

Virginia Electric and Power Company  
Surry Power Station  
5570 Hog Island Road  
Surry, Virginia 23883

April 15, 1997

U. S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, D.C. 20555

Serial No.: 97-210  
SPS:JDK  
Docket No.: 50-280  
License No.: DPR-32

Dear Sirs:

Pursuant to Surry Power Station Technical Specifications, Virginia Electric and Power Company hereby submits the following Licensee Event Report applicable to Surry Power Station Unit 1.

**REPORT NUMBER**

50-280/97-004-00

This report has been reviewed by the Station Nuclear Safety and Operating Committee and will be forwarded to the Management Safety Review Committee for its review.

Very truly yours,



D. A. Christian  
Station Manager

Enclosure

Commitments contained in this letter: None

cc: Regional Administrator  
101 Marietta Street NW Suite 2900  
Atlanta, Georgia 30323 220003

R. A. Musser  
NRC Senior Resident Inspector  
Surry Power Station

9704220103 970415  
PDR ADOCK 05000280  
S PDR



*JE22/1*

**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 (1-6 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) <b>SURRY POWER STATION , Unit 1</b>		DOCKET NUMBER (2) <b>05000 - 280</b>	PAGE (3) <b>1 OF 3</b>
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TITLE (4)  
**Main Steam Safety Valve As Found Setpoint Out Of Tolerance**

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	DOCUMENT NUMBER
<b>03</b>	<b>17</b>	<b>97</b>	<b>97</b>	<b>-- 004 --</b>	<b>00</b>	<b>04</b>	<b>15</b>	<b>97</b>	FACILITY NAME	<b>05000-</b>
									FACILITY NAME	<b>05000-</b>

OPERATING MODE (9) <b>N</b>	POWER LEVEL (10) <b>0 %</b>	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)								
		20.2201(b)	20.2203(a)(2)(v)	<input checked="" type="checkbox"/>	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				
	20.2203(a)(2)(iv)	50.36(c)(2)		50.73(a)(2)(vii)	or in NRC Form 366A					

LICENSEE CONTACT FOR THIS LER (12)

NAME <b>D. A. Christian, Station Manager</b>	TELEPHONE NUMBER (Include Area Code) <b>(757) 365-2000</b>
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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
<b>X</b>	<b>SB</b>	<b>RV</b>	<b>D243</b>	<b>YES</b>					

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

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

On March 17, 1997, with Unit 1 in Cold Shutdown, setpoint testing of Unit 1 Main Steam Safety (MSSVs) revealed that the lift setting for one MSSV was outside the As Found setpoint tolerance ( $\pm 3\%$ ) that is allowed by Technical Specification (TS) 3.6.A. This event is reportable pursuant to 10CFR50.73(a)(2)(i)(B) for conditions prohibited by TS 3.6.A, 3.6.B.3.

The safety valves were sent to Wyle Laboratories for testing to ensure conformance with TS requirements. The As Found setpoint for one MSSV was found to be outside TS tolerance.

The safety valve was repaired, adjusted, and tested to be within the correct As Left setpoint tolerance ( $\pm 1\%$ ) allowed by TS.

This event posed no significant safety implications because the safety valves would have performed their safety function in the event of an overpressure condition. The health and safety of the public were not affected at any time during this event.

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

FACILITY NAME (1)  Surry Power Station Unit 1	DOCKET  05000 - 280	LER NUMBER (6)			PAGE (3)  2 OF 3
		YEAR  97	SEQUENTIAL NUMBER  -- 004 --	REVISION NUMBER  00	

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

1.0 DESCRIPTION OF THE EVENT

On March 6, 1997, Unit 1 was shut down to start a Refueling Outage. As part of the outage scope, the fifteen Main Steam Safety Valves (MSSVs) [E11S-SB,RV] were removed and sent to Wyle Laboratories in Huntsville, Alabama for setpoint testing. The MSSVs were tested in accordance with station testing procedures developed pursuant to the Surry Power Station ASME Section XI Testing Program for Pumps and Valves.

