

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) DIABLO CANYON UNIT 1

DOCKET NUMBER (2)

0 5 0 0 0 2 7 5 1 OF 0 2

TITLE (4) HI-HI STEAM FLOW SAFETY INJECTION

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	1	2	4	8	4	0	3	0	1	2	1	7	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)																														
1	<table border="1"><tr><td>20.402(b)</td><td>20.406(c)</td><td>X</td><td>80.73(a)(2)(iv)</td><td>73.71(b)</td></tr><tr><td>20.406(a)(1)(i)</td><td>80.38(c)(1)</td><td></td><td>80.73(a)(2)(v)</td><td>73.71(c)</td></tr><tr><td>20.406(a)(1)(ii)</td><td>80.38(c)(2)</td><td></td><td>80.73(a)(2)(vi)</td><td>OTHER (Specify in Abstract below and in Text, NRC Form 306A)</td></tr><tr><td>20.406(a)(1)(iii)</td><td>80.73(a)(2)(i)</td><td></td><td>80.73(a)(2)(vii)(A)</td><td></td></tr><tr><td>20.406(a)(1)(iv)</td><td>80.73(a)(2)(ii)</td><td></td><td>80.73(a)(2)(vii)(B)</td><td></td></tr><tr><td>20.406(a)(1)(v)</td><td>80.73(a)(2)(iii)</td><td></td><td>80.73(a)(2)(ix)</td><td></td></tr></table>	20.402(b)	20.406(c)	X	80.73(a)(2)(iv)	73.71(b)	20.406(a)(1)(i)	80.38(c)(1)		80.73(a)(2)(v)	73.71(c)	20.406(a)(1)(ii)	80.38(c)(2)		80.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 306A)	20.406(a)(1)(iii)	80.73(a)(2)(i)		80.73(a)(2)(vii)(A)		20.406(a)(1)(iv)	80.73(a)(2)(ii)		80.73(a)(2)(vii)(B)		20.406(a)(1)(v)	80.73(a)(2)(iii)		80.73(a)(2)(ix)	
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20.406(a)(1)(v)	80.73(a)(2)(iii)		80.73(a)(2)(ix)																												

LICENSEE CONTACT FOR THIS LER (12)		TELEPHONE NUMBER	
NAME	DAVID P. SISK, 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 NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	

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)

While in Mode 1 (power operation), an inadvertent turbine and reactor trip led to a safety injection. The event started when the turbine control system malfunctioned due to a loose wire that has since been repaired by tightening the connection. The turbine and reactor tripped when the 40 percent condenser dump valves failed to open as a result of installing control wiring to an incorrect drawing of electrical connections. The wiring drawing and connections have been corrected. The same installation drawing error was found and corrected on Unit 2.

The safety injection was caused by the failure of a licensed operator to reset the steam dump valve pressure controller (HC 507) for normal operation after the turbine was placed on line. To prevent recurrence, the relevant procedures have been revised, and the Shift Turnover Checklist is being revised.

All required equipment responded correctly. The public's health and safety was not affected. The error would have been discovered during scheduled testing at 50% power, precluding such an event at higher power levels.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/85

FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (6)

PAGE (3)

DIABLO CANYON UNIT 1

0 5 0 0 0 2 7 5 8 4 - 0 3 0 - 0 0 0 2 OF 0 2

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

At 1612 PST, November 24, 1984, with Unit 1 in Mode 1 (power operation), a malfunction of the turbine control system (JJ) caused a sudden load rejection. Since the rod control system (JD) was in manual mode for flux mapping, the load rejection caused an increase in the average temperature of the reactor coolant (Tavg). The 40 percent condenser dump valves (RV)(JI) failed to open, and Tavg increased to approximately 570°F before the 35 percent atmospheric dump valves (RV)(JI) opened. The high Tavg, together with the depressurization of the steam generator (SG)(AB) upon opening of the 35 percent dumps, caused a swell that raised the water level sufficiently to trip the turbine (TRB)(TA) on hi-hi steam generator level. The turbine trip resulted in a reactor trip. At 1616, in accordance with Emergency Procedure OP-0.1, "Reactor Trip Response," steam dump control was switched to the "Steam Pressure" mode. This immediately resulted in the opening of the 40 percent condenser dump valves, which produced a high steam flow and a reactor coolant system (AB) cooldown to the low-low Tavg setpoint (543°F). The resulting low-low Tavg, coincident with the high steam flow, produced a safety injection signal. The safety injection signal triggered the emergency core cooling system (JE), and the contents of the boron injection tank (TK)(BQ) were injected into the reactor coolant system. All ESF equipment performed as designed.

The load rejection was caused by a loose connection on digital electrical hydraulic control pressure transmitter PS 22 (PT)(JJ). The connection has been tightened.

The 40 percent condenser dump valves failed to open because their controls had been wired in accordance with a wiring drawing that did not correctly implement the design logic (two leads were reversed). The error was missed during the drawing check and again during startup testing, but would have been revealed by the 50 percent load rejection test scheduled during December 1984. The drawing and the lead connections have been corrected. Unit 2 was checked; the same error was found and has been corrected.

The safety injection was caused by personnel error, in that a licensed operator had previously failed to reset steam dump valve pressure controller HC 507 (PC)(JI) for normal operation when the turbine was placed on line. To prevent recurrence of this event, Procedures EP 0.1 and OP L-2 have been revised to include instructions to check the controller setting and to ensure that Tavg is near the no-load value before changing to "Steam Pressure" mode. In addition, the Shift Turnover Checklist is being revised to require the listing of abnormal controller settings.

This event had no safety consequences and in no way affected the health and safety of the public. This transient would not have occurred at full power or in commercial operation because the incorrect wiring connection would have been detected during the 50 percent load rejection test which is designed to verify the proper operation of the steam dump system. This event has not previously occurred at Diablo Canyon.

PACIFIC GAS AND ELECTRIC COMPANY

PG&E

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JAMES D. SHIFFER
VICE PRESIDENT
NUCLEAR POWER GENERATION

December 17, 1984

PGandE Letter No.: DCL-84-379

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 84-030-00
ESF Actuation - Safety Injection

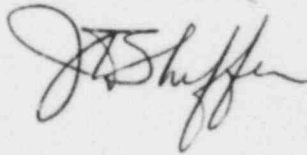
Gentlemen:

Pursuant to 10 CFR 50.73(a)(2)(iv), PGandE is submitting the enclosed Licensee Event Report concerning the inadvertent actuation of an engineered safety feature (ESF), a safety injection.

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: J. B. Martin
Service List

IE22
1/1