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PG&E Letter DCL-01-128

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

Docket No. 50-275, OL-DPR-80
Diablo Canyon Unit 1
Special Report 01-06 - Post Accident Monitoring (PAM) Instrumentation

Dear Commissioners and Staff:

PG&E is submitting the enclosed Special Report in accordance with Technical Specification (TS) 3.3.3, "Post Accident Monitoring (PAM) Instrumentation," and TS 5.6.8, "PAM Report."

This event was not considered risk significant and did not adversely affect the health and safety of the public.

Sincerely,

David H. Oatley

cc: Ellis W. Merschoff
David L. Proulx
Girija S. Shukla
Diablo Distribution
INPO

Enclosure

JMA/2245/A0543763

IE22

LICENSEE EVENT REPORT (LER)

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TITLE (4)

Special Report 01-06 - Post Accident Monitoring (PAM) Instrumentation

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			
11	07	2001	2001	- 0 0 4 -	0 0	12	10	2001							

OPERATING MODE (9) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR: (11) <div style="display: flex; justify-content: space-around;"> <div>10 CFR</div> <div><u> X </u> OTHER</div> </div>	
POWER LEVEL (10) 1 0 0		Special Report TS 5.6.8 <small>(SPECIFY IN ABSTRACT BELOW AND IN TEXT, NRC FORM 366A)</small>

LICENSEE CONTACT FOR THIS LER (12)		TELEPHONE NUMBER
Roger Russell - Senior Regulatory Services Engineer		AREA CODE 805 545-4327

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		MON	DAY	YR
<input checked="" type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)				<input type="checkbox"/> NO		SUBMISSION DATE (15)		
						01	18	02

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

On November 7, 2001, with Unit 1 in Mode 1 (Power Operation) at 100 percent power, PG&E identified that Unit 1 Steam Generator Level Indicator, LI-528, was in a degraded condition with all four mounting screws missing. The missing screws could have prevented the indicator from performing its required function following a seismic event, as the plastic case containing the indicator could slide horizontally within its enclosure.

On November 26, 2001, following completion of seismic evaluations, this condition was determined to be reportable. In accordance with Technical Specification (TS) 3.3.3, "Post Accident Monitoring (PAM) Instrumentation," and TS 5.6.8, "PAM Report," a written report is required within the following 14 days.

The root cause of the LI-528 degraded condition is currently under investigation and has been entered in the corrective action program.

As immediate corrective action, the mounting screws for LI-528 were replaced on November 7, 2001.

Corrective action to prevent reoccurrence will be initiated based on the completed cause analysis.

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TEXT

I. Plant Conditions

Unit 1 was in various modes and at various power levels with the conditions described below.

II. Description of Problem

A. Background

The Steam Generator (SG) Level Indicator, LI-528 [IP][LI], is a narrow range level indicator that is part of the Post Accident Monitoring (PAM) Instrumentation in service since April 1984. This level indicator is located on Vertical Board 3 in the control room and indicates the water level of Unit 1 SG 1-2.

LI-528 consists of an enclosure (a plastic case with a clear plastic window on the front face). The meter frame inserts into the plastic case and consists of a 1 mA D'Arsenval meter movement with jeweled pivot. The armature is a thin wire pointer that rotates upward and downward along the scale. This armature, together with its thin wire upper and lower stops, is attached to the linear motor by screws. In turn, two screws secure the linear motor to the plastic case. The frame is then slid into the plastic indicator enclosure with four small mounting screws. Electrical connections are made on the back of the plastic indicator frame. The connecting wires have little slack.

The narrow range SG level indicator is used to detect a SG tube rupture, monitor secondary heat sink and monitor SG water level following a feedwater line break while the water level is within the narrow range span. LI-528 is qualified as a Category 1 instrument in accordance with Regulatory Guide (RG) 1.97, "Instrumentation for Light-water-cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," section 1.3.1, "Design and Qualification Criteria." Category 1 Instrumentation must comply with RG 1.100, "Seismic Qualification of Electric Equipment for Nuclear Power Plants."

