NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

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 0 5

TITLE (4) PERSONNEL ERROR RESULTED IN INOPERABILITY OF STEAM/FEEDWATER FLOW MISMATCH CHANNELS FOR STEAM GENERATOR 1-2

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)
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OPERATING MODE (9)	2	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 0 0	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
		20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	X 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
		20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
DAVID P. SISK, REGULATORY COMPLIANCE ENGINEER	AREA CODE 8 1 0 5 5 9 5 - 7 3 5 1

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)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

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

On November 10, 1985, at 1728 PST, Unit 1 entered Mode 2 (Startup) with feed flow transmitters (FT) 520 and 521 isolated. Since both feed flow transmitters for Steam Generator 1-2 were isolated, both steam/feedwater flow mismatch (SFFM) channels were inoperable and the requirements of Technical Specification (T.S.) Table 3.3-1 Action 6 were not met.

The event was discovered at 0143 PST, November 11, 1985, by I&C technicians sent by operators to investigate the absence of feedwater flow indication, with Unit 1 in Mode 1 (Power Operation) at approximately 14 percent power.

This event was caused by personnel error. During implementation of a design change, licensed operators did not notify I&C personnel to remove feed flow transmitters from service. An approved surveillance procedure which was being performed prior to mode transition could not be completed due to the associated root valves tagged out by operations. The I&C foreman failed to follow up and ensure the procedure was completed.

To prevent recurrence, the responsible personnel were counseled and the event has been reviewed with all applicable personnel. In addition, an administrative procedure is being revised to ensure that correct removal and restoration procedures are followed when protection and safeguards instrumentation is involved in a clearance.

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

I. Initial Conditions

The unit was in Mode 2 (Startup) with a Reactor Coolant temperature of 547°F and pressure of 2235 psig.

II. Description of Event

A. Event:

This event was caused by personnel error. On November 1, 1985, at approximately 2300 PST, the root valves for FT 520 and 521 were directed to be closed by licensed operators during implementation of a design change to add an access port to the feedwater line for cleaning/inspection of the feedwater flow venturis. Prior to closing the root valves, the operators did not notify I&C personnel to properly remove the transmitters from service. At the direction of the I&C Supervisor, in anticipation of mode transition, on November 4, 1985, at approximately 1530 PST, contract technicians initiated procedure I-88 "Surveillance Test Procedure (STP) Instrument and Control Critical Sensor Checklist" on FT-520 and FT-521. After the initial setup and transmitter valve isolation steps, they noted that the root valves were still closed and tagged. Because of this they stopped the procedure and reported to their foreman that I-88 could not be completed. The foreman failed to ensure I-88 was completed following removal of the root valve clearance by operations. On November 5, 1985, the root valves for FT 520 and 521 were opened.

On November 10, 1985, at 1728 PST, Unit 1 entered Mode 2 (Startup) with feed flow transmitters (FT) 520 and 521 isolated. Technical Specification (TS), Table 3.3-1, item 14 requires a minimum of one operable steam/feedwater flow mismatch (SFFM) channel per steam generator (SG). Since both feed flow transmitters for SG 1-2 were isolated and therefore inoperable, both SFFM channels were inoperable and the requirements of T.S. Table 3.3-1 Action 6 were not met.

At 0115 PST, November 11, 1985, with the Unit in Mode 1 (Power Operation) at approximately 14 percent power, operators reviewing steam generator instrumentation in preparation for transition from the feedwater bypass valves to the main feedwater regulating valves observed an absence of flow indication on FT 520 and 521. At 0143 PST, November 11, 1985, I&C Technicians sent to investigate the lack of feedwater flow indication found FT 520 and 521 isolated. The instrument isolation valves were opened and FT 520 and 521 were returned to service at 0242 PST, completing STP I-88, and restoring the SFFM channels to operability.

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

None

C. Dates and approximate times for major occurrences:

1. November 1, 1985, 2300 PST: Root valves closed.

2. November 4, 1985, 1530 PST: Instrument isolation valves closed, and STP I-88 not completed.

3. November 5, 1985: Root valves opened.

4. November 10, 1985, 1728 PST: Event date - Unit 1 enters Mode 2.

5. November 11, 1985, 0115 PST: Operators observed absence of flow indication on FT 520 and 521.

6. November 11, 1985, 0143 PST: Discovery date.

7. November 11, 1985, 0157 PST: FT 520 and 521 declared inoperable.

8. November 11, 1985, 0242 PST: Instrument isolation valves opened, STP I-88 completed and flow transmitters declared operable.

D. Other systems or secondary functions affected:

None

E. Method of discovery:

While preparing for transition to Mode 1, operators observed an absence of flow indication on FT 520 and 521. Because of low feedwater flow, low or no flow indication is not unexpected at low power levels. Operators continued to monitor these transmitters as the unit entered Mode 1. In Mode 1, at approximately 14% power, with preparations in progress for transition from the feedwater bypass valves to the main feedwater regulating valves, there still was no flow indication of FT 520 and 521. I&C technicians sent to investigate the problem discovered both flow transmitters isolated.

F. Operator actions:

Upon discovery of the event, the operators logged the entry into the Action Statement of T.S. 3.3.1 The bistables for FT 520 and 521 channels A and B were tripped.

G. Safety system responses:

None

III. Cause of Event

A. Immediate cause:

Instrument transmitters were valved out, preventing indication of feedwater flow to SG 1-2.

B. Root cause:

The root cause of this event was personnel error.

1. Licensed operators did not notify I&C personnel to remove and return the transmitters to service in accordance with normal practices.

2. The responsible I&C foreman failed to ensure that procedure I-88 was completed following removal of the root valve clearance by operations.

IV. Analysis of Event

Isolation of the feedwater flow transmitters results in a conservative condition since the greatest mismatch between steam flow and feedwater flow is produced. If this condition had remained during the power ramp to full power, there would have been a SFFM alarm, since one-half of the low SG level-SFFM coincidence circuitry for reactor trip would have been triggered. If this alarm had occurred and not been responded to and SG level transient to 25 percent had occurred, the resulting reactor trip would be a previously analyzed event with no adverse consequences. Thus no adverse safety consequences or implications resulted from this event.

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

V. Corrective Actions

A. The responsible personnel were counseled and the event was reviewed with all applicable personnel.

B. Administrative Procedure C-6 S1, "Clearance Request/Job Assignment," was revised to add a responsibility for the shift foreman to ensure correct removal and restoration procedures are followed when protection and safeguards instrumentation is involved in a clearance.

VI. Additional Information

A. Failed components:

None

B. Previous LERs on similar events:

None

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PACIFIC GAS AND ELECTRIC COMPANY

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JAMES D. SHIFFER
VICE PRESIDENT
NUCLEAR POWER GENERATION

February 20, 1986

PGandE Letter No.: DCL-86-041

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

Re: Docket No. 50-275, OL-DPR-80
Diablo Canyon Unit 1
Licensee Event Report 1-85-035-02
Personnel Error Resulted in Inoperability of Steam/Feedwater
Flow Mismatch Channels for Steam Generator 1-2

Gentlemen:

Pursuant to 10 CFR 50.73(a)(2)(i)(B), PGandE is submitting the enclosed revision to Licensee Event Report 85-035-01 to revise the description, the cause, and discovery of the event, and correct typographical errors.

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,

Enclosure

cc: L. J. Chandler
R. T. Dodds
J. B. Martin
B. Norton
H. E. Schierling
CPUC
Diablo Distribution
INPO

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