Pacific Gas and Electric Company®

Barry S. Allen
Site Vice President

Diablo Canyon Power Plant
Mail Code 104/6
P. O. Box 56
Avila Beach, CA 93424

805.545.4888
Internal: 691.4888
Fax: 805.545.6445

February 8, 2013

PG&E Letter DCL-13-008

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

10 CFR 50.73

Docket No. 50-275, OL-DPR-80
Docket No. 50-323, OL-DPR-82
Diablo Canyon Units 1 and 2
Licensee Event Report 1-2012-007-01, Inadequately-Compensated Non-Conformances in the Fire Protection Program

Dear Commissioners and Staff:

Pacific Gas and Electric Company (PG&E) is submitting the enclosed Licensee Event Report (LER) supplement identifying fire areas that did not conform to 10 CFR 50, Appendix R requirements and did not have proceduralized or practiced compensatory measures in place. PG&E is submitting this supplement in accordance with 10 CFR 50.73(a)(2)(ii)(B). This LER supplement includes the cause and corrective actions for this event. PG&E will process these corrective actions in accordance with the site Corrective Action Program.

PG&E makes no new or revised regulatory commitments (as defined by NEI 99-04) in this report. PG&E will implement corrective actions in accordance with the Diablo Canyon Power Plant Corrective Action Program.

This event did not adversely affect the health and safety of the public.

Sincerely,

Barry S. Allen

wrl8/6980/50517211
Enclosure
cc/enc: Elmo E. Collins, NRC Region IV
Thomas R. Hipschman, NRC Senior Resident Inspector
Joseph M. Sebrosky, NRR Senior Project Manager
INPO
Diablo Distribution

NRC FORM 366 (10-2010) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 10/31/2013

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA/Privacy Section (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects.resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

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4. TITLE

Inadequately Compensated Non-Conformances in the Fire Protection Program

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
10	08	2012	2012	- 007 -	01	02	08	2013	Diablo Canyon, Unit 2	05000-323
									FACILITY NAME	DOCKET NUMBER

9. OPERATING MODE

1

10. POWER LEVEL

100

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: *(Check all that apply)*

☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(i)(C)	☐ 50.73(a)(2)(vii)
☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)
☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☑ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)
☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)
☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)
☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(C)	☐ OTHER
☐ 20.2203(a)(2)(vi)	☐ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME	TELEPHONE NUMBER *(Include Area Code)*
Wilbert R. Landreth, Regulatory Services Engineer	(805) 545-6980

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

14. SUPPLEMENTAL REPORT EXPECTED

☐ YES *(If yes, complete 15. EXPECTED SUBMISSION DATE)* ☑ NO

15. EXPECTED SUBMISSION DATE

MONTH	DAY	YEAR

ABSTRACT *(Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)*

On October 8, 2012, Pacific Gas and Electric Company (PG&E) identified fire areas that did not conform to 10 CFR 50, Appendix R requirements and did not have proceduralized or practiced compensatory measures in place. PG&E identified these concerns in the course of responding to requests for information and questions from NRC inspectors conducting a Diablo Canyon Power Plant Triennial Fire Protection Inspection. On October 9, 2012, at 21:32 PDT, PG&E reported these concerns to the NRC in Event Notification Number 48395.

PG&E established compensatory actions in accordance with the DCPP Fire Protection Program requirements and plant procedures on discovery of each condition.

PG&E reviewed the NFPA 805 project open items to ensure they complied with Appendix R or were addressed in the corrective action program with compensatory measures established as necessary. Additionally, PG&E reviewed all alternate compensatory measures (ACMs) implemented by the fire protection program to ensure that all credited ACMs were adequate to ensure safe shutdown (SSD). An extent of condition review identified no additional conditions affecting SSD analysis.

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NARRATIVE

I. Plant Conditions

At the time of the event, Units 1 and 2 were in Mode 1 (Power Operation) at approximately 100 percent reactor [RCT] power with normal operating reactor coolant temperature and pressure.

II. Problem Description

A. Background

The Diablo Canyon Power Plant (DCPP) Fire Protection Program maintains the design, procedures and equipment necessary for fire prevention, detection, suppression, and separation of redundant safe shutdown (SSD) equipment and cabling [CBL]. Through implementation of the DCPP Fire Protection Program, DCPP is assured of being able to achieve and maintain SSD of the plant in the event of a fire.

DCPP's licensing basis includes the following requirements of 10 CFR 50, Appendix R, Sections III.G, "Fire Protection of Safe Shutdown Capability," and III.L, "Alternative and Dedicated Shutdown Capability:"

• Fire protection of SSD capability, including equipment, component, and cable separation, to ensure that the minimum equipment necessary to obtain SSD is available, despite the effects of a postulated fire.

