

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) SALEM GENERATING STATION UNIT 1	DOCKET NUMBER (2) 05000272	PAGE (3) 1 of 5
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TITLE (4)
INADEQUATE TESTING OF THE SALEM UNIT 1 CONTAINMENT AIR LOCKS RESULTED IN ENTERING TECHNICAL SPECIFICATION 3.0.3.

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 NAME	DOCKET NUMBER
03	23	98	98	08	-- 00	04		98	Salem Generating Station Unit 2	05000311
									FACILITY NAME	DOCKET NUMBER
										05000

OPERATING MODE (9) 5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)										
POWER LEVEL (10) 0	20.2201(b)			20.2203(a)(2)(v)			x 50.73(a)(2)(i)			50.73(a)(2)(viii)	
	20.2203(a)(1)			20.2203(a)(3)(i)			50.73(a)(2)(ii)			50.73(a)(2)(x)	
	20.2203(a)(2)(i)			20.2203(a)(3)(ii)			50.73(a)(2)(iii)			73.71	
	20.2203(a)(2)(ii)			20.2203(a)(4)			50.73(a)(2)(iv)			OTHER	
	20.2203(a)(2)(iii)			50.36(c)(1)			50.73(a)(2)(v)			Specify in Abstract below or in NRC Form 366A	
20.2203(a)(2)(iv)			50.36(c)(2)			50.73(a)(2)(vii)					

LICENSEE CONTACT FOR THIS LER (12)

NAME E. H. Villar, Station Licensing Engineer	TELEPHONE NUMBER (Include Area Code) (609) 339-5456
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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)				EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE).	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>					

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

During a periodic performance of S1.RA-IS.ZZ-0001(Q), "Type B Mechanical Penetration Leak Rate Testing", In-Service inspection personnel noted that the Schrader valve that controls the air supply to the exterior door was not fulfilling its intended function. This condition meant that no air was being supplied to the exterior door seal during the performance of the leak rate test under procedure S1.OP-ST.CAN-0004(Q) "Containment Air Lock Local Leak Rate Test." This resulted in a failure to meet the surveillance requirements of Technical Specification 3.6.1.3. for both Unit 1 containment air locks, and Technical Specification 3.0.3 was entered. The most probable cause is attributed to less-than-adequate practices during the replacement of the equalizing valve in accordance with a design change package. Corrective actions taken were to correct the Schrader valve linkage for both Salem Unit 1 containment air locks. The leak rate test was performed satisfactorily, and the Salem Unit 2 airlocks were inspected and found to be working properly.

This condition represents a reportable condition under the provisions of 10CFR50.73(a)(2)(i)(B).

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

PLANT AND SYSTEM IDENTIFICATION

Westinghouse - Pressurized Water Reactor

Containment Air Lock {NH/AL}*

* Energy Industry Identification System (EIIS) codes and component function identifier codes appear in the text as {SS/CCC}.

IDENTIFICATION OF OCCURRENCE

Identification Date: March 23, 1998.

Reportability Date: March 23, 1998.

Report Date: April 22, 1998.

CONDITIONS PRIOR TO OCCURRENCE

Unit 1: Mode 5

There were no structures, components, or systems that were inoperable at the start of the event that contributed to the event.

DESCRIPTION OF OCCURRENCE

On March 23, 1998, during a periodic performance of S1.RA-IS.ZZ-0001(Q), "Type B Mechanical Penetration Leak Rate Testing", In-Service Inspection (ISI) personnel noted that the Schrader valve that controls the air supply to the 100 foot elevation exterior containment air lock door was not functioning properly.

The 3-way Schrader valve is a vendor-supplied shutoff valve downstream of isolation valve 1CA1722 (control air isolation valve for the Unit 1 100 foot elevation air lock). The Schrader valve is engaged by a mechanical arm which is linked to the handwheel for the exterior containment air lock door such that the Schrader valve is open when the exterior containment air lock door is closed. The Schrader valve when engaged by the door interlock mechanism (door full closed) allows control air to be supplied to both containment air lock doors (inner and outer doors). Specifically, air is supplied to the space between the double seal and the knife edge that presses against them.

