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NRC Form 366 (9-83)

PORT (LER) TEXT CONTINU	US NUCLEAR REGULATORY CO NTINUATION APPROVED OMB NO. 3150 EXPIRES 8/31/85					
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I. Initial Conditions

The Unit was in Mode 1 (Power Operation) and at approximately 20 percent power.

II. Description of Event

A. Event:

At 2110 PST, December 2, 1985, control operators were reducing power to separate from the PGandE transmission system because of kelp buildup and fouling of the circulating water system at the intake structure. The Auxiliary Feedwater pumps were started in preparation for unit shutdown, resulting in lowering the Tavg to the safety injection Lo-Lo Tavg setpoint. All electrical buses had been transferred to startup power. At 2119 PST and approximately 20 percent power, the digital rod position indication system (DRPI) (IU)(LI) experienced a data "A" failure and general warning on each control rod. The shift foreman ordered a unit trip, which was manually initiated by the control operator. Immediately after the turbine/reactor trip, a spurious high steam flow signal developed and, coupled with the existing Lo-Lo Tavg signal, resulted in a safety injection actuation.

The appropriate emergency procedures were followed and the unit was stabilized in Mode 3 (Hot Standby) at 2140 PST.

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

None

- C. Dates and approximate times for major occurrences:
 - 1. December 2, 1985, 2119 PST: Event date
 - 2. December 2, 1985, 2140 PST: Stable conditions achieved
- D. Other systems or secondary functions affected:

None

E. Method of discovery:

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

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LICENSEE I	EVENT	REPORT	(LER) TEXT	CONTINUATION
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U.S NUCLEAR REGULATORY COMMISSION

APPROVED OM8 NO. 3150-0104 EXPIRES 8/31/85

FACILITY NAME (1)		DOCKET NUMBER (3)	LER NUMBER (6)	PAGE (3)		
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F. Operator actions:

In response to irregular position indications and alarms from DRPI, the shift foreman directed the control operator to initiate a unit trip. Subsequent to the turbine/reactor trip, operators followed the appropriate emergency procedures and placed the unit in a stable condition. The spurious High Steam Flow signal coupled with the Lo-Lo Tavg signal was of insufficient duration to close the main steam isolation valves (MSIVs). Operators manually closed the MSIVs.

- G. Safety system responses:
 - The reactor trip breakers (AA) (BKR) opened and the safety injection sequence was initiated.
 - The control rod drive mechanism (AA) (DRIV) allowed the control rods (AA) (ROD) to drop into the reactor.
 - MSIV closure was initiated by the same signals as the safety injection. MSIV closure did not occur due to the short duration of the High Steam Flow/Lo Lo Tavg coincidence. Operators manually closed the MSIVs.
- III. Cause of Event
 - A. Immediate cause:

Data "A" failure and general warning on each control rod from DRPI prompted operators to initiate a unit trip. Immediately after the turbine/reactor trip, a safety injection occurred due to a spurious Hi Steam Flow signal coupled with a Lo-Lo Tavg signal, due to starting the Auxiliary Feedwater Pumps.

B. Root cause:

The DRPI failure resulted from a faulty DC logic power supply. In preparation for unit shutdown, control operators transferred electrical loads to startup power, resulting in a voltage drop in bus voltage supplied to DRPI Train A. Investigation revealed a faulty DC logic power supply would fail when this voltage drop occurs, resulting in the data "A" failure and general warning on every control rod.

The exact cause of the spurious High Steam Flow signal is indeterminate. Plant technicians have been unable to recreate the safety injection event by simulating plant conditions at the time of the event.

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UICENSEE EVENT	EVENT REPORT (LER) TEXT CONTINUATION					U.S. NUCLEAR REGULATORY COMMISSION APPROVED OMB NO. 3150-0104 EXPIRES 8/31/85				
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IV. Analysis of Event

The DRPI malfunction resulted in operators taking the conservative action to manually initiate a unit trip. A spurious signal prompted actuation of the engineered safety feature actuation system, which responded as designed. This event did not result in any adverse safety consequences or implications.

V. Corrective Actions

The DRPI power supply was repaired and the system returned to service.

VI. Additional Information

A. Failed components:

Digital Rod Position Indication System

B. Previous LERs on similar events:

None

PACIFIC GAS AND ELECTRIC COMPANY

IP (Generate - 77 BEALE STREET + SAN FRANCISCO, CALIFORNIA 94106 + (415) 781-4211 + TWX 910-372-6587

March 18, 1986

JAMES D. SHIFFER VICE PRESIDENT NUCLEAR POWER GENERATION

PGandE Letter No.: DCL-86-072

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

Re: Docket No. 50-323, OL-DPR-82 Diablo Canyon Unit 2 Licensee Event Report 2-85-018-01 Manual Reactor Trip Prompted by Failure of Digital Rod Position Indication System, Followed by Spurious Safety Injection

Gentlemen:

Pursuant to 10 CFR 50.73(a)(2)(iv) and Technical Specification 6.9.2 as required by Action Statement b of Technical Specification 3.5.2, PGandE is submitting the enclosed revision to Licensee Event Report/Special Report 2-85-018-00 to provide additional information concerning the causes of the described events.

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,

for J. D. Shifter

Enclosure

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

0745S/0042K/RHM/2112