On March 17, 1997, with Unit 1 in Cold Shutdown, setpoint testing of the Unit 1 MSSVs revealed that the initial lift setting for one valve (1-MS-SV-104C) was outside the As Found setpoint tolerance ( $\pm 3\%$ , 1087 to 1153 psig) that is allowed by Technical Specification (TS) 3.6.A. The valve exhibited a lift setting of 3.7% above its nominal value of 1120 psig. The next lift exhibited a lift setting of 1151 psig which is within the As Found setpoint tolerance.

This event is reportable pursuant to 10CFR50.73(a)(2)(i)(B) for conditions prohibited by TS 3.6.A, 3.6.B.3.

2.0 SIGNIFICANT SAFETY CONSEQUENCES AND IMPLICATIONS

The MSSVs provide overpressure protection for the Main Steam Supply System piping upstream of the main steam trip valves. The As Found lift pressure settings for the MSSVs are bounded by the safety analyses for overpressure transients that are part of the current licensing basis.

The peak steam line pressure reached in this transient is 1159 psig assuming that all MSSVs open at their maximum allowable TS lift setpoint. This maintains a 36 psi margin to the design limit of 1195 psig. The maximum impact of failure of 1-MS-SV-104C to open at its tolerance limit could be an increase of the peak pressure by 6 psi. This is well within the available margin. Using the As Found Lift pressures for the MSSVs associated with the "C" main steam line, it is expected that the peak pressure would remain below the current analysis value.

Since the acceptance criteria for overpressure events were met, the health and safety of the public were not affected.

3.0 CAUSE OF THE EVENT

The MSSV experienced minor setpoint drift which can be expected under normal operating conditions. Although the specific cause of such setpoint drift is not known, its occurrence is well documented in the industry.

4.0 IMMEDIATE CORRECTIVE ACTION(S)

Unit condition at the time of discovery did not require any immediate corrective actions to be performed. A Deviation Report was submitted to document this condition.

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

5.0 ADDITIONAL CORRECTIVE ACTION(S)

Engineering reviewed the "Loss of External Electrical Load Event" analysis, which is the limiting transient for main steam line pressurization, to ensure the As Found lift settings were within the bounds of existing analyses.

The MSSV with the As Found lift pressure outside the setpoint allowed by Technical Specification 3.6.A was inspected and overhauled by the manufacturer, Dresser Industries, at the Wyle Testing Laboratory Site in Huntsville, Alabama. The MSSV was As Left tested in accordance with procedure 1-MPT-0427-02, Main Steam Safety Setpoint Verification, to verify that the  $\pm 1\%$  requirement of TS 3.6.A was met.

A Maintenance Rule evaluation is ongoing. If it is determined that a Maintenance Rule Functional Failure occurred, it will be addressed in accordance with the requirements of the Maintenance Rule Program.

6.0 ACTIONS TO PREVENT RECURRENCE

Safety valve setpoint drift is a recognized phenomenon. Periodic testing and maintenance will continue to be performed in accordance with Virginia Power ASME Section XI Testing Program for Pumps and Valves to ensure that the valves are maintained as required by TS. Additionally, to ensure the MSSVs are tested under their operating condition, a change was made in 1996 to 1(2)-MPT-0427-02, Main Steam Safety Setpoint Verification, to require thermal stabilization of the spring and upper body of the MSSV prior to setpoint testing.

VPAP-0804, Safety and Relief Valve Program, requires a comprehensive database be maintained. The information contained in the database is used to monitor safety valve performance.

7.0 SIMILAR EVENTS

Unit 1 LER 90-011-00, Main Steam Safety Valves Out of Tolerance Due to Minor Setpoint Drift

Unit 2 LER 91-002-00, Main Steam Safety Valves Out of Tolerance Due to Minor Setpoint Drift

Unit 1 LER 94-002-00, Main Steam Safety Valves Out of Tolerance Due to Minor Setpoint Drift

Unit 2 LER 95-002, Main Steam & Pressurizer Safety Valve As Found Lift Setting Out of Tolerance

8.0 ADDITIONAL INFORMATION

Unit 2 was operating at 100% and was not affected by this event.