

## LICENSEE EVENT REPORT (LER)

|  |        |   |                |                   |                 |                  |                 |           |                |   |   |       |                  |  |   |   |   |          |   |   |                     |  |  |  |
|--|--------|---|----------------|-------------------|-----------------|------------------|-----------------|-----------|----------------|---|---|-------|------------------|--|---|---|---|----------|---|---|---------------------|--|--|--|
| FACILITY NAME (1)<br>DIABLO CANYON, UNIT 2                                 |        |   |                |                   |                 |                  |                 |           |                | DOCKET NUMBER (2)<br>0 5 0 0 0 3 1 2 1 3            |   |       |                  | PAGE (3)<br>1 OF 012   |   |   |   |          |   |   |                     |  |  |  |
| TITLE (4)<br>REACTOR TRIP AND 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) |  |   |   |   |          |   |   |                     |  |  |  |
| 0  | 8      | 2   | 9              | 8                 | 5               | 8                | 5               | —         | 0              | 0   | 7 | —     | 0                | 0  | 0 | 9 | 3 | 0        | 8 | 5 | 0 5 0 0 0 0 0 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(e)        |                 |           |                | <input checked="" type="checkbox"/> 50.73(a)(2)(v)  |   |       |                  | 73.71(b)   |   |   |   |          |   |   |                     |  |  |  |
| POWER LEVEL (10)   |        | 0.04  |                |                   |                 | 20.405(a)(1)(i)  |                 |           |                | 50.38(c)(1)   |   |       |                  | 50.73(a)(2)(v)   |   |   |   | 73.71(c) |   |   |                     |  |  |  |
|  |        | 20.405(a)(1)(ii)  |                |                   |                 | 50.38(c)(2)      |                 |           |                | 50.73(a)(2)(vii)                                    |   |       |                  | <input checked="" type="checkbox"/> 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)                                |   |       |                  | Special Report   |   |   |   |          |   |   |                     |  |  |  |
|  |        | 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)(ix)                                     |   |       |                  |  |   |   |   |          |   |   |                     |  |  |  |
| LICENSEE CONTACT FOR THIS LER (12)   |        |   |                |                   |                 |                  |                 |           |                |   |   |       |                  |  |   |   |   |          |   |   |                     |  |  |  |
| NAME<br>JACQUELINE R. HINDS, REGULATORY COMPLIANCE ENGINEER                |        |   |                |                   |                 |                  |                 |           |                | TELEPHONE NUMBER<br>AREA CODE 81015 519151-17131511 |   |       |                  |  |   |   |   |          |   |   |                     |  |  |  |
| 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   |   |   |   |          |   |   |                     |  |  |  |
| <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)

On August 29, 1985 at 0536 PDT, while in Mode 2, a reactor trip occurred during initial plant startup testing. While manually maintaining steam generator levels, a licensed operator failed to recognize the actual plant conditions and allowed the level of steam generator 2-1 to decrease to 25% with the steam flow/feed flow mismatch and high steam flow bistables in the tripped position for surveillance testing. At 0537 PDT,  $T_{ave}$  decreased to the low-low setpoint (543°F) due to the influx of auxiliary feedwater (AFW) and the steam demand from the turbine-driven AFW pump. A safety injection on high steam flow coincident with low-low  $T_{ave}$  occurred. All systems performed as designed, except that containment spray pump 2-2 started. After a thorough investigation, the exact cause of the pump start could not be determined.

To prevent recurrence, the responsible operator was counselled on the importance of understanding the significance of abnormal conditions on plant operations.

This was the first emergency core cooling system (ECCS) actuation cycle to date that has resulted in the discharge of water into the reactor coolant system.

