

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Salem Generating Station - Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 2 7 2	PAGE (3) 1 OF 04
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TITLE (4)
Fire Barrier Dampers Inadequate Due To Inadequate Review of Procurement Documents

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)
03	23	88	88	007	00	04	22	88	Salem Unit 2		050003111
											05000

OPERATING MODE (9) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)									
POWER LEVEL (10) 11010	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.408(e)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)						
	<input type="checkbox"/> 20.408(a)(1)(i)	<input type="checkbox"/> 50.38(a)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(e)						
	<input type="checkbox"/> 20.408(a)(1)(ii)	<input type="checkbox"/> 50.38(a)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 388A)						
	<input type="checkbox"/> 20.408(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)							
	<input type="checkbox"/> 20.408(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)							
<input type="checkbox"/> 20.408(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)								

LICENSEE CONTACT FOR THIS LER (12)

NAME M. J. Pollack - LER Coordinator	TELEPHONE NUMBER AREA CODE: 609 339-4022
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
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ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On March 23, 1988, it was identified that several Salem Unit 1 fire dampers are not fire rated nor did several duct sections penetrating barriers have approved fire barrier coating. It is assumed Salem Unit 2 comparable ducts and dampers are also inadequate. Subsequently, Technical Specification Action Statement 3.7.11 was entered upon discovery of the damper and duct inadequacies for both Salem Unit 1 and Salem Unit 2. The dampers in question were installed in 1980. The installation was to be done in accordance with an NRC letter dated January 19, 1979. This letter, requiring the installation of 3 hour rated fire dampers, was superceded by an approved exemption request dated September 16, 1982 which accepted the installation of 1.5 hour rated fire dampers. The root cause of this event has been attributed to personnel error in the engineering review of procurement documentation: It could not be determined why the engineering personnel involved in the preparation and review of the design change packages did not identify the design configuration concern or why not all ducts requiring fire wrap were identified. A continuous or hourly roving fire watch (as appropriate) has been established for the areas where the inadequate dampers/ducts are located. The fire watch will continue until the rating of the installed dampers is confirmed to be adequate or until new, rated dampers are installed. The unwrapped duct sections will either be fire wrapped or have qualified dampers installed. Engineering design and procurement documentation review since 1980 has been significantly improved.

Handwritten initials/signature

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PLANT AND SYSTEM IDENTIFICATION:

Westinghouse - Pressurized Water Reactor

Energy Industry Identification System (EIIS) codes are identified in the text as {xx}

IDENTIFICATION OF OCCURRENCE:

Fire Barrier Dampers Inadequate Due To Inadequate Review of Procurement Documents

Discovery Date: 03/23/88

Report Date: 04/21/88

This report was initiated by Incident Report No. 88-108.

CONDITIONS PRIOR TO OCCURRENCE:

Unit 1: Mode 1 Reactor Power 100% - Unit Load 1160 MWe
Unit 2: Mode 1 Reactor Power 100% - Unit Load 1150 MWe

DESCRIPTION OF OCCURRENCE:

On March 23, 1988, it was identified that several Salem Unit 1 fire dampers {VF} are not fire rated nor did several duct sections {VF} penetrating barriers have approved fire barrier coating. It is assumed Salem Unit 2 comparable ducts and dampers are also inadequate. Subsequently, Technical Specification Action Statement 3.7.11 was entered upon discovery of the damper and duct inadequacies for both Salem Unit 1 and Salem Unit 2.

The inadequate dampers and duct sections were identified as part of the on-going PSE&G task force established to review and evaluate Salem Station's compliance with the requirements of the Code of Federal Regulations 10CFR 50, Appendix R (reference Salem Unit 2 LER 311/87-009-06). The dampers in question were installed in 1980 as per Design Change Request Package Nos. 1EC-0486, 2EC-0487, 1EC-0488, and 2EC-0489. The installation was to be done in accordance with an NRC letter dated January 19, 1979. This letter, requiring the installation of 3 hour rated fire dampers, was superceded by an approved exemption request dated September 16, 1982 which accepted the installation of 1.5 hour rated fire dampers.

Technical Specification 3.7.11 states:

"All fire barrier penetrations (including cable penetration barriers, fire doors and fire dampers), in fire zone boundaries, protecting safety related areas shall be functional."

