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 2

TITLE (4)

INADVERTENT ACTUATION OF THE REACTOR PROTECTION SYSTEM

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)
											0 5 0 0 0
0 5	0 6	8 4	8 4	-	0 1 4	- 0 0	0 6	0 5	8 4		0 5 0 0 0

OPERATING MODE (9)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
2	20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10) 0 0 2	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)	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
WILLIAM J. KELLY, REGULATORY COMPLIANCE ENGINEER	AREA CODE 8 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	
X	J C	T M	H O 1 5	NO							

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-spaced typewritten lines) (16)

While in Mode 2 (Startup) a signal from the Reactor Protection System (RPS) resulted in a reactor trip. With one protection set out of service for a functional test, a spurious signal from a second protection set satisfied the minimum RPS logic for Overtemperature Delta T and Overpower Delta T and a reactor trip occurred. Subsequent investigation revealed a faulty Temperature Modifier in the Protection Set II control cabinet. The component was replaced, and Protection Set II returned to service.

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
DIABLO CANYON UNIT 1	0 5 0 0 0 2 7 5	8 4	0 1 4	0 0	0 2 OF 0 2

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

At 2140 Hours, on May 6, 1984, while in Mode 2 (Startup) and at two percent reactor power, Instrument and Controls (I&C) Technicians removed the Reactor Protection System (JC), Protection Set III Delta T from service to perform a functional test in accordance with approved surveillance test procedures. After Protection Set III Delta T was removed from service, a Temperature Modifier (TM421A) failed in Protection Set II Delta T circuit. The failure caused the Delta T and Tavg signals to oscillate and an Overtemperature Delta T setpoint in Protection Set II was exceeded. Because Protection Set III was removed from service, the Overtemperature Delta T logic was reduced from 2 of 4 to 1 of 3. The spurious signal from Protection Set II provided the one signal necessary and caused a reactor trip.

The Shift Foreman made a notification of a Significant Event to the NRC Operations Center via the Emergency Notification System in accordance with 10 CFR 50.72(b)(2)(ii).

Protection Set III was returned to service immediately.

Subsequent testing on Protection Set II by I&C Technicians revealed a faulty Q15A transistor in the Hagan Model 7100 Series TM421A Temperature Modifier (JG) (TM) located in the T_{hot} module. The module was replaced and Protection Set II was returned to service. A review of Maintenance history records showed that no other failures of this component have occurred at Diablo Canyon.

The undetected, nonconservative failure of one protection set in the RPS is the limiting case. It results in the protection logic being reduced to 2/3, which still provides protection for the reactor upon receipt of a valid trip signal, regardless of the operating mode.

In addition, pursuant to approved surveillance test procedures, channel checks are performed on RPS protection sets once for each eight-hour shift. Any reduction in the degree of redundancy in the RPS would be detected and corrected in a short time.

1157d/0015K

PACIFIC GAS AND ELECTRIC COMPANY

PG&E

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JAMES D. SHIFFER
MANAGER
DEPARTMENT OF NUCLEAR PLANT OPERATIONS
NUCLEAR POWER GENERATION

June 5, 1984

PGandE Letter No.: DCL-84-207

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

Re: Docket No. 50-275, OL-DPR-76
Diablo Canyon Unit 1
Licensee Event Report 84-014-00
Inadvertent Actuation of the Reactor Protection System

Gentlemen:

Pursuant to 10 CFR 50.73(a)(2)(IV), PGandE is submitting the enclosed Licensee Event Report concerning the inadvertent actuation of the Reactor Protection System.

This event has in no way affected public health and safety.

Sincerely,

for J. D. Shiffer

Enclosure

cc: J. B. Martin
Service List

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1/1