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PG&E Letter DCL-08-046

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U.S. Nuclear Regulatory Commission
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Diablo Canyon Units 1 and 2
Docket No. 50-275, OL-DPR-80
Docket No. 50-323, OL-DPR-82
Pacific Gas & Electric Company's Response to Noncited Violation 2008002-03 –
NRC Integrated Inspection Report 05000275/2008002 and 05000323/2008002

Reference 1: Letter dated May 1, 2008, from Vince G. Gaddy, USNRC to PG&E,
NRC Integrated Inspection Report 05000275/2008002 and
05000323/2008002

Dear Commissioners and Staff,

Pursuant to 10 CFR 50.4, and in accordance with guidance in the NRC's Enforcement Policy, Pacific Gas & Electric Company (PG&E) contests noncited violation (NCV) 05000275; 05000323/2008002-03, "Failure to Follow Procedures, per Technical Specification [TS] 5.4.1," documented in Reference 1, NRC Integrated Inspection Report 05000275/2008002 AND 05000323/2008002. In Reference 1, the NRC stated that PG&E was in violation of Diablo Canyon Power Plant's (DCPP) TS 5.4.1 for failure to follow a licensee procedure related to placement of a continuous air monitor in the Unit 2 SFP area. The enclosure to this letter provides the factual and regulatory basis for our denial of the subject NCV. This issue was entered into the DCPP Corrective Action Program (Action Requests A0666110 and A0719338).

There are no commitments contained within this letter.

If you have any questions concerning this matter, please contact Mr. Stan Ketelsen at (805) 545-4720.

Sincerely,


James R. Becker

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HRR



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Imp1/4279/A0666110

Enclosure

cc/enc: Cynthia A. Carpenter, Director, Office of Enforcement
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Michael S. Peck, Senior Resident Inspector
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**Basis for Denial of Noncited Violation Involving Location of
Unit 2 Spent Fuel Pool Continuous Air Monitor**

NRC Violation 05000275; 05000323/2008002-03

Statement of noncited violation (NCV) from NRC Integrated Inspection Report 05000275/2008002 AND 05000323/2008002:

Introduction. The inspectors identified a Green noncited violation of Technical Specification 5.4.1 for failure to follow a licensee procedure.

Description. While touring the Unit 2 spent fuel pool [SFP] on February 13, 2008, the inspectors observed workers performing fuel inspections on the fuel bridge. Radiation Work Permit 08-2019-00 requires a continuous air monitor [CAM] be operating in the fuel building, with an appropriate alarm setpoint to alert workers and provides actions for workers to take upon receiving an alarm. The inspectors noted that the physical location of the continuous air monitor, an AMS-4, was in the southeast corner of the floor. The function of the continuous air monitor is to monitor for airborne radioactive materials while fuel inspection is performed. Furthermore, Site Procedure RCP D-430, "Plant Airborne Radioactivity Surveillance," Section 2.2.3 states, in part, the purpose of the continuous air monitors is to alert personnel to changes in radiological conditions. Ventilation flow in this area is from north to south with the exhaust intakes centered with the spent fuel pool. The continuous air monitor was approximately 18 feet away from the nearest exhaust intake and approximately 50 feet away from the workers' location. The permanently installed continuous air monitor was out of service; however, it was physically located beneath an exhaust intake. Personnel interviews indicated that the AMS-4 was originally placed on top of the permanently installed continuous air monitor, but then it was moved to get a better remote indication. However, the inspectors concluded, from discussions with radiation protection [RP] supervision that no evaluation was made to determine if the new location was appropriate to alert workers of changing radiological conditions.

During review of this occurrence, the inspectors were made aware of a similar situation that was identified on May 3, 2006. Specifically, Action Request [AR] A0666110 was opened to evaluate the adequacy of AMS-4 placement in the fuel building during fuel moves. The corrective action was initiated in response to an NRC inspector's questions during a walkthrough. However, this action request remained open with a resolution date of December 15, 2008.

Analysis. This finding is more 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 (ALARA) 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 personnel safety issues. [P.1(d)]

This finding was identified by NRC because the NRC inspectors questioned the position of the AMS-4.

Enforcement. Technical Specification 5.4.1 requires procedures be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Appendix A. Section 7 of Appendix A recommends radiation protection procedures for airborne radioactivity monitoring. The licensee implementing Procedure RCP D-430, "Plant Airborne Radioactivity Surveillance", Section 2.2 states, in part, the purpose of the continuous air monitors is to alert personnel to changes in radiological conditions and that locations are selected based on their potential as contributors to airborne activity. Contrary to this requirement, the licensee failed to implement this procedure because the selected location of the continuous air monitor did not provide adequate coverage to alarm and alert the workers of changes in radiological conditions. Because this failure to follow a procedure is of very low safety significance and has been entered into the licensee's corrective action program, Action Request A0719338, this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000323/2008002-03, Failure to Follow Procedures.

