



AUG 19 2015

LR-N15-0156

10 CFR 50.73

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

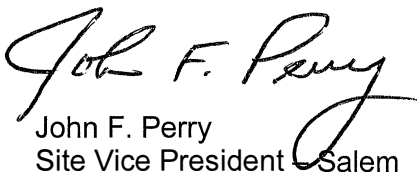
LER 272/2015-005-00
Salem Nuclear Generating Station Unit 1
Renewed Facility Operating License No. DPR-75
NRC Docket No. 50-272

SUBJECT: Low Containment Spray Additive Tank Sodium Hydroxide
Concentration

The Licensee Event Report, "Low Containment Spray Additive Tank Sodium Hydroxide Concentration" is being submitted pursuant to 10 CFR 50.73 (a)(2)(i)(B), "Any operation or condition which was prohibited by the plant's Technical Specifications..." and 10 CFR 50.73(a)(2)(v) for "Any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to: ...(C) Control the release of radioactive material; or (D) Mitigate the consequences of an accident."

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,


John F. Perry
Site Vice President - Salem

Attachments (1)

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cc Mr. D. Dorman, Administrator – Region 1, NRC
 Ms. C. Sanders-Parker, Licensing Project Manager – Salem, NRC
 Mr. P. Finney, USNRC Senior Resident Inspector, Salem (X24)
 Mr. P. Mulligan, Manager IV, NJBNE
 Mr. R. Braun, 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

NRC FORM 366 (01-2014)		U.S. NUCLEAR REGULATORY COMMISSION			APPROVED BY OMB: NO. 3150-0104		EXPIRES: 01/31/2017				
		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.						
1. FACILITY NAME Salem Generating Station – Unit 1					2. DOCKET NUMBER 05000272		3. PAGE 1 OF 4				
4. TITLE Low Containment Spray Additive Tank Sodium Hydroxide Concentration											
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	
06	22	2015	2015	- 005	- 000	08	19	2015	FACILITY NAME	DOCKET NUMBER	
										05000	
										05000	
9. OPERATING MODE		11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: <i>(Check all that apply)</i>									
1		<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)	
100%		<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 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 checked="" type="checkbox"/> 50.73(a)(2)(v)(C)		<input type="checkbox"/> OTHER	
		<input type="checkbox"/> 20.2203(a)(2)(vi)			<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)			<input checked="" 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 <i>(Include Area Code)</i> 856-339-1754			
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		
D	-	-	-	-							
14. SUPPLEMENTAL REPORT EXPECTED <input type="checkbox"/> YES <i>(If yes, complete 15. EXPECTED SUBMISSION DATE)</i> <input checked="" type="checkbox"/> NO					15. EXPECTED SUBMISSION DATE						
					MONTH DAY YEAR						
ABSTRACT <i>(Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)</i>											
<p>On June 22, 2015, at 1406, control room operators were notified by chemistry personnel that the Salem Unit 1 Containment Spray Additive Tank Sodium Hydroxide (NaOH) concentration was less than the minimum concentration by weight as required by Technical Specification (TS). Salem entered TS Action Statement 3.6.2.2.a for low NaOH concentration in the Containment Spray Additive Tank. On June 23, 2015 at 1908, NaOH concentration was returned to its minimum required TS value and the plant exited TS 3.6.2.2.a.</p> <p>This report is made in accordance with 10 CFR 50.73(a)(2)(i)(B) for "Any operation or condition which was prohibited by the plant's Technical Specifications..." and 10 CFR 50.73(a)(2)(v) for "Any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to: ...(C) Control the release of radioactive material; or (D) Mitigate the consequences of an accident."</p>											

**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 Infocollections.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.

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NARRATIVE**PLANT AND SYSTEM IDENTIFICATION**

Westinghouse - Pressurized Water Reactor {PWR/4}

Containment Spray System, Tank {BE/TK}

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

IDENTIFICATION OF OCCURRENCE

Event Date: June 22, 2015

Discovery Date: June 22, 2015

CONDITIONS PRIOR TO OCCURRENCE

Salem Unit 1 was in operational Mode 1, operating at approximately 100 percent power. No additional structures, systems or components were inoperable at the time that contributed to this event.