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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) |       |
|----------------------|-------------------|----------------|-------------------|-----------------|----------|-------|
|                      |                   | YEAR           | SEQUENTIAL NUMBER | REVISION NUMBER |          |       |
| DIABLO CANYON UNIT 2 | 05000323          | 85             | 007               | 00              | 02       | OF 02 |

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

On August 29, 1985 at 0536 PDT, while in Mode 2 (Startup), a reactor trip on low steam generator level coincident with steam flow/feed flow mismatch occurred. Surveillance testing was in progress and the requisite steam flow/feed flow mismatch and high steam flow bistables were in the tripped position in accordance with the surveillance test procedure. The licensed operator manually maintaining steam generator levels allowed the level of steam generator 2-1 to decrease to 25%, satisfying the protection logic for a reactor trip. The reactor coolant system average temperature ( $T_{ave}$ ) decreased due to the influx of auxiliary feedwater and the steam demand from the turbine-driven AFW pump, running for a 48-hour startup endurance test. At 0537 PDT,  $T_{ave}$  reached the low-low setpoint (543°F). This resulted in a safety injection on high steam flow coincident with low-low  $T_{ave}$ . Water was injected into the reactor coolant system via the emergency core cooling system (BP).

Instrument and Control (I&C) personnel were performing Surveillance Test Procedure I-12B6, "Calibration of Steam Generator Flow and Pressure Channels Protection and Safeguards (and Alarms) Functions." This procedure requires the steam flow/feed flow mismatch and high steam flow bistables (JG)(RLY) to be tripped. I&C personnel notified the control room staff prior to tripping the bistables. The tripped bistables satisfied (1) the steam flow/feed flow mismatch portion of the steam generator low level (25%) coincident with flow mismatch reactor trip, and (2) the high steam flow portion of the high steam flow coincident with low-low  $T_{ave}$  safety injection.

The event was caused by personnel error. The licensed operator manually maintaining steam generator levels failed to recognize the significance of the bistables being tripped and allowed the steam generator to reach the 25% low level setpoint, which resulted in a reactor trip.

During the initial check of the control boards to ensure that the emergency core cooling system (ECCS) equipment was operating normally, a licensed operator noticed that containment spray pump 2-2 (BE) (P) was running. However, the associated valves were closed, thus preventing containment spray. After verifying that the plant was in a stable condition, the safety injection signal was reset and the containment spray pump was secured. All other automatic systems responded as designed.

The unit was maintained shutdown while a thorough investigation was conducted by plant personnel to determine the cause for the containment spray pump start. However, the exact cause could not be conclusively determined. The two most probable causes are either (1) that the relay (BE) (R) for the containment spray pump "hung up" following a single cycle during the last surveillance test performed on July 16, 1985, thereby maintaining its output contacts closed, or (2) that the relay was not reset following the surveillance test. Since a possible cause was mechanical failure, the relay was replaced. The start of the containment spray pump is conservative with regard to public and plant safety.

To prevent recurrence, the responsible operator was counselled on the importance of understanding the significance of abnormal conditions on plant operations. In addition, the Operations Department will reinforce the policy requiring that all affected control room staff be at all times aware of the significance of any abnormal plant status or evolutions in progress that could affect plant operations, such as reactor protection bistables being tripped or major controls being in manual. This policy will be enforced by ensuring that these conditions are displayed on the plant status board located in the control room.

# PACIFIC GAS AND ELECTRIC COMPANY

PG&E

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JAMES D. SHIFFER  
VICE PRESIDENT  
NUCLEAR POWER GENERATION

September 30, 1985

PGandE Letter No.: DCL-85-316

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 85-007-00  
Reactor Trip and Safety Injection

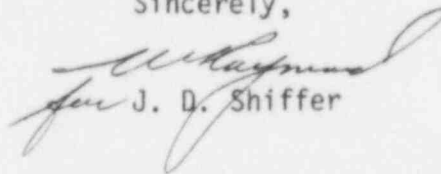
Gentlemen:

Pursuant to 10 CFR 50.73(a)(2)(iv) and as required by Technical Specification 6.9.2 and Action Statement b of Technical Specification 3.5.2, PGandE is submitting the enclosed Licensee Event Report/Special Report concerning actuations of Engineered Safety Features, a reactor trip followed by a safety injection, and containment spray pump start.

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  
J. B. Martin  
B. Norton  
CPUC  
Diablo Distribution

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