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DESCRIPTION OF OCCURRENCE (cont'd)

During the testing of the Unit 1 air locks, ISI personnel identified that: (1) one of the fasteners on the mechanical linkage was loose, and (2) one of the mechanical arms was bent such that a hard contact with the Schrader valve was not being made when the door was closed. In this condition, the interlock mechanism was not engaging the Schrader valve. Therefore, the outer containment air lock door seal was not being tested during the performance of the leak rate test under procedure S1.RA-IS.ZZ-0001(Q), and the performance of S1.OP-ST.CAN-0004(Q), "Containment Air Lock Local Leak Rate Test." As a result of this condition, the Schrader valve for the 130 foot elevation containment air lock was inspected and a similar condition was identified by ISI personnel.

These conditions resulted in a failure to meet the surveillance requirements of Technical Specification 3.6.1.3. Technical Specification 3.6.1.3 requires each containment air lock to be operable in Modes 1 through 4. With an inoperable air lock, TS requires that the air lock be restored to operable within 24 hours or be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Since TS 3.6.1.3 Action does not allow more than one door to be inoperable, on March 23 at approximately 1400 hours, the control room operators declared both containment air locks inoperable, and entered Technical Specification 3.0.3. At approximately 1447 hours, on the same day, repairs to the air locks were performed, the containment air locks were retested satisfactorily in accordance with the provisions of Technical Specifications 4.0.3, and Technical Specifications 3.0.3 was exited.

This condition, however, represents a reportable condition under the provisions of 10CFR50.73(a)(2)(i)(B).

APPARENT CAUSE OF OCCURRENCE

The most probable root cause is attributed to less-than-adequate work practices during the replacement of the equalizing valve.

The Schrader valve is located inside the airlock in the upper right corner (facing the exterior door). It is directly below the equalizing valve. The Schrader valve is relatively protected from incidental contact due to normal traffic through the airlock. Therefore, it is highly unlikely that the observed condition could have occurred as a result of incidental contact by personnel while passing through the airlock.

Investigation into this event, however, identified that the equalizing valve had been recently replaced in accordance with Design Change Package (DCP) 1EE00130 and work order 950905417 for both Unit 1 airlocks.

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APPARENT CAUSE OF OCCURRENCE (cont'd)

This work was completed just prior Unit 1 entering Mode 4. To replace the equalizing valve, it was necessary to do work on the mechanical linkage. A review of the DCP required testing indicated that a post modification leak rate test was performed satisfactorily using procedure S1.RA-IS.ZZ-0001(Q) on both containment air lock doors. Less than adequate work practices appeared to have, over time, resulted in the loosening of the fasteners. The loosening of the fasteners could have allowed the mechanical arm to be out-of-position such that the arm was slightly bent (in a direction parallel to its motion) when the door was closed.

PREVIOUS OCCURRENCES

A review of the LER database for Salem Units 1 and 2 issued in the last two years identified another LER involving containment air locks. Although not a similar occurrence, it is included for completeness of reporting. LER 272/96-005-16 "Inadequate Technical Specification Testing - Containment Airlock Gasket Leakage" was issued on January 21, 1998. This LER involved the failure to properly implement Technical Specification 4.6.1.3.a. Specifically, procedure S1.OP-ST.CAN-0004(Q) contained an acceptance value that was greater than allowed by TS. The corrective actions taken relative to this LER were appropriate for the identified root cause of LER 272/96-005-16, but would not have been expected to identify or prevent this event.

SAFETY CONSEQUENCES AND IMPLICATIONS

There were no safety consequences associated with this event, and the safety implications of a postulated event were minimal.

Although the containment air lock outer door seals were not being tested, the inner seals were always tested satisfactorily. Therefore, the containment air locks (inner seal) were able to maintain the overall leakage below the required Technical Specification limits. Maintaining the overall leakage below the required Technical Specification limits, ensures that the assumptions used in the dose analysis remain valid.

Additionally, because Unit 1 had been shutdown for over two years, the activity contained within the fuel has been demonstrated by Engineering Evaluation to be much lower than the activity expected when compared with a normal refueling outage.

Based on the above, there was no impact to the health and safety of the public.

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CORRECTIVE ACTIONS

1. The Schrader valve linkage was repaired for both Salem Unit 1 containment air locks, and the leak rate test was performed satisfactorily.
2. The Salem Unit 2 airlocks were inspected and found to be working properly.
3. Additional corrective actions may be taken, as appropriate, upon completion of the level 2 condition report.
4. This event will be incorporated in the 1998 Maintenance Continuing Training for lessons learned.