

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)
Trojan Nuclear Plant

DOCKET NUMBER (2)

0 5 0 0 0 3 4 4 1 OF 0 4

PAGE (3)

TITLE (4)
Penetration Failed Containment Local Leak Rate Test

| 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 | 6 | 0 | 1 | 8 | 5 | 8 | 5 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 0 |
| | | | | | | | | | n/a | 0 5 0 0 0 | | | | | |

| OPERATING MODE (9) | | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more of the following) (11) | | | | | | | | | |
|--------------------|-------|--|------------------|---------------------|--|--|--|--|--|--|--|
| POWER LEVEL (10) | 0 0 0 | 20.402(b) | 20.406(c) | 50.73(a)(2)(iv) | 73.71(b) | | | | | | |
| | | 20.406(a)(1)(i) | 50.36(c)(1) | 50.73(a)(2)(v) | 73.71(c) | | | | | | |
| | | 20.406(a)(1)(ii) | 50.36(c)(2) | 50.73(a)(2)(vi) | OTHER (Specify in Abstract below and in Text, NRC Form 366A) | | | | | | |
| | | 20.406(a)(1)(iii) | 50.73(a)(2)(i) | 50.73(a)(2)(vii)(A) | | | | | | | |
| | | 20.406(a)(1)(iv) | 50.73(a)(2)(ii) | 50.73(a)(2)(vii)(B) | | | | | | | |
| | | 20.406(a)(1)(v) | 50.73(a)(2)(iii) | 50.73(a)(2)(x) | | | | | | | |

LICENSEE CONTACT FOR THIS LER (12)

| NAME | TELEPHONE NUMBER |
|--|---------------------------------|
| Scott A. Bauer, Onsite Regulation Engineer | AREA CODE 5 0 3 5 5 6 - 3 7 1 3 |

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 |
|-------|--------|-----------|--------------|-------------------|-------|--------|-----------|--------------|-------------------|
| B | B | P | P | S | P | S | 0 3 0 | Y | |
| | | | | | | | | | |
| | | | | | | | | | |

SUPPLEMENTAL REPORT EXPECTED (14)

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

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

On June 1, 1985, the plant was in a refueling outage with the core unloaded. While performing local leak rate testing of containment penetration P-50, 'B' train recirculation sump suction line, in accordance with Periodic Engineering Test (PET) 5-2, "Containment Local Leak Rate Testing", a 1/2-inch circumferential crack was discovered in a test connection pipe. The failed pipe provided a direct leakage path from the containment to the Auxiliary Building. The cause of the crack was identified to be a fatigue failure. The failed pipe has been repaired. Examinations of all similar test connections did not reveal any problems.

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PDR ADOCK 05000344
S PDR

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

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|---|--|----------------|----------------------|--------------------|----------|----|-----|
| FACILITY NAME (1) Trojan Nuclear Plant | DOCKET NUMBER (2) 0 5 0 0 0 3 4 4 | LER NUMBER (8) | | | PAGE (3) | | |
| | | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | | | |
| | | 8 5 | — 0 0 5 | — 0 0 | 0 2 | OF | 0 4 |

TEXT (If more space is required, use additional NRC Form 306A's) (17)

Description of Event

On June 1, 1985, the plant was in a maintenance and refueling outage with the core unloaded and scheduled outage work in progress. Containment integrity was not required to be established. Local leak rate testing was being performed on penetration P-50, the 'B' train recirculation sump suction line, in accordance with Periodic Engineering Test (PET) 5-2, "Containment Local Leak Rate Testing". During the test a 1/2-inch circumferential crack was discovered in a 3/4-inch Schedule 40 test connection pipe. The test connection (see Figure 1) is located between MO8811B and penetration P-50. The recirculation sump suction line is not in use during normal operation. During pressurization of the penetration piping to determine leakage across MO8811B, a large air leak was audibly apparent. Upon investigation, the 1/2-inch circumferential crack was discovered near the weld-base metal interface on the test connection pipe where it is welded into a socket on the 18-inch recirculation pipe. The crack had initiated on the outside diameter of the pipe.

During operation the containment isolation valve (MO2069B) located inside containment for this penetration is normally open. With the failed pipe outside containment, a direct path existed between the containment and the Auxiliary Building.

Cause of Occurrence

A laboratory analysis of the failure determined that the pipe exhibited fatigue failure. The pipe failed after approximately 3800-4000 cycles.

