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PG&E Letter DCL-10-027

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

Docket No. 50-275, OL-DPR-80
Docket No. 50-323, OL-DPR-82
Diablo Canyons Unit 1 & Unit 2
Licensee Event Report 2-2010-001-00
2008 Diablo Canyon Power Plant Unit 2 Loss of Auxiliary Building Ventilation System Exhaust Fans

Dear Commissioners and Staff:

Pacific Gas and Electric Company submits the enclosed Licensee Event Report (LER) regarding an event that occurred in July 2008 when the Diablo Canyon Power Plant Unit 2 auxiliary building ventilation system exhaust fans where simultaneously turned off for a brief period of time (less than 1 hour). This LER is submitted in accordance with 10 CFR 50.73(a)(2)(v).

There are no new or revised regulatory commitments in this report.

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

Sincerely,

James R. Becker

swh/2246/50295954
Enclosure
cc/enc: Elmo E. Collins, NRC Region IV
Michael S. Peck, NRC Senior Resident Inspector
Alan B. Wang, NRR Project Manager
INPO
Diablo Distribution

IE22
NRR

NRC FORM 366 (9-2007) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 08/31/2010

Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@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)

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Diablo Canyon Unit 2	05000323	1 OF 5

4. TITLE

2008 Diablo Canyon Unit 2 Loss of Auxiliary Building Ventilation System Exhaust Fans

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
7	21	2008	2010	- 001 -	00	03	17	2010	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)
- ☐ 20.2201(d)
- ☐ 20.2203(a)(1)
- ☐ 20.2203(a)(2)(i)
- ☐ 20.2203(a)(2)(ii)
- ☐ 20.2203(a)(2)(iii)
- ☐ 20.2203(a)(2)(iv)
- ☐ 20.2203(a)(2)(v)
- ☐ 20.2203(a)(2)(vi)
- ☐ 20.2203(a)(3)(i)
- ☐ 20.2203(a)(3)(ii)
- ☐ 20.2203(a)(4)
- ☐ 50.36(c)(1)(i)(A)
- ☐ 50.36(c)(1)(ii)(A)
- ☐ 50.36(c)(2)
- ☐ 50.46(a)(3)(ii)
- ☐ 50.73(a)(2)(i)(A)
- ☐ 50.73(a)(2)(i)(B)
- ☐ 50.73(a)(2)(i)(C)
- ☐ 50.73(a)(2)(ii)(A)
- ☐ 50.73(a)(2)(ii)(B)
- ☐ 50.73(a)(2)(iii)
- ☐ 50.73(a)(2)(iv)(A)
- ☐ 50.73(a)(2)(v)(A)
- ☐ 50.73(a)(2)(v)(B)
- ☒ 50.73(a)(2)(v)(C)
- ☒ 50.73(a)(2)(v)(D)
- ☐ 50.73(a)(2)(vii)
- ☐ 50.73(a)(2)(viii)(A)
- ☐ 50.73(a)(2)(viii)(B)
- ☐ 50.73(a)(2)(ix)(A)
- ☐ 50.73(a)(2)(x)
- ☐ 73.71(a)(4)
- ☐ 73.71(a)(5)
- ☐ OTHER

Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME	TELEPHONE NUMBER (Include Area Code)
Steven W. Hamilton – Senior Regulatory Services Supervisor	(805) 545-3449

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
A	VF	FAN	R165	N					

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 July 21, 2008, 05:04 PDT, Diablo Canyon Power Plant (DCPP) Unit 2 entered Technical Specification (TS) 3.0.3 when operators secured auxiliary building exhaust fan E-1 with auxiliary building exhaust fan E-2 cleared for maintenance. The securing of auxiliary building exhaust fan E-1 resulted in a loss of all DCPP Unit 2 auxiliary building ventilation system exhaust.

On July 21, 2008, 0534 PDT, DCPP Unit 2, TS 3.0.3 was exited when auxiliary building exhaust fan E-1 was restarted.

On January 28, 2010, PG&E conducted a review of past events for safety system functional failures. Past events included entries into TS 3.0.3. This review was conducted utilizing recently published U.S. NRC training material on this subject. This review concluded that the simultaneous inoperability of the DCPP Unit 2 auxiliary building exhaust fans constituted a safety system functional failure and as such was reportable under 10 CFR 50.73(a)(2)(v).

TEXT

I. Plant Conditions

At the time of the event Unit 2 was in Mode 1 (Power Operation) at approximately 100 percent reactor power with normal operating reactor coolant temperature and pressure.

