

DEC 13 2002



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U. S. Nuclear Regulatory Commission  
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Washington, DC 20555

**LER 272 / 2002- 007 - 00**  
**SALEM GENERATING STATION UNIT 1**  
**FACILITY OPERATING LICENSE DPR- 70**  
**DOCKET NO. 50-272**

Dear Sir or Madam:

This Licensee Event Report entitled "Core Alterations Performed Without Direct Communications" is being submitted pursuant to the requirements of 10CFR50.73(a)(2)(i)(B). The attached LER contains no commitments.

Sincerely,

A handwritten signature in black ink, appearing to read "L. H. Waldinger", written over a circular scribble.

L. H. Waldinger  
Director Site Operations

Attachment

/KMB

C Distribution  
RTL 3E.111

IE22

C: Mr. H. Miller, Administrator – Region I  
U. S. Nuclear Regulatory Commission  
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King of Prussia, PA 19406

Mr. R. Fretz, Project Manager - Salem  
U. S. Nuclear Regulatory Commission  
Mail Stop 8B2  
Washington, DC 20555

USNRC Senior Resident Inspector - Salem (X24)

Mr. K. Tosch, Manager IV  
Bureau of Nuclear Engineering  
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Trenton, New Jersey 08625

**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 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

<b>1. FACILITY NAME</b> SALEM GENERATING STATION UNIT 1	<b>2. DOCKET NUMBER</b> 05000272	<b>3. PAGE</b> 1 OF 4
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**4. TITLE**  
CORE ALTERATIONS PERFORMED WITHOUT DIRECT COMMUNICATIONS

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED		
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER	
10	16	02	02	- 007 -	00	12	13	02		05000	
									FACILITY NAME	DOCKET NUMBER	
										05000	
<b>9. OPERATING MODE</b>		6		<b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)</b>							
<b>10. POWER LEVEL</b>		0		20 2201(b)		20.2203(a)(3)(i)		50.73(a)(2)(i)(B)		50.73(a)(2)(x)(A)	
				20 2201(d)		20.2203(a)(4)		50.73(a)(2)(ii)		50.73(a)(2)(x)	
				20 2203(a)(1)		50.36(c)(1)(i)(A)		50.73(a)(2)(iv)(A)		73.71(a)(4)	
				20.2203(a)(2)(i)		50.36(c)(1)(ii)(A)		50.73(a)(2)(v)(A)		73.71(a)(5)	
				20 2203(a)(2)(ii)		50 36(c)(2)		50.73(a)(2)(v)(B)		OTHER	
				20 2203(a)(2)(iii)		50 46(a)(3)(ii)		50 73(a)(2)(v)(C)		Specify in Abstract below or in NRC Form 366A	
				20 2203(a)(2)(iv)		50.73(a)(2)(i)(A)		50 73(a)(2)(v)(D)			
				20 2203(a)(2)(v)		X 50.73(a)(2)(i)(B)		50 73(a)(2)(vii)			
				20 2203(a)(2)(vi)		50 73(a)(2)(i)(C)		50 73(a)(2)(viii)(A)			
				20 2203(a)(3)(i)		50.73(a)(2)(ii)(A)		50 73(a)(2)(viii)(B)			

**12. LICENSEE CONTACT FOR THIS LER**

<b>NAME</b> Kennard M. Buddenbohn, Licensing Engineer	<b>TELEPHONE NUMBER (Include Area Code)</b> 856-339-5653
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**13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT**

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

<b>14. SUPPLEMENTAL REPORT EXPECTED</b>				<b>15. EXPECTED SUBMISSION DATE</b>		
YES (If yes, complete EXPECTED SUBMISSION DATE)	X	NO		MONTH	DAY	YEAR

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

On October 16, 2002 at approximately 1200 hours, lifting of the upper internals from the reactor vessel (defined as a CORE ALTERATION in Technical Specifications) was commenced and continued until the upper internals were placed in their stand without incident. Technical Specification 3.9.5 states "Direct communication shall be maintained between the control room and personnel at the refueling station" and is applicable during CORE ALTERATIONS. Although the licensed operator maintained intermittent communication with control room operators, direct communication through the use of dedicated personnel on headsets on the refueling floor and in the control room did not occur.

The apparent cause for this event was conflicting procedural definitions of what constitutes a core alteration. A contributing cause includes the lack of procedural guidance clearly defining whose responsibility it is to ensure that communications are established and maintained between the control room and refueling floor. Another contributing cause was a less than adequate pre job brief.

Corrective actions include procedure revisions for clarification, initiation of a license change request, and review of the event with affected personnel.

This event is reportable in accordance with 10CFR50.73(a)(2)(i)(B) as an operation or condition that is prohibited by the plant's Technical Specification.

**LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION**

FACILITY NAME (1)	DOCKET (2) NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
SALEM UNIT 1	05000272	02	007	00	2 OF 4

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

**PLANT AND SYSTEM IDENTIFICATION**

Westinghouse – Pressurized Water Reactor

\* Energy Industry Identification System {EIS} codes and component function identifier codes appear as (SS/CCC)

**IDENTIFICATION OF OCCURRENCE**

Event Date: October 16, 2002

Discovery Date: October 16, 2002

**CONDITIONS PRIOR TO OCCURRENCE**

Salem Unit 1 was in Mode 6 with core alterations in progress. No structures, systems, or components were inoperable at the time of the occurrence that contributed to the event.

**DESCRIPTION OF OCCURRENCE**

On October 16, 2002 at approximately 1200 hours, lifting of the upper internals from the reactor vessel (defined as a CORE ALTERATION in Technical Specification 1.9) was commenced in containment. The Salem 1 fifteenth refueling outage (S1R15) was in progress.

Technical Specification Definition 1.9 states a CORE ALTERATION shall be the movement or manipulation of any component within the reactor pressure vessel with the vessel head removed and fuel in the vessel. Technical Specification Limiting Condition for Operation 3.9.5 states direct communication shall be maintained between the control room and personnel at the refueling station and is applicable during CORE ALTERATIONS.

At the start of unlatching of the control rods, communication via headset between the control room and the refueling floor was established. After control rod unlatching was completed, contractor personnel who were stationed in the control room manning the headsets left the control room. Direct communication through the use of dedicated personnel on headsets on the refueling floor and in the control room was not reestablished for the upper internals lift; however the refueling licensed operator and the Control Room Supervisor communicated intermittently by telephone during the evolution.

The upper internals lift was completed without incident.

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

**CAUSE OF OCCURRENCE**

The apparent cause for this event was conflicting procedural definitions of what constitutes a core alteration. The refueling procedure and the maintenance procedure for moving the upper internals contain conflicting definitions of what constitutes a core alteration. The operations integrated operating procedure does not contain guidance concerning required communications. Contractor and utility licensed personnel believed that upper internals movement was not a core alteration. The contractor personnel involved have performed this task at other stations that have adopted the Westinghouse Owners Group improved standard technical specifications (ISTS). CORE ALTERATION (as defined in the ISTS) "shall be the movement of any fuel, sources, or reactivity control components, within the reactor vessel with the vessel head removed and fuel in the vessel." Stations that have adopted the ISTS do not consider lifting of the upper internals a core alteration and therefore would not be expected to require direct communications to be established.

A contributing cause includes lack of procedural guidance clearly defining whose responsibility it is to ensure that communications are established and maintained between the control room and refueling floor. Another contributing cause was a less than adequate pre-job brief. The pre-job brief did not discuss direct communication requirements for the upper internals lift evolution.

**PRIOR SIMILAR OCCURRENCES**

A review of LERs at Salem and Hope Creek generating stations for 2001 and 2002 determined that no other reportable events occurred related to conflicting procedural definitions related to core alterations. However LER 2001-004-00 reported an event that occurred on April 13, 2001 related to the performance of core alterations while a boration flow path was inoperable. The apparent cause was attributed to human error in not properly linking in the outage schedule that the removal of the equipment hatch impacted the operable boration flow path. Corrective actions associated with this event would not have been expected to preclude the performance of core alterations during S1R15 without direct communication. Corrective actions focused on the identification of the proper sequence of work activities during outages and procedural guidance for removing Emergency Diesel Generators from service during outages.

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

**SAFETY CONSEQUENCES AND IMPLICATIONS**

The reactor was shutdown and a refueling outage was in progress. There was no impact to safety systems or components that are needed to shutdown the reactor and maintain safe shutdown conditions, remove residual heat, control the release of radioactive material, or mitigate the consequences of an accident due to this event. All systems maintained their ability to perform as designed. Technical specification 3.9.5 applies only during refueling outages and only when moving items within the reactor vessel. Based on the above, there was no impact to the health and safety of the public.

A review of this condition determined that a Safety System Functional Failure (SSFF) did not occur as defined in Nuclear Energy Institute (NEI) 99-02.

**CORRECTIVE ACTIONS:**

1. An immediate corrective action was taken to issue a Temporary Standing Order to clarify roles and responsibilities, and define direct communication between the control room and the fuel handling building or refueling floor. This order was reviewed with refueling and operating crews.
2. Procedure S1/2.OP-IO.ZZ-0007, "Cold Shutdown to Refueling" will be revised to eliminate conflicting guidance that exists surrounding core alterations, upper internals movement, and the establishment of direct communications.
3. Procedure SC.MD-FR.FH-0011, "Reactor Vessel Upper Internals Removal and Installation" will be revised to eliminate conflicting guidance that exists surrounding core alterations, upper internals movement, and the establishment of direct communications.
4. Procedure SC.RE-FR.ZZ-0019, "Refueling" was revised to ensure continuous communications are maintained between the Control Room and Containment during core alterations.
5. Human performance aspects of the causal factors (i.e., conflicting procedures, lack of discussion of direct communication requirements during pre-job briefing for the upper internals lift evolution) have been addressed in accordance with PSEG company policy.

**COMMITMENTS**

The corrective actions cited in this LER are voluntary enhancements and do not constitute commitments.