

LICENSEE EVENT REPORT (LER)

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|--|-----------|---|----------------|-------------------|-----------------|------------------|-----------------|-----------|----------------|--|--|-------------------------------|--|--|-----|------|-----|--|--|----------------------|--|
| FACILITY NAME (1) Salem Generating Station - Unit 1 | | | | | | | | | | DOCKET NUMBER (2) 0 5 0 0 0 2 7 2 1 | | | | | | | | | | PAGE (3) 1 OF 0 4 | |
| TITLE (4) Weld Area Degradation of No. 12 Component Cooling Heat Exchanger Service Water Piping | | | | | | | | | | | | | | | | | | | | | |
| 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 5 0 0 0 | | | | | | | |
| 0 3 | 0 9 | 8 4 | 8 4 | 0 0 8 | 0 0 0 | 0 4 | 0 5 | 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) | | | | | | | | | | | | | | | | | | | |
| 5 | | 20.402(b) | | | | 20.405(e) | | | | 50.73(a)(2)(iv) | | | | 73.71(b) | | | | | | | |
| POWER LEVEL (10) | | 20.405(a)(1)(i) | | | | 50.36(e)(1) | | | | 50.73(a)(2)(v) | | | | 73.71(e) | | | | | | | |
| 0 0 0 | | 20.405(a)(1)(ii) | | | | 50.36(e)(2) | | | | 50.73(a)(2)(vi) | | | | 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)(vii)(A) | | | | | | | | | | | |
| | | 20.405(a)(1)(iv) | | | | 50.73(a)(2)(ii) | | | | 50.73(a)(2)(vii)(B) | | | | | | | | | | | |
| | | 20.405(a)(1)(v) | | | | 50.73(a)(2)(iii) | | | | 50.73(a)(2)(x) | | | | | | | | | | | |
| LICENSEE CONTACT FOR THIS LER (12) | | | | | | | | | | | | | | | | | | | | | |
| NAME J. L. Rupp | | | | | | | | | | TELEPHONE NUMBER | | | | | | | | | | | |
| | | | | | | | | | | AREA CODE 6 0 9 3 3 9 - 4 3 0 9 | | | | | | | | | | | |
| 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 | | | | | | | | | | | |
| X | B I P S P | P 4 5 3 | | Y | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| SUPPLEMENTAL REPORT EXPECTED (14) | | | | | | | | | | | | EXPECTED SUBMISSION DATE (15) | | MONTH | DAY | YEAR | | | | | |
| <input checked="" type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE) | | | | | | | | | | | | NO | | 0 8 | | 0 1 | 8 4 | | | | |

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

On March 9, 1984, during a refueling outage, radiography of sixteen (16) welds, in the Service Water piping associated with No. 12 Component Cooling Heat Exchanger, revealed possible indications in the vicinity of nine (9) of the welds. A coupon was removed and sent to PSE&G Research Corporation and to the University of Delaware for analysis. Preliminary results reveal that the degradation is in the base material. There is no evidence of weld degradation. This radiography was performed as the result of weld repairs which were effected during the previous refueling outage. The previous repairs were performed because of weld degradation, which was related to bio-fouling (LER 82-091/01X-1 documented that occurrence). The piping degradation is not believed to be sufficient enough to have prevented the system from functioning as designed. A suitable repair will be decided upon when the cause has been determined. A supplemental report will be issued upon resolution of the matter. This occurrence involved no undue risk to the health or safety of the public. Because of the degraded condition of this safety-related system, this report is being submitted in accordance with 10CFR 50.73(a)(2)(v).

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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PLANT AND SYSTEM IDENTIFICATION:

Westinghouse - Pressurized Water Reactor

Energy Industry Identification System (EIIS) codes are indentified in the text as [XX].

