



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION IV  
612 EAST LAMAR BLVD, SUITE 400  
ARLINGTON, TEXAS 76011-4125

August 7, 2008

EA-08-182

John T. Conway, Senior Vice President &  
Chief Nuclear Officer  
Pacific Gas and Electric Company  
P.O. Box 3  
Mail Code 104/6/601  
Avila Beach, CA 93424

SUBJECT: DIABLO CANYON POWER PLANT - NRC INSPECTION REPORT  
05000275/2008002 and 05000323/2008002, RESPONSE TO DISPUTED  
NONCITED VIOLATION

Dear Mr. Conway:

This response refers to your letter dated June 2, 2008, submitted in response to Noncited Violation 05000323/2008002-03, "Failure to Follow Procedures," issued in the Integrated NRC Inspection Report 05000275/2008002 and 05000323/2008002 dated May 1, 2008. In your letter, you denied the violation documented in the NRC integrated inspection report. The violation identified the site's failure to implement Procedure RCP D-430, "Plant Airborne Radioactivity Surveillance," Revision 18, which required your staff to properly locate a continuous air monitor to effectively monitor the air for radioactive material to alert workers of changing radiological conditions.

We have reviewed the denial of the noncited violation. Our comments and conclusions are addressed in Enclosure 1. In summary, the NRC has concluded that a violation did occur, however, it has been rewritten to clarify our position.

Part 20.1501(a) of Title 10 of the Code of Federal Regulations requires that each licensee make or cause to be made surveys that may be necessary for the licensee to comply with the regulations in 10 CFR Part 20 and that are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels, concentrations or quantities of radioactive materials, and the potential radiological hazards that could be present. Pursuant to 10 CFR 20.1003, a "survey" means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal, or presence of radioactive material or other sources of radiation. Part 20.1201(a) of Title 10 of the Code of Federal Regulations states, in part, that the licensee shall control the occupational dose to individual adults to specified limits.

Contrary to this requirement, as of February 13, 2008, the licensee failed to perform an evaluation of the radiological conditions and the potential hazards during fuel pool activities that was necessary to comply with 10 CFR 20.1201(a) and that were reasonable under the circumstances to evaluate the concentrations of radioactive materials, and the potential radiological hazards that could be present. Specifically, the licensee failed to evaluate the placement of an Air Monitoring Sampler (AMS)-4 monitor to ensure that surveys taken were appropriate for monitoring the concentrations of radioactive material and the potential radiological hazards that could be present. Because this failure to perform radiological surveys is of very low safety significance and has been entered into the licensee's corrective action program as 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 Conduct Adequate Surveys.

In addition, the NRC has concluded that the noncited violation is associated with a green finding and with a cross-cutting aspect in the area of problem identification and resolution, corrective action component for failure to take timely corrective actions to address personnel safety issues (P.1(d)).

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS), accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

If you have any questions regarding our conclusions, please contact Mr. Michael P. Shannon, Chief, Plant Support Branch, at 817-860-8215.

Sincerely,

/RA/

Roy J. Caniano, Director  
Division of Reactor Safety

Dockets: 50-275; 50-323  
Licenses: DPR-80; DPR-82

Enclosure: as stated

cc w/enclosure:  
Sierra Club San Lucia Chapter  
ATTN: Andrew Christie  
P.O. Box 15755  
San Luis Obispo, CA 93406

Pacific Gas and Electric Company - 3 -

Nancy Culver  
San Luis Obispo  
Mothers for Peace  
P.O. Box 164  
Pismo Beach, CA 93448

Chairman  
San Luis Obispo County  
Board of Supervisors  
1055 Monterey Street, Suite D430  
San Luis Obispo, CA 93408

Truman Burns\Robert Kinosian  
California Public Utilities Commission  
505 Van Ness Ave., Rm. 4102  
San Francisco, CA 94102

Diablo Canyon Independent Safety Committee  
Attn: Robert R. Wellington, Esq.  
Legal Counsel  
857 Cass Street, Suite D  
Monterey, CA 93940

Director, Radiological Health Branch  
State Department of Health Services  
P.O. Box 997414 (MS 7610)  
Sacramento, CA 95899-7414

City Editor  
The Tribune  
3825 South Higuera Street  
P.O. Box 112  
San Luis Obispo, CA 93406-0112

James D. Boyd, Commissioner  
California Energy Commission  
1516 Ninth Street (MS 31)  
Sacramento, CA 95814

James R. Becker, Site Vice President and  
Station Director  
Diablo Canyon Power Plant  
P.O. Box 56  
Avila Beach, CA 93424

Pacific Gas and Electric Company - 4 -

Jennifer Tang  
Field Representative  
United States Senator Barbara Boxer  
1700 Montgomery Street, Suite 240  
San Francisco, CA 94111

