



**Pacific Gas and
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PG&E Letter DCL-00-089

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Docket No. 50-275, OL-DPR-80
Diablo Canyon Unit 1
Licensee Event Report 1-2000-005-00
Entry into TS 3.0.3 When Power was Restored to Reactor Coolant System
Accumulator Isolation Valves Due to Personnel Error

Dear Commissioners and Staff:

PG&E is submitting the enclosed licensee event report regarding entry into Technical Specification 3.0.3, "Limiting Condition for Operation," due to personnel error.

This event was not considered risk significant and did not adversely affect the health and safety of the public.

Sincerely,

R. A. Walter for
David H. Oatley

cc: Steven D. Bloom
Ellis W. Merschoff
David L. Proulx
Diablo Distribution
INPO

Enclosure

ZTR/2246/A0508060

RG 4-001

IE22

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Diablo Canyon Unit 1										DOCKET NUMBER (2) 0 5 0 0 0 2 7 5					PAGE (3) 1 OF 5	
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TITLE (4) Entry into TS 3.0.3 When Power was Restored to Reactor Coolant System Accumulator Valves Due to Personnel Error																
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EVENT DATE (5)			LER NUMBER (6)					REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)					
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MO	DAY	YEAR	FACILITY NAME						DOCKET NUMBER	
05	15	2000	2000	- 0 0 5	- 0 0	06	14	2000								

OPERATING MODE (9) 3		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR: (11) <div style="display: flex; justify-content: space-between; align-items: center;"> <input checked="" type="checkbox"/> 10 CFR 50.73(a)(2)(i)(B) OTHER _____ </div>														
POWER LEVEL (10) 0 0 0		(SPECIFY IN ABSTRACT BELOW AND IN TEXT, NRC FORM 366A)														

LICENSEE CONTACT FOR THIS LER (12) Roger Russell - Senior Regulatory Services Engineer																	TELEPHONE NUMBER AREA CODE 805		NUMBER 545-4327	
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)									
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14) <input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)					EXPECTED SUBMISSION DATE (15) <input checked="" type="checkbox"/> NO		MON	DAY	YR
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ABSTRACT (Limit to 1400 spaces. i.e., approximately 15 single-spaced typewritten lines.) (16)

On May 15, 2000, at approximately 1207 PDT, with Unit 1 in Mode 3 (Hot Standby), at 0 percent power, Technical Specification (TS) 3.0.3 was inadvertently entered when power was restored to all reactor coolant system (RCS) accumulator isolation valves while the RCS pressure was 1500 psig. TS 3.5.1a requires RCS accumulator isolation valves to be open and have power removed in Modes 1, 2, and 3, while pressurizer pressure is above 1000 psig, for the accumulators to be considered operable. At 1455 PDT, while RCS pressure was approximately 1122 psig, the shift foreman recognized the entry into TS 3.0.3. At 1505 PDT, RCS pressure was reduced to less than 1000 psig and TS 3.0.3 was exited.

The condition was caused by a personnel error.

Operating Procedure L-5, "Plant Cooldown From Minimum Load to Cold Shutdown," and the accumulator isolation valve breaker lamicoid will be revised to contain a reference to TS 3.5.1a. Operating Procedure L-5 will state the specific pressurizer pressure value required by TS 3.5.1a. Lessons learned will be documented and distributed to each of the operating crews.

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TEXT

I. Plant Conditions

Unit 1 was in Mode 3 (Hot Shutdown) at 0 percent power.

II. Description of Problem

A. Background

Technical Specification (TS) 3.5.1a requires reactor coolant system (RCS) [AB] accumulator [ACC] isolation valves [ISV] to be open and have power removed in Mode 1, 2, and 3, while pressurizer pressure is above 1000 psig, for the accumulators to be considered operable. No action statement exists for a condition in which all accumulators are inoperable.

When a limiting condition for operation is not met, TS 3.0.3 requires initiating action within 1 hour to place the unit in a mode in which the specification does not apply by placing it, as applicable, in:

At least hot standby within the next 6 hours,
At least hot shutdown (Mode 4) within the following 6 hours, and
At least cold shutdown (Mode 5) within the subsequent 24 hours.

Operating Procedure (OP) L-5, "Plant Cooldown from Minimum Load to Cold Shutdown," provides instructions for plant shutdown during scheduled and non-scheduled outages. Step 6.2.17 requires the operators to close the accumulator isolation valves and valve breakers when "the RCS pressure has decreased to about 900 psig."