Pacific Gas and Electric Company (PG&E) Response to Violation 05000275; 05000323/2008002-03

PG&E denies the subject NCV based on the fact that the movement and location of the CAM as described in the NCV does not constitute a violation of procedure RCP D-430. RCP D-430, Attachment 10.1, "Suggested Continuous Air Monitor Locations," specifies the location for the CAM in the "Unit 2 Fuel Handling Building, spent fuel pool (SFP) area, south end, 140' EI." Although the CAM had been moved from its normal location, its new location remained in compliance of requirements for RCP D-430 Attachment 10.1.

PG&E agrees with the NRC inspector's observation that the CAM had been moved to a location that was not as effective in detecting changes in radiological conditions. In response, PG&E has; (1) returned the CAM to its normal location and (2) revised RCP D-500 "Routine and Job Coverage Surveys" to require the CAM be located under an exhaust register at the south end of the fuel handling building (FHB).

In the following sections, PG&E will present background information, the basis for denial, safety significance, and the cross-cutting aspect. In addition to the specific basis

for denial of the violation as summarized above, the following is noted relative to the observed placement of the AMS-4 monitor, and the characterization of the violation in the inspection report:

- The AMS-4 placement observed by the inspector conformed to applicable radiation work permit (RWP) requirements. The Diablo Canyon Power Plant (DCPP) contamination control program and airborne monitoring, as necessary, ensures internal exposures of involved workers are maintained ALARA. Adequate surveys for control of internal exposure of the workers were provided in accordance with NRC regulations.
- Even if the condition identified by the inspector constituted a procedural noncompliance, it did not rise to a level of significance greater than minor in accordance with the guidance of NRC Inspection Manual Chapter (IMC) 0612.
- Based on the actions taken in response to the condition identified by the NRC in May of 2006, the assignment of cross-cutting aspect P.1(d), as defined in IMC 0305, is not warranted.

Background

The intended function of the AMS-4 monitor that is the subject of the violation is to provide detection and alarm in the event of a fuel handling accident involving "old" fuel. RCP D-500, "Routine and Job Coverage Surveys," Attachment 10.6, requires that a CAM be in the SFP area to support underwater work, and references an internal commitment, T35007, "Alarm Capability to Detect Beta Release." The commitment implements the recommendations contained in NRC Information Notice 90-08, "Kr-85 Hazards From Decayed Fuel." The commitment places a CAM in the building that is sensitive to the beta radiation from Kr-85 in the event of a spent fuel accident involving "old" fuel. After 190 days, Kr-85 is effectively the only isotope remaining for a gap release. To detect Kr-85, the AMS-4 monitor in question was fitted with a sampling head used specifically to detect noble gases.

Although the AMS-4 is capable of detecting the release of noble gases from the SFP, it is not relied upon to provide radiation protection coverage for general underwater work in the SFP. At DCPP, an alarming monitor (EC-48) is present on the bridge and constant coverage by a radiation protection technician is required by the Radiation Work Permit (RWP) for any underwater work activities in the SFP or reactor cavity. The technicians covering this work are trained to monitor for and control contamination levels that indicate a potential for airborne generation. They are also present to ensure that appropriate work practices commensurate with the potential for the spread of contamination and the generation of airborne conditions are implemented in the field. As a minimum, items removed from or raised above the water are monitored for dose rate and may be wiped down to control the spread of contamination. On a few occasions in the past, high specific activities have been experienced in the coolant after shutdown. This has led in the past to increased emphasis on radiological controls. For example, under these conditions items removed from the SFP may be misted to

prevent drying until they can be decontaminated, wrapped, or placed in a container. Under extreme conditions, radiation protection (RP) personnel have in the past continuously wiped down large areas of floors around the SFP with maslin mops. During such periods the maslin is repeatedly checked for contamination with an instrument such as a frisker. This practice has proved more effective at identifying early signs of airborne conditions or the spread of contamination in a large area than a single CAM.

The above-described programmatic requirements and practices are implemented to ensure that workers are alerted to changes in radiological conditions for underwater work in the SFP. Although required to be operating in the FHB during underwater activities in the SFP, the AMS-4 monitor in question is not relied upon to alert workers of routine changes in radiological conditions in the SFP area.