Chief, Radiological Emergency Preparedness Section  
National Preparedness Directorate  
Technological Hazards Division  
Department of Homeland Security  
1111 Broadway, Suite 1200  
Oakland, CA 94607-4052

Electronic distribution by RIV:  
 Regional Administrator (Elmo.Collins@nrc.gov)  
 DRP Director ([Dwight.Chamberlain@nrc.gov](mailto:Dwight.Chamberlain@nrc.gov))  
 DRP Deputy Director (Anton.Vegel@nrc.gov)  
 DRS Director (Roy.Caniano@nrc.gov)  
 DRS Deputy Director ([Troy.Pruett@nrc.gov](mailto:Troy.Pruett@nrc.gov))  
 Senior Resident Inspector ([Michael.Peck@nrc.gov](mailto:Michael.Peck@nrc.gov))  
 Resident Inspector (Tony.Brown@nrc.gov)  
 Branch Chief, DRP/B ([Vincent.Gaddy@nrc.gov](mailto:Vincent.Gaddy@nrc.gov))  
 Senior Project Engineer, DRP/B ([Rick.Deese@nrc.gov](mailto:Rick.Deese@nrc.gov))  
 Public Affairs Officer (Victor.Dricks@nrc.gov)  
 Team Leader, DRP/TSS (Chuck.Paulk@nrc.gov)  
 RITS Coordinator (Marisa.Herrera@nrc.gov)  
 DRS STA ([Dale.Powers@nrc.gov](mailto:Dale.Powers@nrc.gov))  
 Mark Cox, OEDO RIV Coordinator (Mark.Cox@nrc.gov)  
 ROPreports  
 DC Site Secretary (Agnes.Chan@nrc.gov)

SUNSI Review Completed: Y ADAMS:  Yes  No Initials: \_\_\_\_\_  
 Publicly Available  Non-Publicly Available  Sensitive  Non-Sensitive

HP:PSB2	C:PSB1	C:PBB	RA:ACES	OE:EPPOB	C:PSB1	D:DRS
CGraves/lmb	MPShannon	VGGaddy	MGVasquez	NDHilton	MPShannon	RJCaniano
/RA/	/RA/	/RA/	/RA/CMaier for	/RA/JWray for	/RA/	/RA/
7/29/08	7/23/08	7/28/08	8/4/08	8/5/08	8/7/08	8/7/0/

OFFICIAL RECORD COPY

T=Telephone

E=E-mail

F=Fax

Noncited Violation 05000323/2008002-03, "Failure to Follow Procedures:"

The referenced report stated:

"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. 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."

In the Enclosure of your letter, you denied the following three aspects of the violation:

1. You stated there was no procedural violation as the AMS-4 monitor was located at the south end of the fuel handling building and set up as required by Procedure RCP D-430, Attachment 10.1.
2. You stated that 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 0612.
3. You stated that the assignment of cross-cutting aspect P.1(d), as defined in NRC Inspection Manual Chapter 0305, is not warranted because prompt corrective actions were taken to relocate the AMS-4 monitor adjacent to the permanently installed continuous air monitor (system partial iodine noble gas (SPING)).

The regional staff, in consultation with NRC's Office of Enforcement and with members of the Office of Nuclear Reactor Regulation, has concluded that a violation has occurred. However, the violation has been rewritten as discussed below.

1. While the AMS-4 monitor may have been set up to satisfy the wording in the procedure and radiation work permit, the NRC's position at the time of the violation was that its location was not appropriate to meet the intent of the procedure. Specifically, as referenced in the violation, Section 2.2 of Procedure RCP D-430, "Plant Airborne Radioactivity Surveillance," Revision 18, 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. Your staff did not provide an evaluation showing that the placement of AMS-4 monitor was appropriate to monitor for airborne radioactive material and alert the workers. Additionally, the SPING, which was out of service, is installed under the exhaust register at the south end of the building.

Chapter 10 of the Code of Federal Regulations, Part 20.1501, states, in part, that each licensee shall make or cause to be made, surveys that may be necessary for the licensee to comply with the regulations in this part. Pursuant to 10 CFR 20.1003, a "survey" means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal, or presence of radioactive material or other sources of radiation. In this case no evaluation was performed that indicated the location of the AMS-4 monitor was appropriate for monitoring for airborne contamination in the form of noble gas. Noble gas is considered to be an external exposure hazard, rather than an inhalation and internal hazard. Your staff noted a significant fuel failure while the reactor was online leading up to the Unit 2 Refueling Outage 14. This contributed to a higher potential for noble gas release during evolutions involving fuel movement during the outage. The other radiation monitors in the area were monitors with Geiger-Mueller detectors, which would be less sensitive to the beta radiation and, therefore, would not provide indication until a radiation alarm from a more significant event occurred. Additionally, these monitors were not within the ventilation flow path and would not alarm unless a more significant event occurred.

