirements had a credible impact on safety. The resulting delays in an automatic reactor trip and engineered safety features actuations would have delayed the plant's response to a loss of feedwater event and reduced the water mass available for the heat sink function in the affected steam generator(s). Further, this deficiency had the potential to affect the integrity of the reactor coolant system boundary. A Phase 3 Significance Determination Process evaluation concluded that the issue had very low safety significance (Green). The finding represents a condition that existed for 5-days. The significance of the steam generator narrow range water level-low low setpoint offset (bias) is reduced if feedwater flow is lost to two or more steam generators. Based on the short duration from the time a single steam generator would dryout (the limiting initiator is a loss of feedwater to a single generator) and actuation of auxiliary feedwater, the condition does not result in an appreciable increase in the probability of a steam generator tube rupture occurring. The licensee's analysis using the plant specific simulator showed that the engineered safety feature actuation and reactor trip on steam generator water level-low low would have initiated at or before steam generator dryout would occur. The reactor coolant system physical over pressure protective features (safety relief and power operated relief valves) should not be challenged and there were other protective trips in place (over temperature-delta temperature and over pressure delta-temperature) in place that would have protected the reactor coolant system and fuel integrity in the event a manual reactor trip is not initiated on a loss of feedwater flow to a steam generator [Sections 4OA2.a.(2) and 5].
Inspection Report# : 2002007*(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)*

Significance: G Jul 06, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Post a Radiation Area
The inspectors identified a violation of 10 CFR 20.1902, based on the area outside the drum compactor room on the 115-foot elevation of the auxiliary building was not posted as a radiation area. On May 6, 2002, the licensee performed a survey of the area which identified that general radiation levels were as high as 8 millirem per hour. However, on May 7, 2002, the inspectors found that the area was not posted as a radiation area. The failure to post a radiation area is a 10 CFR 20.1902 violation. This violation is being treated as a noncited violation consistent with Section VI.A.1 of the NRC Enforcement Policy. This violation is in the licensee's corrective action program as Action Request A0554991. The issue was more than minor because the failure to post a radiation area has a credible impact on safety and the occurrence had the potential to involve a worker's unplanned dose if radiation levels had been significantly greater. The safety significance of this finding was determined to be very low by the Occupational Radiation Safety Significance Determination Process because it was not an ALARA finding, there was no overexposure or substantial potential for an overexposure and the ability to assess dose was not compromised (Section 2OS1).
Inspection Report# : 2002003*(pdf)*

Significance: G Jul 06, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Barricade a High Radiation Area
The inspectors identified a violation of Technical Specification 5.7.1.a because the entrance to a high radiation area boundary surrounding the reactor vessel head on the 140-foot elevation of the containment building was not barricaded. General radiation levels in the area were as high as 120 millirem per hour. This violation is being treated as a noncited violation consistent with Section VI.A.1 of the NRC Enforcement Policy. This violation is in the licensee's corrective action program as Action Request A0555046. The issue was more than minor because the failure to barricade a high radiation area has a credible impact on safety and the occurrence had the potential to involve a worker's unplanned dose if radiation levels had been significantly greater. The safety significance of this finding was determined to be very low by the Occupational Radiation Safety Significance Determination Process because it was not an ALARA finding, there was no overexposure or substantial potential for an overexposure and the ability to assess dose was not compromised (Section 2OS1).
Inspection Report# : 2002003*(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

Significance: N/A May 31, 2002
Identified By: NRC
Item Type: FIN Finding
Identification and Resolution of Problems
The licensee was effective at identifying problems and placing them into the corrective action program with one exception in the area of operability determinations. Occasionally an operability determination being reviewed by engineering was not timely. For example, the licensee failed to identify and evaluate how differential pressure affected steam generator instrumentation and its affect on operability prior to starting the plant following a trip with unusual steam generator level indications. The licensee appropriately determined the extent of evaluation of individual problems and prioritized the schedule for implementation of corrective actions to address the safety significant issues. In general, corrective actions, when specified, were effective and were implemented in a timely manner. The licensee performed effective audits and assessments. Based on the interviews conducted during this inspection, workers at the site felt free to input safety issues into the problem identification and resolution program.
Inspection Report# : 2002002*(pdf)*

Significance: N/A Apr 05, 2002
Identified By: NRC
Item Type: FIN Finding
Identification and Resolution of Problems
The team determined that a critical opportunity was missed to promptly identify and correct a risk significant condition adverse to quality involving a nonconservative safety features set point. The licensee's post trip event review process did not ensure that the Unit 2 plant response to a loss of feedwater flow to Steam Generator 2-4 was appropriate in that the steam generator level lo-lo engineered safety features and automatic reactor trip actuations did not occur when required.
Inspection Report# : 2002007*(pdf)*

Last modified : May 30, 2003