Technical Specification Action Statement 3.7.11.a states:

"With one or more of the above required fire barrier penetrations non-functional, within one hour either establish a continuous

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DESCRIPTION OF OCCURRENCE: (cont'd)

fire watch on at least one side of the affected penetration, or verify the OPERABILITY of fire detectors on at least one side of the non-functional fire barrier and establish an hourly fire watch patrol. Restore the non-functional fire barrier penetration(s) to functional status within 7 days or, in lieu of any other report required by Specification 6.9.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the non-functional penetration and plans and schedule for restoring the fire barrier penetration(s) to functional status."

Note - Unit 1 Technical Specification 3.7.11 differs from Unit 2. The Unit 1 words "functional" and "non-functional" are replaced by the words "OPERABLE" and "inoperable".

A report to the Nuclear Regulatory Commission (NRC) identifying the circumstances surrounding this event was made at 1520 hours on March 23, 1988 in accordance with NRC Code of Federal Regulations 10CFR 50.72(b)(ii)(A).

APPARENT CAUSE OF OCCURRENCE:

The root cause of this event has been attributed to personnel error in the engineering review of procurement documentation. Since this event occurred in 1980, specific root cause determination could not be made.

The damper design configuration includes multiple individual rated dampers in one frame which are operated by a common operating rod. The individual dampers are 1.5 hour UL rated. However, the designed configuration (multiple dampers acting as one) was not tested and therefore not UL rated. The manufacturer of the single dampers had assembled the "multi-damper unit". The specification and qualification of the multi-damper unit was addressed by procurement documentation. Engineering review of the vendor quotation did not identify the vendor exception to the qualification.

The vendor quotation states "UL and seismic rated modules: maximum 31"W x 33"H for horizontal installation; 36"W x 45"H for vertical mounting". This statement does not clearly identify if the multi-damper unit retains the qualification of the individual listed dampers.

It could not be determined why the engineering personnel involved in the preparation and review of the design change packages did not identify the design configuration concern or why not all ducts requiring fire wrap were identified.

ANALYSIS OF OCCURRENCE:

The functional integrity of the penetration fire barriers ensures that fires will be confined or adequately retarded from spreading to adjacent portions of the facility. This design feature minimizes the

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ANALYSIS OF OCCURRENCE: (cont'd)

possibility of a single fire involving several areas of the facility. The penetration fire barriers are a passive element in the facility fire protection program and are subject to periodic inspections. However, because the fire barrier was impaired for an undetermined length of time with no posted permanent or one hour roving fire patrol (as per Technical Specification Action Statement 3.7.11.a) this event is reportable in accordance with Code of Federal Regulations 10CFR 50.73(a)(2)(i)(B). This report also satisfies the reporting requirements of Technical Specification Action Statement 3.7.11.a pursuant to Technical Specification 6.9.2 since the time between discovery and eventual repair of the fire barrier impairments is greater than seven (7) days. Appropriate actions were taken in accordance with the requirements of Technical Specification Action Statement 3.7.11.a to establish a one hour roving fire watch for the impaired fire barriers once the impairment was identified.

With the dampers and ducts providing inadequate fire seals it cannot be assured a fire in one area would not affect an adjacent area. However, the areas on both sides of the ducts and dampers contain detection in addition to the roving fire watch patrol or continuous fire watch (as applicable). Therefore, it is reasonable to assume a fire in either area would have been detected and extinguished before it could involve the adjacent area. This occurrence therefore involved no undue risk to the health or safety of the public.

CORRECTIVE ACTION:

A continuous or hourly roving fire watch (as appropriate) has been established for the areas where the inadequate dampers/ducts are located. The fire watch will continue until the rating of the installed dampers is confirmed to be adequate or until new, rated dampers are installed.

The Appendix R task force review of dampers has been completed. No other damper concerns have been identified.

The unwrapped duct sections will either be fire wrapped or have qualified dampers installed.

Engineering, design and procurement documentation review since 1980 has been significantly improved. These improvements include peer technical review, Systems Analysis Group (SAG) review, station System Engineer review, and more detailed procurement documentation requirements. Additionally, the Procurement Department is staffed with engineers. These improvements in the design, engineering and procurement areas preclude this type of event from occurring today.

JM Eupko/pw
 General Manager -
 Salem Operations



PSEG

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

Salem Generating Station

April 22, 1988

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 88-007-00

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

Sincerely yours,

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

MJP:pc

Distribution

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