The crack, which initiated on the outside diameter of the pipe, was in a location where the total stress from using a pipe wrench to install and remove the cap and test fittings would be the greatest. It is believed a number of cycles occurred each time the cap or test fittings were installed or removed and these accumulated cycles could have partially contributed to the failure. It is not presumed these actions, however, account for the entire 4000 cycles. Since this line is not normally in use, the cause of the majority of the cycles is unknown. For this reason, the pipe will be examined during the next refueling outage. The test connection pipe has not been modified or replaced since original plant construction.

Corrective Action

Immediate corrective action was taken to replace the failed pipe. In addition, all similar Schedule 40 test connections have been examined using the dye penetrant method to determine if similar failures exist. No similar failures were found through these examinations or through other local leak rate tests performed. This failure appears to be an isolated case.

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

Additional corrective action will be taken to evaluate the method used for installing and removing the cap and test fittings on the test connection in question. If appropriate, training will be conducted and/or new tooling devised to prevent excessive force from being applied to the test connection piping. In addition, the subject pipe will be examined by the dye penetrant method during the 1986 refueling outage.

Significance of Occurrence

This event had no effect on plant or public safety. Penetration P-50 was tested for leakage during the 1984 refueling outage and the test connection was intact. The test connection leakage would have been into the Auxiliary Building and the Auxiliary Building ventilation exhaust is monitored by an effluent radiation monitor (PRM-2).

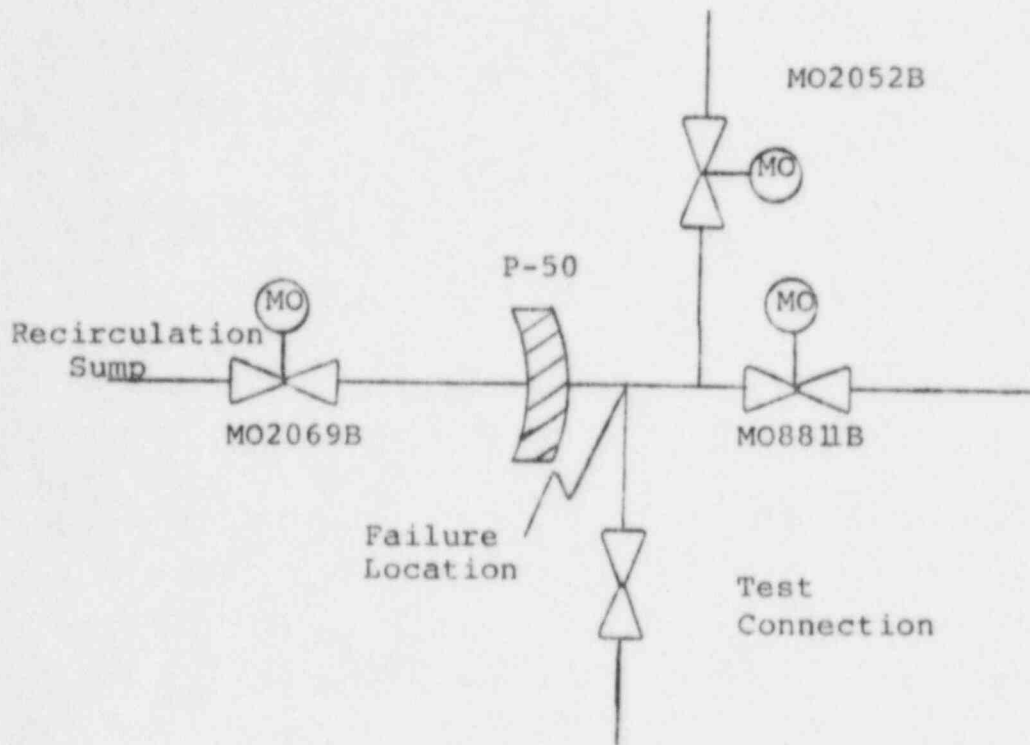


Figure 1

FGE



Portland General Electric Company
Trojan Nuclear Plant
P.O. Box 439
Rainier, Oregon 97048
(503) 556-3713

July 1, 1985
WSO-436-85

US Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Gentlemen:

Licensee Event Report No. 85-05 is attached.

Sincerely,

W. S. Orser
General Manager

WSO/DRK/SAB:pat

Attachment

c: Distribution
File: 93.24a

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