B. Event Description

On May 15, 2000, plant operators were performing OP L-5 on Unit 1 in preparation for entering Mode 5.

On May 15, 2000, at approximately 1207 PDT, plant operators unknowingly placed Unit 1 into TS 3.0.3 when they racked in the breakers for the RCS accumulator isolation valves as instructed by the shift foreman. At the time, RCS pressure was approximately 1500 psig.

On May 15, 2000, at approximately 1455 PDT, the shift foreman logged the plant into TS 3.0.3 when he realized that restoring power to the accumulator isolation valves at a pressurizer pressure greater than

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TEXT

1000 psig was not in compliance with TS 3.5.1a. He then directed the plant operators to reduce the RCS pressure from 1122 psig to less than 1000 psig.

On May 15, 2000, at approximately 1505 PDT, the RCS pressure dropped below 1000 psig and TS 3.0.3 was exited.

C. Inoperable Structures, Components, or Systems that Contributed to the Event

None.

D. Other Systems or Secondary Functions Affected

None.

E. Method of Discovery

This condition was discovered by the shift foreman who was reviewing the TS during the performance of OP L-5.

F. Operator Actions

The plant operators reduced the RCS pressure to less than 1000 psig.

G. Safety System Responses

None.

III. Cause of the Problem

A. Immediate Cause

TS 3.0.3 was entered because power was restored to the isolation valves for all 4 accumulators while RCS pressure was above 1000 psig.

B. Root Cause

The shift foreman did not review the TS prior to directing the operators to close the accumulator isolation valve breakers. He believed that TS 3.5.1a required only that the valves be open and did not recognize that

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TEXT

the accumulators would be considered inoperable with the breakers closed.

C. Contributory Cause

Neither OP L-5, step 6.2.17, nor the lamicoid located at the accumulator isolation valve breakers make reference to TS 3.5.1a.

IV. Analysis of the Event

The accumulators are pressure vessels partially filled with borated water and pressurized with nitrogen gas. They are designed to passively inject into the RCS cold legs during a loss-of-coolant accident (LOCA) when RCS pressure decreases below the nitrogen cover gas pressure. Each injects its borated water through an open motor operated isolation valve and two check valves into the RCS during a LOCA. The isolation valves must be open and power removed for accumulators to be considered operable.

At the time of the event, the plant was in Mode 3, approximately 12 hours after shutdown, at approximately 0.7 percent power at 1000 to 1500 psig. By energizing all four accumulator isolation valves, the plant entered into TS 3.0.3 for approximately 3 hours. Although power was restored, all valves remained open and available while the plant was in a TS 3.0.3 condition. Therefore, there were no actual safety consequences.

To assess potential safety consequences, PG&E requested that Westinghouse assess the event assuming a worst case single failure (loss of one train of the solid state protection system (SSPS)) and a single failure (inadvertent closure of an accumulator isolation valve). Both large and small break LOCAs were considered.

When assuming a worst case single failure of the loss of SSPS in Mode 3, Westinghouse concluded that the availability of the accumulators and one train of the Emergency Core Cooling System (ECCS) was more than adequate to assure core cooling under any LOCA condition.

When an alternate single failure (closed accumulator valve) is considered, the large break LOCA bounds the small break LOCA. In a large break LOCA, one accumulator is assumed to spill through the break. If an isolation valve is assumed to fail, an additional accumulator is unavailable. However, an additional train of ECCS pumps is available, nearly doubling the flow capacity.

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TEXT

The combination of reduced energy and nearly double ECCS flow assure adequate core cooling.

Based on the above analyses, the event did not adversely affect the public health and safety.

The condition was reviewed using the probabilistic risk assessment process and determined to be of minor risk significance.

V. Corrective Actions

A. Immediate Corrective Actions

1. The shift foreman directed operations personnel to decrease the RCS pressure below 1000 psig and TS 3.0.3 was exited.
2. The shift foreman was coached regarding the TS requirement.

B. Corrective Actions to Prevent Recurrence

1. OP L-5 will state the allowable maximum pressurizer pressure value at which the accumulator isolation valves may be energized, according to TS 3.5.1a. The procedure will also include a reference to this TS.
2. The lamicoid at the accumulator isolation valve breakers will reference TS 3.5.1a.
3. Lessons learned will be documented and distributed to each of the operating crews.

VI. Additional Information

A. Failed Components

None.

B. Previous Similar Events

None.