In addition, spent fuel pool work involving the movement of activated spent fuel that could be damaged includes a potential radiological hazard involving exposure to iodines and alpha emitters. These hazards can be experienced when long handled tools and equipment are removed from the spent fuel pool and dry out, regardless of whether first-pass decontamination has been performed. The derived air concentration (DAC) for alpha emitters are very restrictive, and the beta-gamma to alpha ratios need evaluation to determine the extent of the alpha hazard (see EPRI alpha guidelines).

The enclosure to your letter provided no new information regarding an evaluation to justify the placement of the continuous air monitor. You also stated that "PG&E agrees with the NRC inspector's observation that the continuous air monitor had been moved to a location that was not as effective in detecting changes in radiological conditions." In response to this, your staff has placed the continuous air monitor in a more appropriate location and made procedural changes to help ensure that the continuous air monitor be located under an exhaust register at the south end of the fuel handling building.

You further state that the Diablo Canyon Power Plant contamination control program and airborne monitoring ensures internal exposures of involved workers are maintained ALARA. The NRC acknowledges that an efficient ALARA program will contain many facets of contamination and airborne monitoring that must work in conjunction to maintain radiation dose ALARA. However, if any one part of the program fails, then unintended worker dose can occur.

2. You stated that 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 0612. You base this conclusion on the fact that other radiation monitors are installed in the fuel pool area and also point out Examples 2.b and 2.h of Appendix E to Inspection Manual Chapter 0612 dealing with administrative limits the licensee imposed on itself.

Although there may be other radiation monitors present that may help to indicate if a severe problem exists, you state that this continuous air monitor had a sample head installed for monitoring for noble gas, and in particular, for the beta radiation from Kr-85. The other radiation monitors within the vicinity of the area were Geiger-Mueller monitors, which would be less sensitive to the beta radiation and, therefore, would not provide indication until a more significant event occurred.

Examples 2.b and 2.h of Appendix E to Inspection Manual Chapter 0612 provide information about a licensee setting lower limits to certain situations to ensure that the licensee does not violate a federal requirement. This violation involved a failure to adequately evaluate radiological conditions in order to demonstrate that federal requirements are met, and is not related to an administrative limit put in place by your staff.

The NRC has determined that none of the minor examples in Appendix E to Inspection Manual Chapter 0612 are appropriate to this situation.

3. A cross-cutting aspect in the area of problem identification and resolution, corrective action component, for failure to take timely corrective actions to address personnel safety issues (P.1(d)) was assigned to this violation because of a similar instance from May 2006 for which Action Request A0666110 was assigned to evaluate the adequacy of AMS-4 monitor placement in the fuel building during fuel moves. At the time of the 2008 inspection, this action request was open and no information could be provided to show that an evaluation was conducted. You state that this is unwarranted because prompt corrective actions were taken to relocate the AMS-4 monitor back to its normal location adjacent to the SPING. The action request made no reference of any corrective actions being performed, nor that your staff considered that actions taken were appropriate. In response to the February 2008 inspection, your staff made procedural changes to ensure that the AMS-4 monitor be located underneath the exhaust register in the south end of the fuel pool floor.

Based on our review, as described above, the NRC has concluded that the inspector's observation is a violation of NRC requirements. However, to clarify the NRC's position, the violation was rewritten as stated below:

Noncited Violation 05000323/2008002-03, "Failure to Conduct an Adequate Evaluation:"

Part 20.1501(a) of Title 10 of the Code of Federal Regulations requires that each licensee make or cause to be made surveys that may be necessary for the licensee to comply with the regulations in 10 CFR Part 20 and that are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels, concentrations or quantities of radioactive materials, and the potential radiological hazards that could be present. Pursuant to 10 CFR 20.1003, a "survey" means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal, or presence of radioactive material or other sources of radiation. Part 20.1201(a) of Title 10 of the Code of Federal Regulations states, in part, that the licensee shall control the occupational dose to individual adults to specified limits.

Contrary to this requirement, as of February 13, 2008, the licensee failed to perform an evaluation of the radiological conditions and the potential hazards during fuel pool activities that was necessary to comply with 10 CFR 20.1201(a) and that were reasonable under the circumstances to evaluate the concentrations of radioactive materials, and the potential radiological hazards that could be present. Specifically, the licensee failed to evaluate the placement of an AMS-4 monitor to ensure that surveys taken were appropriate for monitoring the concentrations of radioactive material and the potential radiological hazards that could be present. Because this failure to perform radiological surveys is of very low safety significance and has been entered into the licensee's corrective action program as 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 Conduct an Adequate Evaluation.