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 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 88-034-00: on 880308, RCS & pressurizer heatup & cooldown surveillances not performed due to operator error.  
 W/8 ltr.

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James D. Shiffer  
Vice President  
Nuclear Power Generation

July 3, 1989

PG&E Letter No. DCL-89-180

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

Re: Docket No. 50-275, OL-DPR-80  
Docket No. 50-323, OL-DPR-82  
Diablo Canyon Units 1 and 2  
Licensee Event Report 1-88-034-00  
RCS and Pressurizer Heatup and Cooldown Surveillances not  
Performed Due to Operator Error

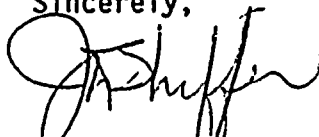
Gentlemen:

Pursuant to 10 CFR 50.73(a)(2)(i)(B), PG&E is submitting the enclosed Licensee Event Report (LER) concerning six missed surveillances during reactor coolant system and/or pressurizer heatups and cooldowns.

These events have in no way affected the public's health and safety.

Kindly acknowledge receipt of this material on the enclosed copy of this letter and return it in the enclosed addressed envelope.

Sincerely,



J. D. Shiffer

cc: J. B. Martin  
M. M. Mendonca  
P. P. Narbut  
H. Rood  
B. H. Vogler  
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Enclosure

DC1-89-OP-N060

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# LICENSEE EVENT REPORT (LER)

FACILITY NAME (11) <b>DIABLO CANYON UNIT 1</b>	DOCKET NUMBER (8) 0 5 0 0 0 4 7 5	PAGE (5) 1 OF 5
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TITLE (4)  
**RCS & PRESSURIZER HEATUP AND COOLDOWN SURVEILLANCES NOT PERFORMED DUE TO OPERATOR ERROR**

EVENT DATE (6)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)			
MONTH	DAY	YEAR	YEAR	NUMBER	NUMBER	MONTH	DAY	YEAR	FACILITY NAMES			DOCKET NUMBER(S)
03	08	88	88	034	000	07	03	89	<b>DIABLO CANYON UNIT 2</b>			0 5 0 0 0 3 2 3
												0 5 0 0 0 1 1

OPERATING MODE (8) 4	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (11)	
POWER LEVEL (10) 0 0 0	<input checked="" type="checkbox"/> 10 CFR <u>50.73(a)(2)(i)(B)</u> <input type="checkbox"/> OTHER (Classify in Abstract below and in Text, NRC Form 305A)	

LICENSEE CONTACT FOR THIS LER (12)

DAVID P. SISK, REGULATORY COMPLIANCE ENGINEER	TELEPHONE NUMBER 8 0 5 5 9 5 - 4 7 2 4
---	---

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

CAUSE	SYSTEM	COMPONENT	MANUFAC TURER	REPORTABLE TO NRCDS	CAUSE	SYSTEM	COMPONENT	MANUFAC TURER	REPORTABLE TO NRCDS

SUPPLEMENTAL REPORT EXPECTED (14)

<input type="checkbox"/> YES IN THE REPORT EXPECTED SUBMISSION DATE:	<input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15) MONTH:    DAY:    YEAR:
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**ABSTRACT (16)**

On June 2, 1989, a Quality Assurance (QA) audit discovered a missed surveillance on the pressurizer. On June 9, 1989, several more missed surveillances were discovered on the reactor coolant system (RCS) and/or pressurizer by the audit for both units. Each time with the units in Mode 4 (Hot Shutdown), the allowed time interval, including the allowable extension of Technical Specification (TS) 4.0.2, was exceeded for performance of the surveillances required by TS 4.4.9.1. and/or TS 4.4.9.2. Each of the events occurred when a RCS heatup or cooldown was interrupted and RCS and/or pressurizer temperature data logging was discontinued. When the temperature data logging was resumed, significant changes in RCS and/or pressurizer temperatures had occurred without the associated heatup or cooldown surveillance being performed.