IDENTIFICATION OF OCCURRENCE:

Weld Area Degradation of No. 12 Component Cooling Heat Exchanger Service Water Piping

Event Date: 03/09/84

Report Date: 04/05/84

This report was initiated by Incident Report No. 84-042

CONDITIONS PRIOR TO OCCURRENCE:

Mode 5 - Rx Power 000 % - Unit Load 0000 MWe

DESCRIPTION OF OCCURRENCE:

On November 21, 1982, during a refueling outage, leakage was discovered from a weld on the Service Water [BI] piping to No. 12 Component Cooling Water Exchanger [CC]. Subsequent radiography on November 23, 1982, revealed that a pocket existed in the joint. Extensive radiography of similar joints revealed that a majority of the welds were possibly degraded. Due to the significant number of problems apparent by November 30, 1982, prompt notification was made to the USNRC, with written confirmation transmitted later that day. LER 82-091/01T, dated December 8, 1982, documented that occurrence.

A supplement to the original report, LER 82-091/01X-1, dated June 8, 1983, documented the apparent cause and corrective action. A summary of that report is as follows: The joints of concern were located on four to twenty-four inch (4"-24") diameter stainless steel Service Water piping to the heat exchanger. The piping was made up of subassemblies, whose joints were shop assembled utilizing 316 stainless steel consumable inserts for the root passes, with the remainder of the joint completed with 16-8-2 filler metal. These subassemblies were then welded together in the field using backing rings and 308 stainless steel filler metal. The degraded welds consisted of both shop and field welds. Samples of the degraded welds were removed from the affected piping and sent to the PSE&G Research Corporation for evaluation. The test results revealed that

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DESCRIPTION OF OCCURRENCE: (cont'd)

the degradation was weld metal corrosion of the circumferential welds, related to bio-fouling. In addition, on the field welds, the backing rings supplied a crevice which accelerated the corrosion. Minimum corrosion was evident in the base pipe material. Accelerated corrosion tests on weld specimens utilizing various filler materials were performed. Test results showed that Inconel 625 filler metal offered the best corrosion resistance, and the best compatibility with the 316 stainless piping. Based on these findings, all welds in the stainless steel Service Water piping to No. 12 Component Cooling Heat Exchanger were repaired using the Inconel 625 filler metal.

As a result of that occurrence, PSE&G decided to perform follow-up radiographic inspections of a percentage of the repaired welds during the next refueling outage. On March 9, 1984, radiography of sixteen (16) of the welds revealed possible indications in the vicinity of nine (9) of the welds. A coupon was removed from one of the weld areas and sent to PSE&G Research Corporation and to the University of Delaware for analysis. In addition, one-hundred percent (100%) of the accessible welds associated with No. 12 Component Cooling Heat Exchanger stainless steel Service Water piping are being radiographed. Preliminary results reveal that the degradation is in the base material. There is presently no evidence of weld degradation.

APPARENT CAUSE OF OCCURRENCE:

The cause of the degradation is still under investigation.

ANALYSIS OF OCCURRENCE:

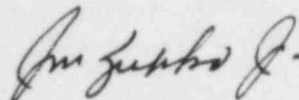
The operability of the Component Cooling System ensures that sufficient cooling capacity is available for continued operation of safety-related equipment during normal and accident conditions. The redundant cooling capacity of the system, assuming a single failure, is consistent with the assumptions used in the FSAR. The piping indications were found while the unit was shutdown, and prior to the system being excessively degraded. The piping degradation is not believed to be sufficient enough to have prevented the system from functioning as designed. This occurrence involved no undue risk to the health or safety of the public. Because of the degraded condition of this safety-related system, this report is being submitted in accordance with the Code of Federal Regulations, 10CFR 50.73(a)(2)(v).

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CORRECTIVE ACTION:

A suitable repair will be decided upon when the cause has been determined. A supplemental report will be submitted upon final resolution of the matter, documenting the apparent cause, and corrective action taken.



General Manager--
Salem Operations

JLR:tns

SORC Mtg 84-038



Public Service Electric and Gas Company P.O. Box E Hancocks Bridge, New Jersey 08038

Salem Generating Station

April 5, 1984

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Dear Sir:

SALEM GENERATING STATION
LICENSE NO. DPR-70
DOCKET NO. 50-272
UNIT NO. 1
LICENSEE EVENT REPORT 84-008-00

This Licensee Event Report is being submitted pursuant to the requirements of 10CFR 50.73(a)(2)(v). This report is required within thirty (30) days of discovery.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "J. M. Zupko, Jr.".

J. M. Zupko, Jr.
General Manager -
Salem Operations

JR:k11 *9/87*

CC: Distribution

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