• Alternative or dedicated means to support SSD when the potential exists for fire damage to redundant SSD components with, or without, loss of offsite power.

In the early 1990's, in response to plant modifications and identified design concerns, Pacific Gas and Electric Company (PG&E) established manual actions to mitigate a fire associated with the control circuits of the reactor coolant pump seal control valve.

On July 19, 2001, PG&E implemented Plant Administrative Work Procedure AWP E-002, "10 CFR 50, Appendix R Safe Shutdown Analysis." This procedure provides guidance for performing 10 CFR 50 Appendix R, Post Fire Safe Shutdown Analysis including developing manual actions to mitigate a fire scenario.

In 2005, PG&E committed to adopt National Fire Protection Association (NFPA) Standard 805, "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants," 2001 Edition, in accordance with 10 CFR 50.48(c) for DCPP Units 1 and 2, and submit the associated license amendment request by June 28, 2013. As part of the NFPA 805 transition, PG&E performed additional circuit analysis for SSD circuits. PG&E recognized that additional circuit analysis for the NFPA 805 transition could identify conditions that would not conform to 10 CFR 50, Appendix R. Early in the NFPA 805 transition, PG&E identified NFPA 805 transition questions as "open items." Some of these open items were regarding adequacy of the existing Appendix R program. Open items required further evaluation to determine if they adversely impacted the Appendix R program and whether or not compensatory measures (CM) were required. Open items that impacted the Appendix R program required CMs in accordance with DCPP Equipment Control Guideline (ECG) 18.7.1, "10 CFR 50 Appendix R Fire Rated Assemblies." These CMs typically consisted of a fire watch until

an alternate compensatory measure (ACM) could be developed and implemented. PG&E established multiple ACMs to address the identified Appendix R non-conforming conditions.

At the start of DCPP's NFPA 805 transition in December 2005, fire protection regulatory guidance regarding circuit failure issues and multiple spurious operations (MSOs) was still being developed. As a result, PG&E concluded that MSOs were not part of the current licensing basis for Appendix R SSD analysis, and that MSO issues would be tracked and addressed as a part of the NFPA 805 transition. MSOs identified during this transition period were reviewed by an expert panel and the credible scenarios were incorporated into the Appendix R SSD analysis and plant procedures. PG&E implemented CMs, as recommended by the expert panel, until the MSOs could be resolved via the Risk Evaluation process in NFPA 805.

In October 2009, the NRC provided MSO guidance and CM implementation guidance in Regulatory Guide 1.189, "Fire Protection for Nuclear Power Plants," Revision 2. The purpose of Regulatory Guide 1.189 was to provide clarifications and additional NRC guidance for fire protection programs. PG&E did not evaluate the previously-identified MSOs against the new Regulatory Guide 1.189 guidance.

In 2010, NFPA 805 Project Procedure, EPM-DP-RSD-001 was revised (Revision 2) to establish a process for identifying and evaluating variances from deterministic requirements (VFDRs) as part of the fire risk evaluation process. This procedure established the standard for the NFPA 805 transition project that is still underway.

On March 29, 2011, PG&E implemented Plant Procedure XI1.DC2, "Regulatory Operating Experience," to provide requirements for proactively communicating, evaluating and acting on industry experience regarding certain NRC violations, proposed changes to regulations, inspection procedures, NRC standards and guidance documents that have a potential to apply to DCPP. This procedure was established as a best practice for DCPP based on lessons learned, but was not applied retroactively to previously published regulatory information.

B. Event Description

On October 8, 2012, during the review of NFPA 805 variances from deterministic requirements (VFDRs), PG&E identified fire areas that did not conform to 10 CFR 50, Appendix R requirements and did not have proceduralized or practiced CMs in place. PG&E identified these concerns in the course of responding to requests for information and questions from NRC inspectors conducting a DCPP Triennial Fire Protection Inspection. The NRC had requested copies of all the 10 CFR 50, Appendix R, non-compliances identified by NFPA 805 and the ACMs subsequently taken. One of the concerns PG&E identified was the potential to lose both trains of heating, ventilation and air conditioning (HVAC) [VK] to the 480-volt switchgear and battery [BTRY]/inverter [INVT] rooms in the event of a fire. PG&E originally identified this concern on September 9, 2008; however, PG&E did not implement CMs or make the necessary changes to the SSD analysis or procedures. PG&E also identified the potential to lose all reactor coolant pump (RCP) [P] seal [SEAL] cooling in the event of a fire. PG&E originally identified and evaluated this MSO concern and implemented a CM in 2008. However, the time-critical operator action did not properly account for the time it would take to traverse through the area in which the fire occurred. This was not addressed by the current SSD analysis or CM for the area. On October 9, 2012, at 21:32 PDT, PG&E reported these concerns to the NRC via Event Notification (EN) Number 48395.

