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SUBJECT: LER 88-025-00:on 881201,seismic bracing missing from instrument panel due to inadequate configuration control.
W/8 ltr.

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TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

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	AEOD/DSP/TPAB	1	1	AEOD/ROAB/DSP	2	2
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	NRR/DEST/CEB 8H	1	1	NRR/DEST/ESB 8D	1	1
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	NRR/DEST/MTB 9H	1	1	NRR/DEST/PSB 8D	1	1
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	NRR/DOEA/EAB 11	1	1	NRR/DREP/RAB 10	1	1
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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
DIABLO CANYON UNIT 2	0 5 0 0 0 3 2 3	1 OF 0 6

TITLE (4) SEISMIC BRACING MISSING FROM INSTRUMENT PANEL DUE TO INADEQUATE CONFIGURATION CONTROL

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
1 2	0 1	8 8	8 8	0 2 5	0 0	0 3	0 3	8 9		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)	1
POWER LEVEL (10)	1 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (11)

- [X] 10 CFR 50.73 (a)(2)(i)(B)
- [ ] OTHER (Specify in Abstract below and in Text, NRC Form 366A)

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
TERRENCE GREBEL, REGULATORY COMPLIANCE SUPERVISOR	AREA CODE 8 0 5 5 9 5 - 4 7 2 0

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	

SUPPLEMENTAL REPORT EXPECTED (14)

- [ ] YES (If yes, complete EXPECTED SUBMISSION DATE)
- [X] NO

EXPECTED SUBMISSION DATE (15): MONTH / DAY / YEAR

ABSTRACT (16)

On February 3, 1989, at 0900 PST I&C technicians discovered that seismic bracing on panel RRM was not installed as required by design. Containment Wide Range Level Channels 942A and 943A were declared inoperable at 1450 PST and Action Statement b of Technical Specification 3.3.3.6 was entered. At 2000 PST, on February 3, 1989, the seismic bracing was reinstalled and on February 4, at 0026 the wide range channels were declared operable and the Action Statement was exited. An investigation was conducted but it could not be determined when the bracing was removed. Therefore it was conservatively determined that the channels were inoperable from the time the Unit entered Mode 3 on November 29, 1988

The root cause was determined to be inadequate configuration control since the removal of seismic bracing was not properly documented.

Actions to prevent recurrence include issuance of a Maintenance Bulletin addressing configuration control during maintenance activities, revisions to applicable procedures to include configuration control and incorporate its policies into Nuclear Power Generation, Nuclear Engineering and Construction Services, and General Construction training syllabis.

I. Plant Conditions

Unit 2 operated at all power levels up to and including 100%.

II. Description of Event

A. Event:

On February 3, 1989, at 0900 PST during Seismically Induced Systems Interaction Program (SISIP) housekeeping inspections in the Unit 2 cable spreading room, I&C technicians discovered that the seismic bracing at the rear of panel RRM was not installed as required by design. Because this seismic bracing was not installed as required, Containment Reactor Cavity Sump Level Wide Range channels 942A and 943A (IP) were declared inoperable at 1450 PST on February 3 and Action Statement b of Technical Specification (TS) 3.3.3.6 "Accident Monitoring Instrumentation" which is applicable in Modes 1, 2 and 3 was entered. At 2000 PST, on February 3, 1989, reinstallation of seismic bracing was completed. On February 4, at 0026 PST containment wide range level channels 942A and 943A were declared operable and TS 3.3.3.6 Action Statement b was exited.

An investigation was conducted to determine when the seismic bracing was removed. The documentation indicated that the only work performed on panel RRM was on October 26, 1988 when I&C technicians performed STP I-89 "Calibration of Containment Wide Range Level Channels 942A and 943A". STP I-89 does not require the removal of the seismic bracing. The technician, who performed STP I-89, did not remove the seismic bracing but recalled that it impeded access to panel RRM. Therefore, they remembered the bracing was installed, as required, at that time. Since the actual time of removal could not be established, the Technical Review Group conservatively assumed that channels 942A and 943A were inoperable from the time Unit 2 entered a mode in which TS 3.3.3.6 was applicable. Unit 2 entered mode 3 on November 29, 1988. TS 3.3.3.6 is applicable in modes 1, 2, and 3 and action statement b is a forty-eight hour action statement. Thus the channels were considered to have been inoperable from November 29, 1988 until the braces were replaced on February 3, 1989 and that TS 3.3.3.6 action b was exceeded on December 1, 1988 at 1156PST.

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

None.

C. Dates and Approximate Times for Major Occurrences:

1. October 26, 1988: During performance of STP I-89 seismic bracing was observed to be installed as required.

2. November 29, 1988 at 1156 PST: Unit 2 entered Mode 3.

3. December 1, 1988 at 1156 PST: Event date - TS 3.3.3.6 Action Statement b exceeded.

4. February 3, 1989 at 0900 PST: Discovery Date - Seismic bracing discovered to be missing.

5. February 3, 1989 at 1450 PST: Declared Containment Wide Range Level channels 942A and 943A inoperable and entered Action Statement b for TS 3.3.3.6.

6. February 3, 1989 at 2000 PST: Reinstallation of seismic bracing was completed.

7. February 4, 1989 at 0026 PST: Containment Wide Range Level Channels 942A/943A declared operable and TS 3.3.3.6 Action Statement b exited.

D. Other Systems or Secondary Functions Affected:

None.

E. Method of Discovery:

The missing seismic bracing in panel RRM was discovered during the performance of SISIP housekeeping inspection by I&C technicians in the Unit 2 cable spreading room.

F. Operator Actions:

None

G. Safety system responses:

None

III. Cause of Event

A. Immediate Cause:

Seismic bracing was removed and not reinstalled.

