

Diablo Canyon 2

2Q/2006 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance:  Apr 20, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate refueling procedure for draining and depressurizing the reactor coolant system

An NRC-identified, non-cited violation of Technical Specification 5.4.1.a was determined for an inadequate procedure, Procedure OP A-2:II, "Reactor Vessel - Draining the RCS to the Vessel Flange - With Fuel in Vessel," Revision 33A. Specifically, on April 20, 2006, while operators depressurized the reactor coolant system (RCS), with water level 2 ft below the reactor vessel flange, the two required level instruments, wide-range reactor vessel refueling level indication system and LI-400, read 15 inches higher than actual reactor vessel water level. The inspectors determined that the procedure was not adequate because prior operating experience had not been incorporated into the procedure that demonstrated the level instruments would read non-conservatively during RCS depressurization. Also, Procedure OP A-2:II did not have criteria that alerted operators to abnormal level instrument deviations that may be caused by phenomenon outside of the level deviations expected by the RCS depressurization. Pacific Gas and Electric Company (PG&E) has planned to evaluate potential changes to Procedure OP A-2:II and RCS water level instrumentation when used during RCS depressurization. This issue was entered into PG&E's corrective action program as Action Requests A0664484, A0672419, and A0672422.

The finding is greater than minor because it is associated with the Mitigating Systems Cornerstone attribute of procedure quality and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Inspection Manual Chapter 0609, Appendix G, Attachment 1, Checklist 3, the finding is determined to be of very low safety significance since an optional set of instrumentation provided accurate RCS level indication and there was no loss of RCS inventory control. The finding had a cross-cutting aspect in the area of human performance for resources because PG&E failed to ensure the adequacy of procedures used for reactor vessel level monitoring to ensure nuclear safety.

Inspection Report# : [2006003\(pdf\)](#)

Significance:  Nov 29, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Promptly Correct Emergency Core Cooling System Check Valve Back-Leakage

An NRC-identified non-cited violation of 10 CFR Part 50, Criterion XVI, was identified for the failure to promptly correct Emergency Core Cooling System (ECCS) check valve back-leakage. Since 2000, Units 1 and 2 have experienced ECCS check valve back-leakage. Pacific Gas and Electric Company (PG&E) has failed to adequately take into consideration industry experience and provide for timely corrective actions regarding ECCS check valve back-leakage and its potential to cause gas-binding of ECCS pumps and/or water hammer of ECCS piping. This issue was entered into PG&E's corrective action program as Action Requests A0526037 and A0610421.

The finding is greater than minor because it is associated with the Mitigating Systems Cornerstone attribute of equipment performance and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because it did not represent an actual loss of safety function, represent an actual loss of safety function for a single train for greater than the Technical Specification allowed outage time, or screen as potentially risk significant due to seismic, fire, flooding, or severe weather initiating events. The cause of the finding is related to the cross-cutting element of problem identification and resolution in that PG&E did not adequately evaluate and implement timely corrective actions to ECCS check valve back-leakage.

Inspection Report# : [2005005\(pdf\)](#)

Significance:  Jul 20, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Assure That Appropriate Quality Standards Are Specified and Included in Design Documents and That Deviations are Controlled

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to assure that

appropriate quality standards are specified and included in the design documents and that deviations from such standards are controlled. Specifically, Pacific Gas and Electric Company failed to control the quality of work performed by contractors to ensure adequate cable bend radius for the newly installed vital battery chargers. Pacific Gas and Electric Company subsequently reworked to restore the proper bend radius. The quality control documents for cable terminations and installation have been modified to ensure that cable bend radius is assessed.

This finding impacted the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. It is more than minor since it is similar to Inspection Manual Chapter 0612, Appendix E, Example 3.a, in that all vital battery chargers must have their connections and cables reworked for long term reliability. Using the Significance Determination Process Phase 1 Screening Worksheet in Appendix A of Inspection Manual Chapter 0609, the inspectors determined that there was no loss of an actual safety function, no loss of a safety-related train for greater than the Technical Specification allowed outage time, and the finding is not potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event. Therefore, the finding was determined to be of very low safety significance. The cause of the finding is related to the crosscutting element of human performance in that maintenance personnel failed to ensure the adequate cable bend radius for vital battery chargers.

Inspection Report# : [2005004\(pdf\)](#)

Barrier Integrity

G

Significance: May 03, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to follow welding procedures

An NRC-identified, non-cited violation of Technical Specification 5.4.1 was identified because Pacific Gas and Electric Company (PG&E) failed to follow the procedure for ensuring that welding preheat temperatures were verified prior to welding. Specifically, during the replacement of Component Cooling Water Valves 279 and 280, which provide cooling to the reactor vessel support pads, PG&E failed to verify that the minimum welding preheat temperature of 50°F was met and could not demonstrate that the ambient temperature was greater than 50°F. PG&E entered the finding into their corrective action program as Action Request A0665588.

The finding was greater than minor because it was associated with the human performance attribute of the Barrier Integrity Cornerstone and impacted the cornerstone objective of providing reasonable assurance that physical design barriers, in this case the reactor coolant system, protect the public from radio-nuclide releases caused by accidents or events. The finding was determined to be of very low safety significance based on management review of the plant conditions at the time the performance deficiency occurred (defueled) and the condition was evaluated prior to the plant entering Mode 5.