DESCRIPTION OF OCCURRENCE

On June 22, 2015, at 1406, Salem Operations was notified by chemistry personnel that the Salem Unit 1 Containment Spray Additive Tank {BE/TK} Sodium Hydroxide (NaOH) concentration was 29.6 percent by weight. Unit 1 entered TS Action Statement 3.6.2.2.a for the Containment Spray Additive Tank being less than the required value of between 30 and 32 percent by weight of NaOH solution.

At 1521, additional sampling confirmed the Salem Unit 1 Containment Spray Additive Tank NaOH concentration to be 29.6 percent by weight.

At 2055 an 8 hour NRC Emergency Notification System (ENS) report was made under the requirements of 10 CFR 50.72(b)(3)(v)(C) and (D) for "Any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to:... (C) Control the release of radioactive material; or (D) Mitigate the consequences of an accident."

On June 23, 2015, at 1908, Salem Unit 1 exited TS 3.6.2.2.a when chemical addition and subsequent testing verified the Containment Spray Additive Tank contents to be 31.4 percent by weight of NaOH.

Subsequent analysis of past Containment Spray Additive Tank level versus estimated NaOH concentration

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NARRATIVE

by weight indicated that the NaOH concentration in the tank had decreased below the TS required range of between 30 and 32 percent by weight value in January of 2015, exceeding the TS 3.6.2.2.a allowed outage time for inoperability of the Containment Spray Additive Tank of 72 hours.

This report is made in accordance with 10 CFR 50.73(a)(2)(i)(B) for “Any operation or condition which was prohibited by the plant’s Technical Specifications...” and 10 CFR 50.73(a)(2)(v) for “Any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to: ...(C) Control the release of radioactive material; or (D) Mitigate the consequences of an accident.

CAUSE OF EVENT

A review of control room logs indicates that a slow rise in Containment Spray Additive Tank level occurred over the course of several months. The last surveillance performed on November 11, 2014 indicated a tank level of 79.4 percent with an NaOH concentration of 30.9 percent by weight. Subsequent surveillance testing performed on June 22, 2015 indicated a level increase to 81.5 percent and a corresponding NaOH concentration decrease to 29.6 percent by weight. Trending capability was not sufficient to identify this long-term trend.

SAFETY CONSEQUENCES AND IMPLICATIONS

This event did not result in any offsite release of radioactivity or increase of offsite dose rates, and there were no personnel injuries or damage to any other safety-related equipment.

The purpose of the Containment Spray System is to operate following a primary coolant system failure to reduce containment pressure in conjunction with the Containment Fan Cooler Units and to remove iodine from the containment atmosphere. The purpose of the Containment Spray Additive Tank is to provide a source of NaOH to the Containment Spray stream to enhance iodine removal capability during the initial phase of a primary coolant system failure and to minimize chloride induced stress corrosion cracking of stainless steel inside containment. If a large break loss of coolant accident were to occur, the concentration of NaOH in solution must be sufficient to raise the injection spray to a pH of at least 8.5, as specified in the Salem Updated Final Safety Analysis Report. Calculations assuming a 29.6% NaOH concentration by weight solution in the Containment Spray Additive Tank indicate that the resultant spray solution would have a pH of greater than 8.5 and thus would be capable of driving absorption of elemental iodine sufficiently to ensure the Containment Spray system was capable of performing its intended safety function.

SAFETY SYSTEM FUNCTIONAL FAILURE

Although the Containment Spray system was determined to be inoperable, it was capable of performing its intended safety function, thus this event does not constitute a Safety System Functional Failure (SSFF) as defined in Nuclear Energy Institute (NEI) 99-02, Regulatory Assessment Performance Indicator Guideline.

PREVIOUS OCCURRENCES

A review of Salem Unit 1 and 2 LERs for the previous three years identified no other similar events.

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NARRATIVE**CORRECTIVE ACTIONS**

1. Salem Chemistry department will develop and implement a method for long term trending of Containment Spray Additive Tank parameters.
2. Salem Operations department will develop and implement a method for long term trending of Containment Spray Additive Tank parameters.
3. Troubleshooting will be performed to identify the source of in-leakage to the Containment Spray Additive Tank.

COMMITMENTS

This LER contains no regulatory commitments.