II. Description of Problem

A. Background

The DCPP Auxiliary Building Ventilation System (ABVS) exhaust fans provide a constant exhaust air flow from the DCPP auxiliary building. The DCPP ABVS exhaust fans also:

- Maintain a negative pressure in the DCPP auxiliary building.
- Limit the maximum design engineered safety feature (ESF) equipment room temperature to 104°F in the auxiliary building.
- Ensure radioactivity is filtered during accident conditions and released through the exhaust system and monitored at the plant vent.

The ABVS has several modes of operation: Building Only operation, Safeguards operation, and Building and Safeguards operation. A safety injection signal ('S' signal) will cause a nonoperating, stand-by ABVS exhaust fan to start and align to the plant vent. An operating ABVS exhaust fan experiencing low inlet flow will shutdown down automatically. Should a low flow event occur, a system reset is required for the ABVS prior to manually restarting or auto-restart via an 'S' signal.

B. Event Description

On July 21, 2008, 05:04 PDT, DCPP Unit 2 entered Technical Specification (TS) 3.0.3 when plant operators closed the suction dampers of the running exhaust fan E-1 prior to placing an 'S' signal into the system. This action resulted in tripping auxiliary building exhaust fan E-1 with auxiliary building exhaust fan E-2 cleared for maintenance. Placing a 'S' signal into the system would have opened an alternate flow path and would have prevented the trip of the running fan. Failure to select the 'S' signal caused the only available exhaust fan to trip off on low flow, placing the plant in a one-hour TS action statement. This resulted in a loss of all DCPP Unit 2 ABVS exhaust.

On July 21, 2008, 0534 PDT, DCPP Unit 2 exited TS 3.0.3 when plant operators restarted auxiliary building exhaust fan E-1 by resetting the ABVS and inserting a 'S' signal.

On January 28, 2010, PG&E conducted a review of past events for safety system functional failures. This review was conducted utilizing recently published U.S. NRC training material on this subject. This review concluded that the simultaneous inoperability of the DCPP Unit 2 auxiliary building exhaust fans constituted a safety system functional failure and as such was reportable under 10 CFR 50.73(a)(2)(v).

C. Status of Inoperable Structures, Systems, or Components that Contributed to the Event

None.

D. Other Systems or Secondary Functions Affected

No additional safety systems were adversely affected by this event.

E. Method of Discovery

PG&E conducted a review of past events for safety system functional failures. This review was conducted utilizing recently published U.S. NRC training material on this subject. This review concluded that the simultaneous inoperability of the DCPP Unit 2 auxiliary building exhaust fans constituted a safety system functional failure.

F. Operator Actions

None.

G. Safety System Responses

Plant operators restarted DCPP Unit 2 auxiliary building exhaust fan E-1 in safeguards mode by initiating a system reset and inserting a 'S' signal.

III. Cause of the Problem

A. Immediate Cause

Plant operators incorrectly caused the operating auxiliary building exhaust fan E-1 to secure on low flow with auxiliary building exhaust fan E-2 cleared for maintenance.

TEXT

B. Cause

Operations personnel performing the work were using a partially marked up procedure and a clearance to take the E-2 Fan out of service to allow maintenance work on the system. The operators did not recognize the sequence of the process required the 'S' signal be selected prior to closing the dampers isolating flow to the fan.

IV. Assessment of Safety Consequences

Under 10 CFR 50.73(a)(2)(v), "Any event or condition that alone could have prevented the fulfillment of the safety function of structures or systems that are or systems that are needed to:

(A) Shut down the reactor and maintain it in a safe shutdown condition;
(B) Remove residual heat;
(C) Control the release of radioactive material; or
(D) Mitigate the consequences of an accident."

This event was reviewed to determine if it meets the criteria for a safety system functional failure. Based on a review of the event, equipment in the same system, ABVS exhaust fans E-1 and E-2, were not operable and available to perform the required safety function. The design of these fans impacts subsections (C) and (D), regarding control the release of radioactivity by filtering the exhaust stream and mitigate the consequences of an accident by maintaining the ESF room temperatures below the design limits, as cited above.

Although both DCPP Unit 2 ABVS exhaust fans were not operating, placing the unit into TS 3.0.3, the allowed outage time for this specification was not exceeded and the ESF features for this system were fully capable of performing their design safety functions. Based on the foregoing, this event is not considered risk significant and did not adversely affect the health and safety of the public.

TEXT

V. Corrective Actions

A. Immediate Corrective Actions

1. DCPP Unit 2 exited TS 3.0.3 when plant operators restarted auxiliary building exhaust fan E-1 by initiating a 'S' signal.

B. Corrective Actions to Prevent Recurrence (CAPR)

1. ABVS exhaust fan clearances have been updated to clearly show that a 'S' signal must be initiated prior to removing the associated ABVS exhaust fan from service.

VI. Additional Information

A. Failed Components

None

B. Previous Similar Events

None.

C. Industry Reports

None.