



PSEG

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

Salem Generating Station

January 10, 1983

Mr. R. C. Haynes
Regional Administrator
USNRC
Region 1
631 Park Avenue
King of Prussia, Pennsylvania 19406

Dear Mr. Haynes

LICENSE NO. DPR-70
DOCKET NO. 50-272
REPORTABLE OCCURRENCE 82-02/01X-2
SUPPLEMENTAL REPORT

Pursuant to the requirements of Salem Generating Station
Unit No. 1 Technical Specifications, Section 6.9.1.9.b,
we are submitting supplemental Licensee Event Report for
Reportable Occurrence 82-02/01X-2.

Sincerely yours,

H. J. Midura
General Manager -
Salem Operations

RH:ks *782*

CC: Distribution

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S PDR

Report Number: 82-02/01X-2
Report Date: 12-29-82
Occurrence Date: 01-19-82
Facility: Salem Generating Station, Unit 1
Public Service Electric & Gas Company
Hancocks Bridge, New Jersey 08038

IDENTIFICATION OF OCCURRENCE:

No. 14 Steam Generator - Defective Tubes.

This report was initiated by Incident Report 82-023.

CONDITIONS PRIOR TO OCCURRENCE:

Mode 6 - Rx Power 0% - Unit Load 0 MWe

DESCRIPTION OF OCCURRENCE:

On January 19, 1982, during the third refueling outage of Salem Unit No. 1, while performing surveillance requirements 4.4.5.0, 4.4.5.1, and 4.4.5.2 to demonstrate steam generator operability, indications of wastage (thinning) on the tube outside diameter was detected by multi-frequency eddy current examination. These indications are concentrated on the peripheral tubes at the first, second and third support plates in the cold leg side of the generator. The inward most indication is located not more than 5 rows in from the edge of the tube sheet.

No. 12 Steam Generator first sample inspection of 539 tubes included 12% of 3388 (408) tubes required by Technical Specification, and an additional 131 tubes to cover areas recommended by Westinghouse. The results were 3 tubes defective and 2 tubes degraded. A second sample 12% of 3388 (408) tubes, as required by C-2 result in Technical Specification Table 4.4-2, was taken. This sample concentrated on the periphery and was conducted from the cold leg side. No additional defective or degraded tubes were found.

No. 14 Steam Generator first sample inspection was originally 80 tubes by eddy current techniques and 52 tubes for a profilometry field trial. As a result of No. 12 Steam Generator inspection, this first sample was expanded to include tubes in the periphery and the examinations were conducted from the cold leg side. With profilometry field trials being cancelled, the first sample size was 229 tubes. The results of this inspection was 2 tubes defective and 11 tubes degraded. A second sample 12% of 3388 (408) tubes, as required by C-2 result in Technical Specification Table 4.4-2, was taken. An additional 6 defective and 13 degraded tubes were found, placing No. 14 Steam Generator in a C-3 result in Technical Specification Table 4.4-2.

Additional samples were taken in No. 14 Steam Generator of 916 tubes to thoroughly cover the periphery tubes and insure that an area well beyond the innermost indication was free from defective or degraded tubes. No additional defective or degraded tubes were found in these areas.

In February, 1982, as required by Technical Specification Table 4.4-2, 12% of the 3388 tubes in each of No. 11 and No. 13 Steam Generators (SG's) were inspected. Six tubes in No. 11 SG were found to have indication of wall thinning greater than 20%. Of those six tubes, 4 tubes had indication of greater than 30% wall thinning and were plugged. Seven tubes in No. 13 SG were found to have indication of wall thinning greater than 20%. Of those seven tubes, 3 tubes had indication of greater than 30% wall thinning and were plugged. These inspection results placed Nos. 11 and 13 SG's into category C-1 and no further inspections were required. However, to provide an additional margin of safety and acquire more information for technical purposes, a second sample of 444 tubes was performed on No. 11 SG, and 427 tubes on No. 13 SG. No additional indications of degraded tubes were discovered on No. 11 SG. Three more degraded tubes were discovered on No. 13 SG. Consequently a third sample of 561 tubes, representing an arc 4 to 5 tubes in from the innermost degraded tube, was examined in No. 13 SG. No further indications of degraded tubes were observed.

The cold leg portion of one tube was removed from No. 14 SG. This was tube R44C62, which had exhibited a 59% thinning of wall indication at the second support plate. Preliminary on-site visual examination of the tube essentially confirmed the eddy current indication. A broad pit or localized wall thinning penetrating approximately halfway through the wall was observed at the location of the second support plate.

ANALYSIS OF OCCURRENCE:

Table 4.4-2 requires:

<u>Result</u>	<u>Action Required</u>
C-1	None
C-2	Plug defective tubes and inspect additional 2S tubes in this S.G.
C-3	Inspect all tubes in this S.G., plug defective tubes and inspect 2S tubes in each other S.G.
$S = 3N\%$ n	Where N is the number of steam generators in the unit, and n is the number of steam generators inspected during an inspection.

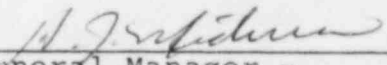
CORRECTIVE ACTION:

The plugging limit for the degraded tubes discovered in Nos. 11, 13, and 14 SG's during the February, 1982 examinations was reduced to 30% wall thinning. The applicable degraded tubes were plugged. Tube R44C62 from No. 14 SG has been sent to the Westinghouse Research and Development Center for metallurgical and chemical analysis.

FAILURE DATA:

Westinghouse Electric Corporation
Steam Generators

Prepared By R. Heller


General Manager -
Salem Operations

SORC Meeting No. 82-114