# CATEGORY 1

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

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OATLEY,D.H. Pacific Gas & Electric Co.
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 98-008-00:on 840220,TS 3.7.3.1 was not being met.Caused by personnel error.Valves were verified to be in proper position & seals were installed.W/980727 ltr.

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**Pacific Gas and Electric Company**

Diablo Canyon Power Plant
P.O. Box 56
Avila Beach, CA 93424
805/545-6000

July 27, 1998

PG&E Letter DCL-98-099

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
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Docket No. 50-275, OL-DPR-80
Docket No. 50-323, OL-DPR-82
Diablo Canyon Units 1 and 2
Licensee Event Report 1-1998-008-00
Technical Specification 3.7.3.1, Not Met Due to Personnel Error

Dear Commissioners and Staff:

Pursuant to 10 CFR 50.73(a)(2)(i)(B), PG&E is submitting the enclosed licensee event report regarding Technical Specification 3.7.3.1, "Vital Component Cooling Water System," not being met due to personnel error.

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

Sincerely,

J E Molden for

David H. Oatley
*Vice-President - Diablo Canyon Operations and Plant Manager*

cc: Steven D. Bloom
Dennis F. Kirsch
Ellis W. Merschoff
David L. Proulx
Diablo Distribution
INPO

Enclosure

TLH/2246/N0002065

1/1
IE22

# LICENSEE EVENT REPORT (LER)

| FACILITY NAME (1) | DOCKET NUMBER (2) | PAGE (3) |
|---|---|---|
| Diablo Canyon Unit 1 | 0 5 0 0 0 2 7 5 | 1 OF 6 |

TITLE (4)

Technical Specification 3.7.3.1, Not Met Due to Personnel Error

| EVENT DATE (5) | | | LER NUMBER (6) | | | REPORT DATE (7) | | | OTHER FACILITIES INVOLVED (8) | |
|---|---|---|---|---|---|---|---|---|---|---|
| MO | DAY | YEAR | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | MO | DAY | YEAR | FACILITY NAME | DOCKET NUMBER |
| 02 | 20 | 1984 | 1998 | - 0 0 8 - | 0 0 | 07 | 27 | 1998 | Diablo Canyon Unit 2 | 0 5 0 0 0 3 2 3 |

| OPERATING MODE (9) | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR: (11) | |
|---|---|---|
| 1 | X | 10 CFR 50.73(a)(2)(i)(B) |
| POWER LEVEL (10) | | OTHER |
| 1 0 0 | (SPECIFY IN ABSTRACT BELOW AND IN TEXT, NRC FORM 366A) | |

LICENSEE CONTACT FOR THIS LER (12)

| | TELEPHONE NUMBER | |
|---|---|---|
| | AREA CODE | |
| Vickie A. Backman - Senior Regulatory Services Engineer | 805 | 545-4289 |

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

| CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO EPIX | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO EPIX |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| | | | | | | | | | |

| SUPPLEMENTAL REPORT EXPECTED (14) | | EXPECTED SUBMISSION DATE (15) | MON | DAY | YR |
|---|---|---|---|---|---|
| [ ] YES (If yes, complete EXPECTED SUBMISSION DATE) | [ x NO | | | | |


ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines.) (16)

On February 20, 1984, and on July 19, 1985, Technical Specification (TS) 3.7.3.1, "Vital Component Cooling Water System," were not met when Units 1 and 2, respectively, entered Mode 4 (Hot Shutdown). The component cooling water (CCW) heat exchanger cross-tie valves on Units 1 and 2 were not sealed or verified to be open within the 31 day surveillance interval of TS 4.7.3.1.a.

This condition was discovered on June 26, 1998, during a review of the CCW system that was being performed in response to an industry operating event.

The presumed root cause of this event was personnel error during initial design and operation of the plant which did not designate additional controls on the cross-tie valves.

The valves were verified to be in the proper position and seals were installed. Other safety-related systems were checked to determine if additional valves required seals or needed to be surveilled in accordance with TS requirements. No other deficiencies were identified. Appropriate procedures for sealing operations were revised to include the CCW cross-tie valves.

TEXT

I. Plant Conditions

Units 1 and 2 were in Mode 5 (Cold Shutdown) at 0 percent power.

II. Description of Problem

A. Summary

On February 20, 1984, and on July 19, 1985, Technical Specification (TS) 3.7.3.1, "Vital Component Cooling Water System," were not met when Units 1 and 2, respectively, entered Mode 4 (Hot Shutdown). The component cooling water (CCW)(BI) heat exchanger (HX) cross-tie valves (V) on Units 1 and 2 were not sealed or verified to be open within the 31 day surveillance interval of TS 4.7.3.1.a.

B. Background

TS 3.7.3.1 requires that at least two vital component cooling loops be operable in Modes 1, 2 (Startup), 3 (Hot Standby), and 4 (Hot Shutdown).

TS 4.7.3.1.a. requires that at least two vital component cooling loops be demonstrated operable at least once per 31 days by verifying that each valve (manual, power-operated, or automatic) servicing safety-related equipment that is not locked, sealed, or otherwise secured in position, is in its correct position.

Operations Procedure, (OP) K-10, "Systems Requiring Sealed Valve Checklists," provides a consistent method of verifying that all valves required to be sealed in position are in the correct position and sealed.

OP K-10E4, "Sealed Valve Checklist for Component Cooling Water Vital Loops A and B," provides a sealed valve checklist for the purpose of verifying proper valve alignment.