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On October 23, 2012, the NRC Triennial Fire Protection Inspection team postulated a MSO scenario that could result in steam generator (SG) [SG] overfill. DCPP SSD analysis credits manual closure of the main steam isolation valves [ISV] to isolate steam supply to the main feedwater pumps. However, the time it would take to complete these manual actions could exceed the time to prevent SG overfill. PG&E already had an established CM for this fire area. Accordingly, PG&E documented this new fire concern as an additional item to be addressed by the compensatory measure.

On October 31, 2012, at 21:28 PDT, PG&E provided an update to NRC EN Number 48395 identifying that several ACMs were not in plant procedure, CP M-10, "Fire Protection of Safe Shutdown Equipment." PG&E identified these concerns while reviewing implementation of ACMs due to questions from NRC inspectors conducting a DCPP Triennial Fire Protection Inspection. PG&E has evaluated this further and concluded that ACMs had been adequately implemented in CP M-10. Therefore, on January 30, 2013, at 16:44 PDT, PG&E retracted the October 31, 2012, EN update.

On November 1, 2012, while responding to a 2012 NRC Fire Protection Triennial Inspection request for information, PG&E identified that multiple hot shorts could result in the loss of control of the RCP seal charging flow control valve (FCV) [FCV] or fail the valve in the open position. The Appendix R SSD analysis credits anoperator action to open the valve's breaker [BKR] and control the valve from the hot shutdown panel [PL]. However, opening the breaker is not adequate because an additional hot short could prevent control of the valve. PG&E already had a CM established for this fire area. Accordingly, PG&E documented this new fire concern as an additional item to be addressed by the CM.

PG&E established CMs in accordance with the DCPP Fire Protection Program requirements and plant procedures upon discovery of each condition that did not have a CM established at time of discovery.

C. Status of Inoperable Structure, Systems, or Components That Contributed to the Event

None.

D. Other Systems or Secondary Functions Affected

None.

E. Method of Discovery

The concerns were discovered during the response to NRC requests for information and questions from the NRC inspectors conducting DCPP's 2012 Triennial Fire Protection Inspection.

F. Operator Actions

Operators established compensatory measures as required by the DCPP Fire Protection Program requirements.

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G. Safety System Responses

None.

III. Cause of the Problem

PG&E concluded that there was no formal process established to evaluate open items identified during the earlier stages of DCPP's NFPA 805 transition. Also, PG&E had no formal process to assess changes in NRC regulatory guides for impact to DCPP. Therefore, reconciliation of past evaluations had not been performed using current-day NRC guidance.

The most probable cause of the concern identified on November 1, 2012, was a human error made in the 1990's by evaluators developing the Appendix R compliance strategy for the RCP seal charging FCV.

IV. Assessment of Safety Consequences

PG&E's risk assessment for the applicable fire areas concluded that these concerns were not risk significant and did not adversely affect the health and safety of the public.

V. Corrective Actions

A. Immediate Corrective Actions

PG&E established CMs in accordance with ECG 18.7.1 on the date each concern was identified. PG&E established 1-hour roving fire watches in the areas with the potential for a fire scenario to cause a condition where there are no current actions to mitigate the respective concerns in the SSD procedures.

PG&E reviewed the NFPA 805 project open items to ensure they complied with Appendix R or were addressed in the corrective action program with CMs established as necessary. Additionally, PG&E reviewed all alternate compensatory measures implemented by the fire protection program to ensure that all credited ACMs were adequate to ensure SSD. An extent of condition review identified no additional conditions affecting SSD analysis.

B. Other Corrective Actions

PG&E developed the following corrective actions to address the concerns of this report:

1) PG&E will revise Appendix R safe shutdown analysis calculations M-928, "10 CFR 50 Appendix R Safe Shutdown Analysis," M-1088, "10 CFR 50 Appendix R Post-Fire Operator Manual Action Feasibility," and implementing procedure CP M-10 to incorporate the issue of loss of HVAC and require the use of portable fans to mitigate that loss.

2) PG&E will revise the Appendix R safe shutdown analysis calculations M-928, M-944, "10 CFR 50, Appendix R Alternate Shutdown Methodology – Time and Manpower Study/Safe Shutdown System Considerations," and implementing procedures OP AP 8A, "Control Room Inaccessibility - Establishing Hot Standby," and OP AP 8B, "Control Room Inaccessibility - Hot Standby to Cold Shutdown," to provide control of pressurizer auxiliary spray.

3) As part of the NFPA 805 transition, PG&E will review all VFDRs for potential Appendix R compliance concerns to ensure all gaps to Appendix R compliance are adequately addressed while transitioning to NFPA 805. This action will be completed prior to the NFPA 805 License Amendment submittal.

VI. Additional Information

A. Failed Components

None.

B. Previous Similar Events

None.

C. Industry Reports

None.