B. Root Cause:

Inadequate configuration control since the removal of seismic bracing was not properly documented.

IV. Analysis of Event

A. Safety Analysis:

Containment wide range level channels are post accident instrumentation required by Regulatory Guide 1.97 to provide quantitative data of the containment sump level from the 64' elevation to the 98' elevation. This data is used to verify a Loss of Coolant Accident (LOCA) and for post accident monitoring and mitigation.

Various annunciators and indicators are available for identifying a LOCA. The first annunciator to warn operators of excessive containment pressure, shield wall temperature or humidity is the containment environment on the plant process computer. Indicators used to identify a LOCA are: Wide range pressure recorders PR-938 and PR-939 which record containment pressure; wide range temperature indicators TI-940 and TI-941 used to monitor containment temperature; and TR-26 which displays containment temperature and containment humidity in the form of dew point. These indicators and annunciators are used by operators as a primary indication of RCS integrity and were available during the assumed time of containment wide range channel inoperability. There are also four ESFAS containment pressure protection channels (PT-934, PT-935, PT-936, PT-937) that would initiate a safety injection in the event of a LOCA.

Indications other than the containment wide range level channels which provide containment level indication and are used for post accident monitoring and mitigation include the Reactor Cavity Sump Level narrow range channel (LI-62) which monitors the reactor cavity sump and the RHR recirculating sump level channels (LI-940/941) which are used primarily to measure Net Positive Suction Head (NPSH) for the RHR pumps. The function of the reactor cavity sump level narrow range channel is to provide data indicating a small leak in the incore detector penetrations and/or leaks in reactor coolant drain tank and associated valves and piping. The narrow range channel measures sump level from the 60'4" elevation to the 63'3" elevation. The RHR recirculation sump indicators (LI-940 and 941) provide sump level data between the 88' and 96'6" elevation. During the period the containment wide range level channels 942A and 943A were assumed inoperable due to missing seismic restraints, reactor cavity sump and the RHR recirculation sump indicators were operable.

Alternate indication of the RCS inventory lost is provided by monitoring pressurizer level and RCS coolant make-up. Pressurizer level is monitored by LI-459, 460, and 461. Coolant added to the system is monitored by accumulator level channels (LI-950 thru 957) and refueling water storage tank level channels (LI-920/921/922). All indicators were operable during the time the wide range channel indicators were inoperable.

The wide range level channel indicators and the data provided are not referenced in the Emergency Operating Procedures for LOCA or steam line break and thus are not relied upon for direct operator intervention for post accident monitoring or mitigation.

During the assumed time of the containment wide range channel inoperability, if indication of the amount of RCS inventory in the reactor vessel was continuously monitored and displayed by the Reactor Vessel Level Indication System (RVLIS). If a LOCA had occurred, this system would be used by operators to determine whether the core was sufficiently cooled.

Panel RRM also houses Emergency Response Facility Data System Multiplexer 11 which processes signals for the Safety Parameter Display System (SPDS). NUREG 0737 Supplement 1 states that SPDS need not be seismically qualified. Thus, this system was not adversely affected by the missing seismic braces.

Because of the above monitoring of containment level and RCS inventory the health and safety of the public were not adversely affected by this event.

V. Corrective Actions

A. Immediate Corrective Actions:

1. The affected channels were declared inoperable for Unit 2.

2. The seismic bracing was reinstalled.

B. Corrective Actions to Prevent Recurrence:

1. A Maintenance Bulletin will be issued addressing configuration control during maintenance activities.

2. Administrative Procedure C-40S3 "Administrative Procedure use of PIMS Corrective Maintenance Work Order Module" will be revised to provide increased awareness of configuration control.

3. Configuration control policies will be incorporated into the General Construction training syllabus for contractors and regular employees.

4. Configuration control policies will be incorporated into the Nuclear Power Generation training syllabus for contractors and regular employees.

5. Tailboards will be conducted with all work planners on the Maintenance Bulletin and plant policies with regard to configuration control.

VI. Additional Information

A. Failed Components:

None.

B. Previous LERs on Similar events:

LER 1-87-022-00, "Reactor Coolant System Control Room Temperature Recorders Declared Inoperable due to Inadvertent Failure to Reinstall Seismic Restraints"

This LER reported an event in which I&C technicians found missing seismic restraints from the control room reactor coolant system wide range temperature recorders. The restraints were installed in 1985 but discovered missing in November 1987. The cause of the event was determined to be personnel error. Training was conducted for Operations and I&C personnel emphasizing seismic restraints for equipment and adhering to procedures. However the information was not proceduralized or incorporated in training modules and thus did not prevent this event from occurring.

C. Configuration Control Task Force

PG&E has established a Configuration Management Task Force as referenced in DCL-88-236. The task force has performed initial review of the overall adequacy of PG&Es program and has made recommendations for improvement. PG&E is implementing these recommendations.

Pacific Gas and Electric Company

77 Beale Street
San Francisco, CA 94106
415/972-7000
TWX 910-372-6587

James D. Shiffer
Vice President
Nuclear Power Generation

March 3, 1989

PG&E Letter No. DCL-89-053

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

Re: Docket No. 50-323, OL-DPR-82
Diablo Canyon Unit 2
Licensee Event Report 2-88-025-00
Seismic Bracing Missing From Instrument Panel Due to Inadequate Configuration Control

Gentlemen:

Pursuant to 10 CFR 50.73 (a)(2)(i)(B), PG&E is submitting the enclosed Licensee Event Report regarding missing seismic bracing from the rear of instrument panel RRM. It was determined that this event caused the containment wide range level channels to be inoperable.

This event has 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
B. Norton
H. Rood
B. H. Vogler
CPUC
Diablo Distribution
INPO

Enclosure

DC2-89-TI-NO16

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