C. Event Description

On June 18, 1998, during a review of the CCW system, Operations requested that engineering personnel evaluate whether manually operated HX cross-tie valves, CCW 23 and 24, should be sealed in the open position. The valves are open during single HX operation (normal at power configuration) to assure that cooling water is supplied to Vital

TEXT

Loops A and B and Non-Vital Loop C during normal conditions and Vital Loops A and B during initial accident conditions. PG&E had not previously identified the valves within the sealing program nor had they been surveilled in accordance with TS 4.3.7.1.a.

On June 19, 1998, as a conservative measure, PG&E visually verified that the valves were in the open position and installed valve seals. OP K-10 and OP K-10E4 were also revised to reflect that the valves had been placed in the Sealed Valve Program.

On June 26, 1998, PG&E determined that the valves should have either been sealed or surveilled every 31 days as required by TS 4.7.3.1. Therefore, TS 3.7.3.1 had not been met since the start of Units 1 and 2 operation.

D. Inoperable Structures, Components, or Systems that Contributed to the Event

None.

E. Dates and Approximate Times for Major Occurrences

1. June 19, 1998: PG&E visually verified that CCW 23 and 24 were open and installed valve seals.

2. June 26, 1998: PG&E determined that TS 3.7.3.1. had not been met for Units 1 and 2.

F. Other Systems or Secondary Functions Affected

None.

G. Method of Discovery

This event was identified during a review of the CCW system. The review was being performed because of an event at another utility concerning the use of valve seals and TS surveillance requirements.

H. Operator Actions

CCW 23 and 24 were verified to be open and seals were installed.

I. Safety System Responses

None.

III. Cause of the Problem

A. Immediate Cause

PG&E had not previously considered that the subject valves required seals or that they required surveillance.

B. Root Cause

The root cause of this event was presumed to be personnel error. During initial design and operation of the plant, PG&E personnel failed to recognize the safety function of the valves. Consequently, they did not designate additional controls such as sealing or surveillance of the valves to periodically verify their position.

IV. Analysis of the Event

CCW 23 and 24 were verified to be in the proper position for normal and initial accident conditions. In addition, a review of past corrective action documents indicated that the valves had not been previously mispositioned. Therefore, normal methods to assure proper valve position were adequate.

CCW 23 and 24 are located downstream of the HXs and upstream of the Vital Cooling Loops A and B and Non-Vital Loop C. During plant operation CCW is normally in service and aligned for single HX operation with both cross-tie valves open and the idle HX discharge valve shut. Had either of the cross-tie valves become fully shut during single HX operation, operators would have been alerted to the condition by the numerous indications and alarms in the control room associated with CCW and the components it serves. These include Loops A, B, and C low flow and pressure alarms; and individual component (load) flow and temperature indications and alarms. Based on these indications, the valve could have then been reopened or a second HX placed in service to provide adequate flow to both vital loops.

Discussions with Operations personnel indicated that any significant flow change, such as that caused by partially closing a valve, would have been detected by routine control board observation. In addition, the routine pump surveillance tests (three pumps per unit) closes and reopens each of the subject valves which would satisfy the 4.7.3.1.a. surveillance requirement. This test is performed on a quarterly basis for each pump, with a scheduled staggered frequency of 21, 21, and 42 days. Although this schedule frequency periodically exceeds the surveillance frequency required by TS 4.7.3.1.a., it does verify the valves' position and provides confidence that the valves were verified and properly positioned. There is no evidence that this surveillance identified either of the subject valves out of position (fully or partially) prior to performing the surveillance.

Based on the above, this event did not adversely affect the health and safety of the public.

V. Corrective Actions

A. Immediate Corrective Actions

Operations installed seals on the valves. OP K-10 and OP K-10E4 which provide valve sealing controls were revised to reflect that CCW 23 and 24 require seals.

B. Corrective Actions to Prevent Recurrence

Portions of other safety-related systems within the emergency core cooling system, including residual heat removal, safety injection (SI), containment and spray additive, chemical and volume control, auxiliary feedwater, and the auxiliary saltwater system were reviewed to assure valves in the main flow paths for injection or cooling water supply were properly controlled and maintained in accordance with TS requirements. No other discrepancies were identified.

VI. Additional Information

A. Failed Components

None.

TEXT

B. Previous Similar Events

LER 1-97-008-00, "Technical Specification 4.5.3.2 Not Met Due to Inadequate Procedures," reported that manual discharge valves for the SI pumps were closed and a caution tag applied instead of being closed and sealed. The event was caused by inadequate corrective actions from a previous nonconformance. Previous actions did not assure that all affected procedures were changed and maintained to meet TS requirements. Corrective actions included revisions to a design criteria memorandum and procedures to assure compliance with TS 4.1.2.3.2, 4.1.2.4.2, and 4.5.3.2. Therefore, the actions for LER 1-97-008-00 would not have prevented this event.

LER 1-97-013-00, "Technical Specification 3.6.1.1 Not Met Due to Misinterpretation of Containment Isolation Valve Surveillance Requirements for Certain Test, Vent, and Drain Valves," reported that certain containment penetration test, vent, and drain valves were not periodically surveilled in accordance with TS 4.6.1.1.a. The event was caused by misinterpretation of TS by nonlicensed personnel. Corrective actions included reviews and inspections of all containment penetrations required to be closed during accident conditions and the revisions of procedures to include additional containment isolation valves. Therefore, the actions for LER 1-97-013-00 would not have prevented this event.