

# LICENSEE EVENT REPORT (LER)

FACILITY NAME (1): <b>DIABLO CANYON UNIT 1</b>		DOCKET NUMBER (2): <b>05000275</b>	PAGE (3): <b>1 OF 1</b>
TITLE (4): <b>REACTOR TRIP DUE TO TURBINE TRIP FROM PS-30 ANTI-MOTERING RELAY CAUSED BY A CLOSED ROOT VALVE ON THE LOW PRESSURE SIDE SENSING LINE.</b>			

EVENT DATE (5):			LER NUMBER (6):			REPORT DATE (7):			OTHER FACILITIES INVOLVED (8):			
MONTH	DAY	YEAR	YEAR	NUMBER	NUMBER	MONTH	DAY	YEAR	FACILITY NAMES			DOCKET NUMBER (9)
09	01	88	88	026	00	09	30	88				05000
												05000

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

OPERATING MODE (10): **1**

POWER LEVEL (11): **0.13**

10 CFR 50.73(a)(2)(iv)

OTHER (Specify in Abstract Below and in Part, NRC Form 255A)

LICENSEE CONTACT FOR THIS LER (12):

**DAVID P. SISK, REGULATORY COMPLIANCE ENGINEER**

TELEPHONE NUMBER (13): **805 595-3751**

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (14)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC (15)	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC (15)

SUPPLEMENTAL REPORT EXPECTED (16):  YES (17) OR (18) EXPECTED SUBMISSION DATE:  NO

EXPECTED SUBMISSION DATE (19):

MONTH	DAY	YEAR
10	31	88

ABSTRACT (18):

On September 1, 1988 at 2016 PDT, during restart at approximately 13 percent power, Unit 1 experienced a turbine trip and a subsequent reactor trip. The turbine trip was initiated by the anti-motoring relay, PS-30. The unit was stabilized in Mode 3 (Hot Standby) and the 4-hour nonemergency report required by 10 CFR 50.72(b)(2)(ii) was made at 2142 PDT.

The event was determined to have been caused by the root isolation valve on the low side of differential pressure switch PS-30 being in the closed position. Safety systems responded as designed. The trip was not associated with any hardware failures.

The root cause for the valve being in a closed position is under investigation and will be reported in a supplement to the LER.

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
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TEXT (If more space is required, use additional NRC Form 388A's) (17)

I. Initial Conditions

Unit 1 was in Mode 1 (Power Operation) at approximately 13 percent power.

II. Description of Event

A. Event:

On September 1, 1988, at 2016 PDT, during the restart of Unit 1, with the unit in Mode 1 at approximately 13 percent power, Unit 1 experienced a turbine (TA)(TRB) trip and a subsequent reactor (JC)(BKR) trip 30 seconds after paralleling the main generator (GEN). The turbine trip was initiated by the anti-motoring relay PS-30 (JK)(ST). The unit was stabilized in Mode 3 (hot standby) in accordance with approved plant procedures. The four hour nonemergency report required by 10 CFR 50.72 was made at 2142 PDT.

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

None.

C. Dates and approximate times for major occurrences:

1. September 1, 1988, at 2016 PDT: Event Date-Turbine tripped due to anti-motoring relay PS-30 followed by a reactor trip.
2. September 1, 1988, at 2110 PDT: Made 4 hour nonemergency notification to NRC as required by 10 CFR 50.72.
3. September 1, 1988, at 2200 PDT: Unit stable in Mode 3.

D. Other systems or secondary functions affected:

None

E. Method of discovery:

The event was immediately apparent due to alarms and other indications in the control room.

F. Operator actions:

Operators stabilized the unit in Mode 3 in accordance with plant emergency procedures.

2314S/0063K

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TEXT: If more space is required, use additional NRC Form 388A (1/17)

G. Safety system responses:

1. The turbine tripped.
2. The reactor trip breakers (JC)(BKR) opened.
3. The control rod drive mechanisms (AA)(DRIVE) allowed the control rods to drop into the reactor.

III. Cause of Event

A. Immediate Cause:

Reactor trip due to by turbine trip from actuation of anti-motoring relay PS-30.

B. Contributing Cause:

During the start-up on September 1, 1988, the alarm associated with PS-30 actuated when the generator output breaker was closed, but failed to reset immediately. The reset indicates that the turbine generator has loaded properly. Since the alarm routinely actuates during a paralleling operation, it was considered normal. The fact that it did not reset within its 30 second trip delay was not noticed by the control room operators who were concentrating their attention on the steam generator level controls.

C. Root Cause:

The cause for the actuation of the PS-30 relay has been determined to have been a closed low pressure side root valve which prevented the proper operation of differential pressure switch PS-30. The reason for the root valve being in the closed position is under investigation.

IV. Analysis of Event

A reactor trip is a previously analyzed Condition II event. Since the safety systems functioned as designed, there were no safety consequences or implications from this event.

V. Corrective Actions

A. Immediate Corrective Actions:

The low side root valve for PS-30 was opened.

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If more space is required, use additional NRC Form 388A (11/77)

B. Corrective Actions to Prevent Recurrence:

The corrective actions to prevent recurrence are under investigation.

VI. Additional Information

A. Failed Components:

None.

B. Previous LERs:

LER 2-87-004-01 Turbine trip on PS-30

Turbine trip and subsequent reactor trip from PS-30 actuation from 13% power, Unit 2 on April 3, 1987. Root cause stated to be "The system does not provide accurate enough indication, at low power levels, for the operator to determine if turbine generator load is sufficient to prevent anti-motoring relay actuation and a subsequent turbine trip."

Corrective actions taken for the previous event, relative to PS-30, included the addition of an alarm when the relay is actuated, the evaluation of the instrument tubing installation and a reduction in the pressure switch setting.

The instrument tubing and pressure switch setting changes are not applicable in this event as the closed root valve functionally isolated them. The alarm did function, however as discussed under III above, the fact that the alarm did not clear went unnoticed.

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

September 30, 1988

PG&E Letter No. DCL-88-232



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

Re: Docket No. 50-275, OL-DPR-80  
Diablo Canyon Unit 1  
Licensee Event Report 1-88-026-00  
Reactor Trip due to Turbine Trip from Anti-monitoring Relay  
Caused by a Closed Root Valve on the Low Pressure Side  
Sensing Line.

Gentlemen:

Pursuant to 10 CFR 50.73(a)(2)(iv), PG&E is submitting the enclosed Licensee Event Report concerning a reactor trip due to a turbine trip. The turbine trip resulted from the actuation of an antimotoring relay caused by a closed root isolation valve on the low pressure side of differential switch PS-30.

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,

A handwritten signature in dark ink, appearing to read 'J. D. Shiffer', written over a printed name.

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

DC1-88-OP-N094

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