



MAY 19 2008

10CFR50.73

LR-N08- 0116

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington DC 20555-001

LER 311/08-001
Salem Nuclear Generating Station Unit 2
Facility Operating License No. DPR-75
NRC Docket No. 50-311

SUBJECT: As-Found Pressurizer Safety Valve Lift Setpoint Exceeds Technical Specification Allowable Limits

This Licensee Event Report, "As-Found Pressurizer Safety Valve Lift Setpoint Exceeds Technical Specification Allowable Limits" is being submitted pursuant to the requirements of the Code of Federal Regulations 10CFR50.73(a)(2)(i)(B).

The attached LER contains no commitments. Should you have any questions or comments regarding this submittal, please contact Mr. Howard Berrick at 856-339-1862.

Sincerely,

A handwritten signature in black ink, appearing to be "R. Braun", written over a horizontal line.

Robert Braun
Site Vice President - Salem

Attachments (1)

JE22

KRR

LICENSEE EVENT REPORT (LER)

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 Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@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 2	2. DOCKET NUMBER 05000311	3. PAGE 1 of 3
---	------------------------------	-------------------

4. TITLE
As-Found Pressurizer Safety Valve Lift Setpoint Exceeds Technical Specification Allowable Limits

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
03	20	08	2008	001	00	05	19	2008		DOCKET NUMBER

9. OPERATING MODE 6	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: (Check all that apply)									
10. POWER LEVEL 0%	<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)						
	<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 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 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 Howard Berrick, Senior Licensing Engineer	TELEPHONE NUMBER (Include Area Code) 856-339-1862
--	--

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	AB	RV	C710	Y					

14. SUPPLEMENTAL REPORT EXPECTED <input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
---	------------------------------	-------	-----	------

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

On March 20, 2008, during Salem Unit 2 Refueling Outage 2R16, in Mode 6, a Pressurizer Safety Valve (PSV) failed its as-found surveillance test. The valve was being tested in accordance with the requirements of the Technical Specifications (TS) and the ASME OM-1987, Part 1, Requirements for Inservice Performance Testing of Nuclear Power Plant Pressure Relief Devices.

After the failure of the first PSV, the remaining two PSVs were tested and found within TS lift tolerance.

The apparent cause of the safety valve lifting low was valve spring relaxation during its first operational service cycle. All PSVs were replaced with refurbished spare valves that have been tested to a ±1% setpoint pressure tolerance.

This event is reportable in accordance with 10CFR50.73(a)(2)(i)(B), Operation or Condition Prohibited by Technical Specifications.

LICENSEE EVENT REPORT (LER)

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
SALEM GENERATING STATION UNIT 2	05000311	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 of 3
		08	0 0 1	0	

17. NARRATIVE

PLANT AND SYSTEM IDENTIFICATION

Westinghouse – Pressurized Water Reactor
Pressurizer/Safety Valves {AB/RV}*

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

CONDITIONS PRIOR TO OCCURRENCE

The plant was in the shutdown condition for refueling outage 2R16. No structures, systems, or components were inoperable at the time of discovery that contributed to the event.

DESCRIPTION OF OCCURRENCE

On March 20, 2008, with Unit 2 in Mode 6 (Refueling) one of the three Pressurizer Safety Valves (PSV) 2PR3 {AB/RV} failed the as-found actuation pressure surveillance test, required by Technical Specification (TS) 4.4.2 and ASME OM-1987, Part 1, Requirements for Inservice Performance Testing of Nuclear Power Plant Pressure Relief Devices. The TS acceptance band for the as-found actuation pressure is $\pm 3\%$ of the nameplate setpoint pressure. The first (as-found) actuation pressure for PSV 2PR3 was below the lower limit of minus 3% of the nameplate setpoint. The removed 2PR3 valve passed a second (informational) pressure test with a lift pressure of 2440 psig (-1.8%). The valve remained leak tight following reseating after each lift test.

The actual test results of valve 2PR3 are:

Test #	As found (psig)	TS Setpoint (psig)	Acceptable band (psig)	% Difference
1	2402	2485	2410.45 – 2559.55	- 3.30
2	2440	2485	2410.45 – 2559.55	- 1.80

Because the first as-found lift set point of the 2PR3 was not within 3% of set point, expanded testing scope was performed in accordance with the In-Service Test (IST) program. The two remaining PSVs were removed and replaced with pre-tested spares. The removed valves were subsequently tested and found to lift within TS tolerances.

CAUSE OF OCCURRENCE

The 2PR3 valve was disassembled and all components were inspected. Valve critical dimensions were measured and all were within OEM tolerances. Three load tests were performed on the 2PR3 valve spring; the spring was found to be within OEM tolerance. A review of valve test data revealed that this was the first test of valve 2PR3 since it was received from the manufacturer in 1998. This valve was installed in the 2PR3 position in November 2003. Springs in a highly compressed state are known to relax over time. Other valves from this group of relief valves also lifted on the low side of the setpoint following their first installed operational cycle. This was the last valve of the group to complete its initial operational cycle.

LICENSEE EVENT REPORT (LER)

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
SALEM GENERATING STATION UNIT 2	05000311	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	3 of 3
		08	0 0 1	0	

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

CAUSE OF OCCURRENCE (continued)

The apparent cause of the 2PR3 setpoint drifting low was due to valve spring relaxation during its first operational service cycle, possibly compounded by the time between valve tests.

PRIOR SIMILAR OCCURRENCES

A review of Salem LERs since 2001 identified one occurrence where PSVs exceeded the TS setpoint acceptance criteria of $\pm 3\%$. The cause for that occurrence was that the valve internals were not lapped in place. The corrective actions associated with that LER would not have prevented this event.

SAFETY CONSEQUENCES AND IMPLICATIONS

Pressurizer safety valves are typically credited in the UFSAR Chapter 15 safety analyses for their pressure relief benefits, and these valves are modeled at the setpoint plus $\pm 3\%$ tolerance. Having one of these valves out of tolerance in the negative direction would be a direct benefit to all analyses that credit these valves for protection. For the UFSAR Chapter 15 safety analysis of Spurious Operation of the Safety Injection System at Power, an early lift of a safety relief could have the potential of liquid relief through the pressurizer safety valves. A review of this transient determined that the lower lift pressure of 2402 psig on the one out-of-tolerance PSV would have no affect on the calculated results, since it will not open given a spurious operation of the safety injection system. It was concluded that there were no safety consequences or implications involved as a result of the 2PR3 valve being below the lower limit of minus 3% by 0.3%. Therefore, the public health and safety was not affected.

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

CORRECTIVE ACTIONS:

1. All Unit 2 PSVs were replaced with pre-tested valves.
2. The PSV testing was expanded to include the additional two PSVs in accordance with the IST Program, and both additional valves tested satisfactorily.
3. The tracking and scheduling basis for relief valve testing is being revised to assure that storage and shelf times, as well as service time, are factored into the ASME OM code testing periodicity of the valves.

COMMITMENTS

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