Basis for Denial of the NCV:

The procedural requirement cited in the inspection report as the basis for the violation is:

- 2.2 The routine program consists of continuous air monitor sampling and periodic grab samples at pre-selected fixed locations within the plant.*
- 2.2.1 The locations are selected based on their potential as contributors to airborne activity and on anticipated occupancy factors in working areas.*
- 2.2.2 The routine samples serve the purpose of establishing chronic airborne levels at strategic locations within the plant, and provide indications of trends.*
- 2.2.3 The purpose of the continuous air monitors is to alert personnel to changes in radiological conditions. If a unit or channel alarms, the cause will be evaluated and appropriate action will be implemented.*

Section 2.2 is in the discussion section of Procedure RCP D-430, and provides general statements regarding the use of CAMs in monitoring radiological working conditions. The specific implementing requirements relative to location of the CAMs are provided in RCP D-430 Attachment 10.1 "Suggested Continuous Air Monitor Locations." The location specified for the CAM in question is:

"Unit 2 Fuel Handling Building, spent fuel pool area, south end, 140' El."

As a result of telemetry problems prior to the inspection, the AMS-4 monitor was relocated to the east wall of the FHB but remained at the south end of the building.

Conclusion

There was no procedural violation as the AMS-4 monitor was located at the south end of the FHB and set up as required by procedure RCP D-430, Attachment 10.1. Thus, the specific requirements of RCP D-430 relative to the placement of the AMS-4 monitor were satisfied.

Safety Significance

The violation was characterized in the inspection report as more than minor because it was 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.

Per IMC 0612, Appendix B, the Occupational Radiation Safety Cornerstone objective is to ensure the adequate protection of the worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation.

Based on the above stated monitoring requirements for the area when work was being performed in the pool and the set up of the CAM to perform its intended function, there was no health and safety issue associated with the CAM placement. The survey and monitoring requirements of the RWP ensured adequate protection of the workers' health and safety for changes in radiological conditions during activities in the SFP.

Additional capability is provided for detection of changing radiological conditions associated with underwater work in the SFP. Note 3 of Attachment 10.1 of procedure RCP D-430 notes that the CAM in the Unit 2 FHB, SFP area, south end is a backup for radiation monitors. RE-58 and RE-59 are installed plant monitors that will alarm in the event of a fuel handling accident and initiate iodine removal exhaust ventilation. The existence of additional fuel handling accident detection further reduces the significance of the placement of the AMS-4 monitor in question.

It is also noted that IMC 0612, Appendix E, Examples 2.b and 2.h, appear to provide insights relative to the situation described in the violation. Both examples deal with RP violations in which conservative administrative limits are exceeded but regulatory limits are not compromised. In both cases, the examples were considered minor if no regulatory limits were exceeded and multiple examples were not present indicating a programmatic breakdown.

Conclusion

Even if the condition identified by the inspector constituted a procedural noncompliance, it did not rise to a level of significance greater than minor in accordance with the guidance of NRC IMC 0612.

Cross-Cutting Aspect

A cross-cutting aspect in the area of Problem Identification and Resolution was identified for the proposed violation. The aspect identified by the inspector was P.1(d). From IMC 0305, Section 06.07, cross-cutting aspect P.1(d) is:

The licensee takes appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity.

Specifically, the inspector noted this as the applicable cross-cutting aspect based on PG&E's failure to take timely corrective action in response to the original identification of a potentially inappropriate location of the AMS-4 monitor in question during an NRC inspection in May of 2006. AR A0666110 was initiated in response to the inspector's observation of the location of the AMS-4 monitor in the southeast corner of the FHB. While the intent of AR A0666110 was to document a justification for the placement of the AMS-4 monitor in the location in which it was found by the inspector, it was ultimately decided to move the detector over to the location of the SPING so as to eliminate the inspector's concern. Although not documented in the AR, the relocation of the AMS-4 monitor was done at the time of the inspection. Based on discussions with various RP personnel, it remained co-located with the SPING until approximately two days before the recent RP inspection at which time it was moved from that location back to the east wall due to problems with its telemetry. Data transmittal to the network was not working properly and a RP technician moved the unit a short distance to a location where the telemetry could be re-established, thus ensuring the ability to remotely track noble gas concentrations in the event of a fuel handling accident.

Relative to the timeliness of the corrective actions in response to the original identification of the potentially inappropriate location of the AMS-4 monitor in May of 2006, prompt corrective actions were taken to relocate the AMS-4 back to its normal location adjacent to the SPING. It is noted that a more durable corrective action has been put in place in the form of a revision to procedure RCP D-500 "Routine and Job Coverage Surveys" to require that the CAM be located under the FHB exhaust registers at the south end of the SFP.

Conclusion

Relative to the timeliness of the corrective actions in response to original identification of the potentially inappropriate location of the AMS-4 monitor in May of 2006, prompt corrective actions were taken to relocate the AMS-4 back to its normal location adjacent to the SPING. Thus, PG&E believes that the assignment of crosscutting aspect P.1(d), as defined in IMC 0305, is not warranted in this case.