These missed surveillances were caused by personnel error (cognitive) and a procedural deficiency in that the procedures did not provide adequate guidance to ensure appropriate logging of the RCS and pressurizer heatup/cooldown data.

To prevent recurrence of these events, an Operations Incident Summary will be issued for review with all Operations personnel, and the applicable operating procedures will be revised to remove any ambiguity regarding logging instructions.



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		YEAR 8   8	SEQUENTIAL NUMBER -   0   3   4	REVISION NUMBER -   0   0	0   2	OF 0   5

TEXT (If more space is required, use additional NRC Form 368A's) (17)

**I. Initial Conditions**

Units 1 and 2 were in Mode 4 (Hot Shutdown) during a plant heatup or cooldown when the missed surveillances occurred.

**II. Description of Event**

**A. Event:**

On June 2, 1989, a Quality Assurance (QA) audit discovered a missed surveillance on the pressurizer (PZR) when reviewing data sheets from 1988. On June 9, 1989, five more missed surveillances were discovered on the reactor coolant system (RCS)(AB) and/or pressurizer from three plant shutdown evolutions of the same year. The following is a discussion on the audit findings.

On March 9 and March 10, 1988 for Unit 1 and on July 18, August 8, and September 17, 1988 for Unit 2, the allowed time interval, including the allowable extension of Technical Specification (TS) 4.0.2, was exceeded for performance of the surveillances required by TS 4.4.9.1.1 and/or TS 4.4.9.2. Each of the events occurred when a RCS cooldown or heatup was interrupted and RCS and/or pressurizer temperature data logging was discontinued. When the temperature data logging was resumed, significant changes in RCS and/or pressurizer temperatures had occurred without the associated heatup or cooldown surveillance being performed.

**B. Inoperable structures, components, or systems that contributed to the event:**

None.

**C. Dates and approximate times for major occurrences:**

- |   |   |
|---|---|
| <p>1. March 9, 1988 at 0425 and<br/>March 10, 1988 at 0605 PST:</p> | <p>Event 1 dates - Unit 1 surveillance intervals exceeded for determining pressurizer cooldown rate during an RCS cooldown.</p> |
| <p>2. July 18, 1988 at 1316 PDT:</p>                                | <p>Event 2 date - Unit 2 surveillance interval exceeded for determining RCS cooldown rate.</p>                                  |
| <p>3. August 8, 1988 at 0445 PDT:</p>                               | <p>Event 3 date - Unit 2 surveillance interval exceeded for determining pressurizer heatup rate during an RCS heatup.</p>       |
| <p>4. September 17, 1988 at 1015<br/>and 1030 PDT:</p>              | <p>Event 4 dates - Unit 2 surveillance intervals exceeded for determining RCS and pressurizer cooldown rates.</p>               |

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

5. June 2, 1989: Discovery date - QA audit discovers the missing data on the pressurizer when reviewing the OP L-1 data sheets for Unit 1.

6. June 9, 1989: QA audit discovers the missing data on the RCS and/or pressurizer when reviewing the OP L-5 data sheets for Unit 2.

D. Other systems or secondary functions affected:

None.

E. Method of discovery:

On June 2, 1989, a QA audit (Audit Report #89803T) discovered an apparent discrepancy in the operational procedure (OP) data sheets. Operations was notified by QA of the possible problem. Control room logs, plant recorder data and OP L-1, "Plant Heatup from Cold Shutdown to Hot Standby," data sheets were retrieved from the Records Management System (RMS) and the validity of the problem was confirmed.

On June 9, 1989, Operations was notified by QA of three additional plant shutdown evolutions with apparent discrepancies in the recording of the plant cooldown data. Subsequent retrieval of control room logs, plant recorder data, OP L-5, "Plant Cooldown from Minimum Load to Cold Shutdown," data sheets and OP E-0.2, "Natural Circulation Cooldown," data sheets from the RMS verified the incomplete logging of the plant cooldown data.

F. Operator actions:

None required as the surveillance was not required at the time of discovery.

