



DEC 16 2014

LR-N14-0256

10 CFR 50.73

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

LER 272/2014-006-00  
Salem Nuclear Generating Station Unit 1  
Renewed Facility Operating License No. DPR-70  
NRC Docket No. 50-272

SUBJECT: Manual Reactor Trip Due to Main Power Transformer Low Oil Level

The Licensee Event Report, "Manual Reactor Trip Due to Main Power Transformer Low Oil Level" is being submitted pursuant to 10 CFR 50.73(a)(2)(iv)(A), "Any event or condition that resulted in manual or automatic actuation of any of the systems listed in paragraph (a)(2)(iv)(B)..."

The attached LER contains no commitments. Should you have any questions or comments regarding the submittal, please contact David Lafleur of Salem Regulatory Assurance at 856-339-1754.

Sincerely,

A handwritten signature in black ink that reads "John F. Perry".

John F. Perry  
Site Vice President – Salem

Attachments (1)

cc Mr. D. Dorman, Administrator – Region 1, NRC  
Ms. C. Sanders, Licensing Project Manager – Salem, NRC  
Mr. P. Finney, USNRC Senior Resident Inspector, Salem (X24)  
Mr. P. Mulligan, Manager IV, NJBNE  
Mr. T. Joyce, President and Chief Nuclear Officer – Nuclear  
Mr. T. Cachaza, Salem Commitment Tracking Coordinator  
Mr. L. Marabella, Corporate Commitment Tracking Coordinator  
Mr. D. Lafleur, Salem Regulatory Assurance



**LICENSEE EVENT REPORT (LER)**

(See Page 2 for required number of digits/characters for each block)

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to Infocollects.Resource@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 an 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 3
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**4. TITLE** Manual Reactor Trip Due to Main Power Transformer Low Oil Level

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
10	19	2014	2014	- 006	- 000	12	16	2014	FACILITY NAME	DOCKET NUMBER
										<b>05000</b>
										<b>05000</b>

<b>9. OPERATING MODE</b> 1	<b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §:</b> (Check all that apply)									
	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)						
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)						
<b>10. POWER LEVEL</b>  20%	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)						
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)						
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)						
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)						
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)						
	<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER						
	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A						

**12. LICENSEE CONTACT FOR THIS LER**

FACILITY NAME David Lafleur, Senior Compliance Engineer, Salem Regulatory Assurance	TELEPHONE NUMBER (Include Area Code) (856) 339-1754
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**13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT**

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
-	-	-	-	-					

<b>14. SUPPLEMENTAL REPORT EXPECTED</b> <input checked="" type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input type="checkbox"/> NO	<b>15. EXPECTED SUBMISSION DATE</b>	MONTH 04	DAY 10	YEAR 2015
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ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On October 19, 2014, at 2050, while performing a unit shutdown in preparation for its twenty-third refueling outage, Salem unit 1 control room operators initiated a manual reactor trip at approximately 20 percent reactor power. The manual reactor trip was inserted due to concerns with the 1B Main Power Transformer, which had been in service with a known oil leak. All control rods fully inserted on the trip. The auxiliary feedwater system actuated as designed in response to low steam generator levels. Decay heat removal was via the steam dumps to the main condenser. The plant was stabilized in Hot Standby.

A causal evaluation is in progress to review the Salem reactor trip and operator response. The results of this evaluation with respect to this event will be published in a supplement to this LER.

This report is made in accordance with 10 CFR 50.73 (a)(2)(iv)(A), "Any event or condition that resulted in manual or automatic actuation of any of the systems listed in paragraph (a)(2)(iv)(B)..." for a manual reactor trip and for automatic actuation of the auxiliary feedwater system.



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

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to Infocollects.Resource@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 an 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.

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
Salem Generating Station – Unit 1	05000272	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 3
		2014	- 006	- 000	

**NARRATIVE**

**PLANT AND SYSTEM IDENTIFICATION**

Westinghouse - Pressurized Water Reactor {PWR/4}  
Main Power Transformer {EL}  
Auxiliary Feedwater System {BA}  
Steam Generator {AB/SG}

Energy Industry Identification System (EIIIS) codes and component function identifier codes appear as {SS/CCC}.

**IDENTIFICATION OF OCCURRENCE**

Event Date: October 19, 2014

Discovery Date: October 19, 2014

**CONDITIONS PRIOR TO OCCURRENCE**

Salem Unit 1 was in operational Mode 1, performing a unit shutdown in preparation for its twenty-third refueling outage. No additional structures, systems or components were inoperable at the time of discovery that contributed to this event.

**DESCRIPTION OF OCCURRENCE**

On October 19, 2014, at 1500, Salem Unit 1 commenced a power reduction to Hot Standby in preparation for a scheduled refueling outage.

At 1810, control room operators received a phase 2 Main Power Transformer (MPT) trouble overhead annunciator. Local annunciation on the 1B MPT panel indicated a low oil level condition in the 1B MPT.

At 2043, at approximately 23 percent power, the MPT trouble overhead annunciator reflash. Local transformer annunciation indicated gas detection in the 1B MPT.

At 2050, at approximately 20 percent power, a manual reactor trip was initiated. All control rods fully inserted on the trip. All three auxiliary feedwater (AFW) pumps {BA/P} started as designed in response to low Steam Generator (SG) {AB/SG} levels and decay heat was removed by the steam dumps to the main condenser. Operators entered the emergency operating procedures for the reactor trip and stabilized the plant in Hot Standby (Mode 3).

(01-2014)

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

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**NARRATIVE**

An eight hour NRC Emergency Notification System (ENS) notification was made on October 20, 2014 at 0136 under the requirements of 10 CFR 50.72(b)(3)(iv)(A), for automatic actuation of the AFW system. An update to this notification made on November 24, 2014, at 1555, stated that the manual reactor trip met the criteria for four hour reporting in accordance with 10 CFR 50.72(b)(2)(iv)(B), "Any event or condition that results in actuation of the reactor protection system (RPS) when the reactor is critical..."

**CAUSE OF EVENT**

A causal evaluation is in progress to review Salem the reactor trip and operator response. The results of this evaluation with respect to this event will be published in a supplement to this LER.

The AFW pumps automatically started as designed on the unit trip due to low (14% Narrow Range) SG levels experienced after the reactor trip.

**SAFETY CONSEQUENCES AND IMPLICATIONS**

There were no safety consequences associated with this event. Operators responded appropriately to the manual reactor trip. All plant systems operated as designed.

**SAFETY SYSTEM FUNCTIONAL FAILURE**

A review of this event determined that a Safety System Functional Failure (SSFF) as defined in Nuclear Energy Institute (NEI) 99-02, Regulatory Assessment Performance Indicator Guideline, did not occur. This event did not prevent the ability of a system to fulfill its safety function to either shutdown the reactor, remove residual heat, control the release of radioactive material, or mitigate the consequences of an accident.

**PREVIOUS OCCURRENCES**

A review of Salem Unit 1 and 2 Licensee Event Reports for the previous three years identified no other similar manual reactor trip events.

**CORRECTIVE ACTIONS**

1. The 1B MPT leak was repaired and tested satisfactorily during the 1R23 refueling outage.

Additional corrective actions will be developed in the cause analysis and reported in the LER supplement.

**COMMITMENTS**

This LER contains no regulatory commitments.