

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) DIABLO CANYON UNIT 2	DOCKET NUMBER (2) 0 5 0 0 0 3 2 3	PAGE (3) 1 OF 0 4
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TITLE (4) **NUCLEAR INSTRUMENTATION SYSTEM (NIS) NEGATIVE RATE REACTOR TRIP**

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	3	1 1	8	6	8	6	0	0	8	6	0	0	5	0	0	0		
0	3	1 1	8	6	8	6	0	0	4	1	0	8	6	0	5	0	0	0

OPERATING MODE (9) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 50. (Check one or more of the following) (11)									
POWER LEVEL (10) 1 0 0	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)						
	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.73(e)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)						
	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.73(e)(2)	<input type="checkbox"/> 50.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)						
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(vii)(A)							
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(vii)(B)							
<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(x)								

LICENSEE CONTACT FOR THIS LER (12)		TELEPHONE NUMBER	
NAME STEPHEN D. WILSON, REGULATORY COMPLIANCE ENGINEER		AREA CODE	8 1 0 5 5 1 9 5 - 1 7 3 1 5 1

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)										
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS	

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO					

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

At 2212 PST, March 11, 1986, while the unit was in Mode 1 (Power Operation) at 100 percent power, an automatic reactor trip and subsequent turbine trip occurred during the performance of a full load rejection startup program test. After initiating the full load rejection test, systems responded as expected to bring reactor power down in a controlled manner. A nuclear instrumentation system (NIS) negative rate trip signal caused the reactor trip approximately 7 seconds after the test began.

Plant operators followed appropriate emergency procedures and the unit was stabilized in Mode 3 (Hot Standby) at 2305 PST.

The cause of the reactor trip was a NIS negative rate trip signal that exceeded the trip setpoint.

The NIS negative rate trip setpoint is being reset in accordance with a Westinghouse recommendation.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		86	008	00	02	OF 04

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

I. Initial Conditions

The unit was in Mode 1 (Power Operation) at 100 percent power.

II. Description of Event

A. Event

At 2212 PST, March 11, 1986, an automatic reactor trip (AB)(RCT) and subsequent turbine (TA)(TRB) trip occurred during the performance of the full load rejection startup program test. The cause of the trip was a NIS negative rate trip signal that occurred approximately 7 seconds after initiation of the test.

Analysis of data recorded during the full load rejection test indicated that the setpoint for the NIS negative rate trip had been exceeded and that the reactor protection system (RPS) performed as designed. A significant event was declared at 2212 PST.

The appropriate emergency procedures were followed and the unit was stabilized in Mode 3 (Hot Standby) at 2305 PST, March 11, 1986.

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

None

C. Dates and approximate times for major occurrences.

1. March 11, 1986, 2212 PST: Event date
2. March 11, 1986, 2305 PST: Stable conditions achieved

D. Other system 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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F. Operator actions:

The operators followed the appropriate procedures and placed the unit in a stable condition.

G. Safety system responses:

1. The reactor trip breakers opened.
2. The control rod drive mechanisms allowed the control rods to drop into the reactor.
3. The turbine tripped.

III. Cause of Event

A. Immediate cause:

The NIS negative rate trip setpoint was exceeded and the RPS automatically tripped the reactor.

B. Root cause:

A step change of 2.5% rated thermal power was previously used to calibrate the negative rate trip set point to meet the limiting safety system setting of 5% with a 2 second time constant. Subsequent discussions with Westinghouse have indicated that this is excessively conservative. Westinghouse now recommends that the set point be calibrated by a step change of 5% rate thermal power.

IV. Analysis of Event

A full load rejection transient is considered a Condition I Operational Transient in the Diablo Canyon Units 1 and 2 FSAR Update Revision 1. The RPS performed as designed when the NIS negative rate trip setpoint was exceeded. The FSAR Update analysis conservatively assumes the worst set of initial conditions prior to the postulated operational transient. Since the unit was being operated within design parameters, there were no adverse safety consequences or implications resulting from this event.

V. Corrective Actions

Westinghouse was consulted on the appropriateness of the negative rate trip setpoint.

The NIS negative rate trip setpoint is being reset in accordance with their recommendation.

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

VI. Additional Information

A. Failed components:

None

B. Previous LERs on similar events:

LER 2-86-007 Reactor Trip Due to a NIS Negative Rate Trip Signal Caused by Two Dropped Rods During the Investigation of a Rod Control Urgent Failure Alarm.

A faulty control rod logic module was replaced as a result of this event. This action would not have prevented a NIS negative rate reactor trip during a full load rejection test.

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PACIFIC GAS AND ELECTRIC COMPANY

PG&E

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JAMES D. SHIFFER
VICE PRESIDENT
NUCLEAR POWER GENERATION

April 10, 1986

PGandE Letter No.: DCL-86-094

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 2-86-008-00
Nuclear Instrumentation System (NIS) Negative Rate Reactor Trip

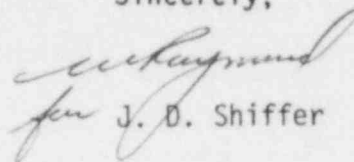
Gentlemen:

Pursuant to 10 CFR 50.73(a)(2)(iv), PGandE is submitting the enclosed Licensee Event Report concerning actuation of the reactor protection system during the performance of the full load rejection test.

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.

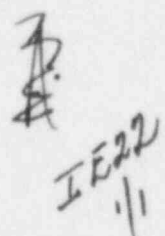
Sincerely,


for J. D. Shiffer

Enclosure

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

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