Inspection Report# : [2006003\(pdf\)](#)

G

Significance: Sep 08, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Implement Adequate Work Control for Activities That Can Affect The Control Room Boundary

A self-revealing noncited violation of Technical Specifications 5.4.1.a was identified for the failure to implement adequate work controls for painting activities in the area of control room ventilation equipment. Subsequently, the conduct of painting in the supply duct for Control Room Supply Fan S-38 resulted in operating fans drawing in the paint fumes into the control room. The work planning did not identify that the established ventilation path would result in the paint fumes entering the control room. The finding has crosscutting aspects associated with human performance in the planning of the work activity.

This finding impacted the Barrier Integrity Cornerstone and was determined to be more than minor because if left uncorrected the finding could result in a more significant safety concern involving control of work activities that could affect the control room atmosphere. Using the Significance Determination Process Phase 1 Screening Worksheet in Appendix A of Inspection Manual Chapter 0609, the inspector considered that the issue represented an administrative control function for preventing paint fumes from entering the control room and the protection of the control room ventilation system charcoal filters. This issue was discussed with a senior reactor analyst and determined that the appropriate safety significance evaluation was through management review. The management review considered Pacific Gas and Electric Company's control of painting materials in and around the control room envelope, any potential impact on the charcoal filters used to maintain the radiological barrier in the event of an accident, and any potential impact on licensee personnel. Based on the introduction of paint fumes into the control room did not adversely affect the control room operators' ability to operate the plant, there was not an actual degradation of the control room boundary and the charcoal filters remained operable, the finding was determined to be of very low safety significance.

Inspection Report# : [2005004\(pdf\)](#)

Emergency Preparedness

Significance: SL-IV Oct 20, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Accurately Assess and Report Performance Indicator Data

The inspector identified a noncited violation of 10 CFR Part 50.9 because Pacific Gas and Electric Company (PG&E) failed to provide complete and accurate information in a submittal of data for the emergency preparedness drill and exercise performance indicator. Specifically, PG&E staff failed to identify three missed opportunities for emergency notification accuracy during the second calendar quarter of 2005. PG&E took prompt action to correct the second quarter data, which resulted in the drill and exercise performance indicator color to cross from GREEN to WHITE. PG&E also initiated a 100 percent review of the second and third quarter drill and exercise performance indicator data and discovered one additional administrative error in the third quarter performance indicator data, which had been previously evaluated, but not yet reported to the NRC. PG&E had previously initiated a root cause evaluation in its corrective action program to determine the reason for the declining indicator and, subsequently, initiated another root cause evaluation to determine the reason for the failure to adequately evaluate and report the performance indicator data.

Because this issue affected the NRC's ability to perform its regulatory function, it was evaluated using the traditional enforcement process. Supplement 7, Section D.3, of the NRC Enforcement Policy describes this finding as a Severity Level IV violation. The issue is significant because it indicates a declining trend in the attention to detail shown by senior licensed operators in performing emergency notifications to the state and local authorities. This issue is documented in PG&E's corrective action program as Nonconformance Report N0002200. The finding had human performance cross-cutting aspects for the failure to provide accurate performance indicator data.

Inspection Report# : [2005005\(pdf\)](#)

Occupational Radiation Safety

G

Significance: Apr 18, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to survey to identify the magnitude and extent of radiation levels to identify radiological hazards

The inspectors identified a non-cited violation of 10 CFR 20.1501(a) because Pacific Gas and Electric Company (PG&E) failed to survey to determine the extent and magnitude of radiation levels and evaluate the radiological hazards. Specifically, on April 18, 2006, the inspectors identified elevated radiation levels near two chemical volume control system valves located in a hallway on the 100-foot elevation of Unit 2. PG&E confirmed elevated radiation levels near the valves were as high as 200 millirem per hour on contact and 28 millirem per hour at 30 centimeters. PG&E surveyed the area and entered the finding into their corrective action program as Action Request A0665039.

The finding was greater than minor because it was associated with the Occupational Radiation Safety Cornerstone attribute of Exposure Control and Monitoring and affected the cornerstone objective to ensure the adequate protection of a worker's health and safety from exposure to radiation because workers could have unknowingly received additional radiation exposure. When going through the Occupational Radiation Safety Significance Determination Process, the finding was determined to be of very low safety significance because it was not an as low as is reasonably achievable finding. There was no overexposure or substantial potential for an overexposure, and the ability to assess dose was not compromised. The finding also had cross-cutting aspects associated with human performance because adequate resources were not established for the survey requirements.

Inspection Report# : [2006003\(pdf\)](#)

G

Significance: Nov 15, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Post A Radiation Area

The inspector identified a non-cited violation of 10 CFR 20.1902 because Pacific Gas and Electric Company (PG&E) failed to post a radiation area. Specifically, PG&E did not post an area within Vault 26 in which the radiation dose rates were approximately 30 millirem per hour at 30 centimeters from the surfaces of radioactive material storage containers. The finding was entered into PG&E's corrective action program as Action Request A0652226 and planned corrective action is still being evaluated.

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, in that uninformed workers could unknowingly accrue additional radiation dose. The inspector determined that the finding had no more than very low safety significance because: (1) it did not involve ALARA planning and controls, (2) there was no personnel overexposure, (3) there was no substantial potential for personnel overexposure, and (4) the finding did not compromise PG&E's ability to assess dose. The finding also has cross-cutting aspects related to problem identification and resolution, in that a similar violation was previously identified during Inspection 50-275/02-04; 50-323/02-04.

Inspection Report# : [2005005\(pdf\)](#)

Public Radiation Safety

Physical Protection

[Physical Protection](#) information not publicly available.

Miscellaneous

Last modified : August 25, 2006