As discussed in the Final Safety Analysis Report Update section 7.5, "Safety Related Display Instrumentation," three channels are available to monitor SG water level (narrow range) while only two channels are required. Only two of these channels are designated as PAM Instrumentation and are seismically qualified, even though all three channels have the same design qualifications. LI-528 is one of the two designated PAM indicators.

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TEXT

TS 3.3.3, "Post Accident Monitoring (PAM) Instrumentation," Table 3.3.3-1, item 13.b, requires two SG water level narrow range indications. Action A states that operable status must be restored within 30 days. Action B requires that a PAM Report be submitted in accordance with TS 5.6.8.

TS 5.6.8, "PAM Report" requires a written report to outline the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channel within the following 14 days.

B. Event Description

On November 7, 2001, a PG&E licensed plant operator discovered that the four case to frame mounting screws were missing from LI-528. The meter was able to move in its mount but restrained by attached wiring.

On November 7, 2001, the four mounting screws were replaced.

On November 8, 2001, an evaluation was performed to determine the impact of the missing screws on the system interaction of LI-528. It was determined that LI-528 could not fall into the front or back of the vertical board due to the tightness of the electrical wires attached to the back of the indicator. Therefore, it was determined that the indicator would not damage other equipment during a seismic event and was not a Seismically Induced System Interaction (SISI) source.

On November 15, 2001, a history search was performed regarding past maintenance on LI-528. It was determined that there had not been maintenance in recent years that could account for the mounting screws having been removed.

On November 20, 2001, another evaluation was performed to determine the impact of the missing screws on the function of LI-528. It was concluded that the meter could be unavailable after a seismic event. Without the screws, LI-528 was not seismically qualified for functionality.

On November 26, 2001, PG&E determined this event was a violation of the limiting condition of operation (LCO) of TS 3.3.3, and a 14-day PAM Report was required per TS 5.6.8.

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TEXT

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

LI-528, was determined to be inoperable based on its failure to satisfy the functional seismic qualification.

The period of time in which LI-528 was not seismically qualified is unknown. Investigations to date have determined no maintenance involving the mounting screws of LI-528 had been performed in recent years. The conservative assumption would be that the mounting screws had been left out for greater than 30 days.

D. Other Systems or Secondary Functions Affected

None.

E. Method of Discovery

A utility licensed plant operator discovered the condition.

F. Operator Actions

None.

G. Safety System Responses

None.

III. Cause of the Problem

A. Immediate Cause

The LCO for TS 3.3.3 was not satisfied with LI-528 inoperable for greater than 30 days, due to a lack of mounting screws.

B. Root Cause

The root cause of this event is being investigated. Initial investigation found several additional indicators with missing case to frame mounting screws. None of the other degraded instruments were determined to be inoperable. It is presumed that the case to frame mounting screws were left out due to personnel error(s).

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TEXT

IV. Assessment of Safety Consequences

In the case of a seismic event, which resulted in the failure of LI-528 to perform its control room indication function, the two other Unit 1 SG 1-2 Narrow Range Level Indicators, LI-527 and LI-529, as well as the wide range level indicator, LI-502, located immediately adjacent to LI-528, could have been utilized with no effect on safety. LI-528 was evaluated and found not to be a significant SISI source that would adversely affect other control board indications or controls. Additionally, control room indicators are isolated from the remaining portion of the instrument channel; therefore, there would have been no adverse effect on the associated reactor trip or engineered safety features actuation system functions.

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

V. Corrective Actions

A. Immediate Corrective Actions

On November 7, 2001, the four mounting screws were replaced on LI-528 returning the instrument to operable status by restoring the seismic qualification.

B. Corrective Actions to Prevent Recurrence

This condition has been entered in the corrective action program for resolution. Additional plant indicators are being inspected to identify the extent of the condition, a root cause performed and corrective actions identified.

VI. Additional Information

A. Failed Components

None.

B. Previous Similar Events

None.