G. Safety System Responses:

Not applicable.

III. Cause of Event

A. Immediate Cause:

The immediate cause of the event was due to the failure of the control room operators to record the RCS and pressurizer data at all times during system heatups and cooldowns and to determine the heatup/cooldown rates were within limits as required by the plant operating and emergency procedures.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

B. Root Cause:

There are two root causes associated with these events.

The first root cause is due to personnel error (cognitive) in that licensed control room operators failed to ensure periodic logging of the RCS and pressurizer temperatures and verification of heatup or cooldown rates as required by Operating Procedures L-1 and L-5 and Emergency Procedure E-0.2. In all of the events, the periodic logging was initiated as required but at some point in the heatup or cooldown, the data recording was discontinued when the RCS or pressurizer heatup/cooldown was temporarily suspended. When the heatup/cooldown was resumed, either the logging of the required data was not reinitiated or the system temperatures had significantly changed and the surveillance interval was exceeded.

The second root cause for the events is due to a procedural deficiency in Operating Procedures OP L-1 and OP L-5. The existing procedures contain adequate instructions to ensure that the logging is initiated but do not provide specific instructions that require continuous recording of the data until the system heatup/cooldown has been completed. The Precautions and Limitations sections of the procedures contain references to both Technical Specifications 3.4.9.1 and 3.4.9.2 which govern the RCS and pressurizer heatup/cooldown limitations, respectively. The Technical Specification surveillance requirements state that "the temperatures shall be determined to be within the limits at least once per hour during system heatup or cooldown." However, the procedures do not provide guidance as to what plant conditions constitute a heatup or cooldown. This lack of guidance allowed the logging to be discontinued whenever a plant heatup or cooldown was interrupted. Once the data recording was discontinued, there was no procedural guidance in place to reinitiate the data recording, thus it was left for the operator to reinitiate the data recording without procedural instruction.

Additionally, the procedures did not define a system heatup or cooldown, and there were no specific limits on how much the RCS or pressurizer temperature can change while a system heatup or cooldown is suspended. This was the case in Event 4. In this case, the plant cooldown was suspended and the logging was discontinued. However, when the system cooldown was resumed, the RCS and pressurizer temperatures had changed. Since there is no guidance on how much of a temperature change it takes to constitute a cooldown, it must be assumed that a cooldown was in progress and that the surveillance was required.



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		8   8	-   0   3   4	-   0   0	0   5	OF

TEXT (If more space is required, use additional NRC Form 306A's) (17)

IV. Analysis of Event

For 5 of the 6 events, during the period of time that the surveillance requirements were not met, the overall temperature changes in the RCS and/or pressurizer did not exceed the LCO requirements of the Technical Specification limits. A Westinghouse analysis was previously performed for a pressurizer overcooling event of March 10, 1988. A review of this analysis for the remaining event determined that this transient did not constitute a safety concern since the overall temperature change and the time period over which the event occurred falls within the bounds of the analysis. Therefore, the health and safety of the public was not affected by these events.

V. Corrective Actions

A. Immediate Corrective Actions:

No immediate corrective actions were possible since the surveillance was not required at time of discovery for each event.

B. Corrective Actions to Prevent Recurrence:

1. An Operations Incident Summary will be issued to review the events with all operations department personnel.
2. Operating Procedures OP L-1 and OP L-5 will be revised to require continuous logging of the RCS and the pressurizer heatup/cooldown data once initiated. The procedures will also be revised to define a system heatup and cooldown and to provide specific guidance as to when either condition can be considered to be complete with respect to the requirements to perform the Technical Specification surveillance.
3. Emergency Procedure E-0.2 will be revised to include the requirement to continually record RCS and Pressurizer cooldown data once initiated. The procedure will also be revised to include instructions to initiate the logging of the cooldown data on the OP L-5 data sheets once the transition into OP L-5 has been made.

VI. Additional Information

A. Failed Components:

None.

B. Previous LERs on similar events, if known:

None.

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