

NRC Form 366 (9-83)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3160-0104

EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Surry Power Station, Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 2 8 0	PAGE (3) 1 OF 0 3
---	---	-----------------------------

TITLE (4)
Low Head Safety Injection Pump Inoperable Due To Failed Motor Leads

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 NAMES		DOCKET NUMBER(S)
0	3	09	8	8	0	0	8	1			0 5 0 0 0
											0 5 0 0 0

OPERATING MODE (9) **N**

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

POWER LEVEL (10) 0 9 8	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
	20.405(a)(1)(i)	50.38(c)(1)	50.73(a)(2)(v)	73.71(c)
	20.405(a)(1)(iii)	50.38(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
	20.405(a)(1)(iii) X	50.73(a)(2)(ii)	50.73(a)(2)(viii)(A)	
	20.405(a)(1)(iv)	50.73(a)(2)(iii)	50.73(a)(2)(viii)(B)	
	20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME D. L. Benson, Station Manager	TELEPHONE NUMBER
	AREA CODE: 8 0 4 NUMBER: 3 5 7 3 1 8 4

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
X	B	P	W 1 2 0	Y					

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

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

On March 9, 1988 at 2256 hours, with Unit 1 at 98% power, one of the two Low Head Safety Injection pumps, 1-SI-P-1B was declared inoperable due to a phase to phase fault between two of its motor leads. Technical Specification 3.3.B.3 requires that this pump be restored to operable status within 24 hours or the unit must be brought to hot shutdown. Pump 1-SI-P-1B could not be returned to operable status within the 24 hour time limit. Therefore, a rampdown of the unit was commenced at 2203 hours on March 10, 1988. The unit was placed in hot shutdown at 0334 hours on March 11, 1988, which satisfied the requirements of Technical Specifications. The redundant pump, 1-SI-P-1A, was tested at regular intervals to ensure its operability while repair work commenced on 1-SI-P-1B. The damaged motor leads were repaired and an operability test was performed, during which high temperatures on one of the repaired leads prevented the pump from being returned to operable status. The motor for 1-SI-P-1B was replaced with a new motor, was tested satisfactorily and was returned to service status at 2252 hours on March 12, 1988. The root cause of the failure was improper splicing of the motor leads. Future splices of safety related motor leads will be done by approved procedure.

IF 22

8808250189 880816
PDR ADOCK 05000280
S PDC

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Surry Power Station, Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 2 8 0	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 8	- 0 0 8	- 0 1	0 2	OF	0 3

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

1.0 Description of the Event

On March 9, 1988 at 2256 hours, with Unit 1 at 98% power, during the performance of a periodic test, one of the two Low Head Safety Injection pumps, 1-SI-P-1B {EIIS-BP P} was declared inoperable. Technical Specification 3.3.B.3 requires that this pump be restored to operable status within 24 hours or the unit must be brought to hot shutdown. Pump 1-SI-P-1B could not be returned to operable status within the 24 hour time limit. Therefore, a rampdown of the unit was commenced at 2203 hours on March 10, 1988. The unit was placed in hot shutdown at 0334 hours on March 11, 1988, which satisfied the requirements of Technical Specifications.

2.0 Safety Consequences and Implications

The purpose of the two Low Head Safety Injection (LHSI) pumps is to supply borated water to the suction of the High Head Safety Injection pumps and to the reactor core in the event of a loss of coolant accident. A single LHSI pump being inoperable does not negate the ability of the system to perform its function since each pump is designed for 100% capacity. While 1-SI-P-1B was out of service, the redundant pump, 1-SI-P-1A, was tested at regular intervals to provide maximum assurance of its operability. Therefore, the health and safety of the public were not affected.

3.0 Cause

Pump 1-SI-P-1B was declared inoperable when it experienced a phase to phase fault between two motor leads.

The electrical fault occurred because splice connectors on the motor leads overheated, causing the insulation to degrade. The root cause of the failure was improper splicing of the motor leads. The splice used a connector one size too large, crimping of the connector was done incorrectly and insulation was not stripped sufficiently. This splice is believed to have been done before EQ requirements (NUREG 588) for harsh environment splicing.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Surry Power Station, Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 2 8 0	LER NUMBER (6)			PAGE (3)		
		YEAR 8 8	SEQUENTIAL NUMBER - 0 0 8	REVISION NUMBER - 0 1			

TEXT (If more space is required, use additional NRC Form 388A's) (17)

4.0 Immediate Corrective Action(s)

When 1-SI-P-1B was declared inoperable, the redundant pump, 1-SI-P-1A, was tested at regular intervals to ensure its operability while repair work commenced on 1-SI-P-1B. The damaged motor leads were repaired and an operability test was performed, during which high temperatures on one of the repaired leads prevented the pump from being returned to operable status.

5.0 Additional Corrective Action(s)

The motor for 1-SI-P-1B was replaced with a new motor. The pump was tested satisfactorily and returned to operable status at 2252 hours on March 12, 1988.

6.0 Action(s) Taken to Prevent Recurrence

The motor leads of the redundant 1A pump were inspected and found to be satisfactory. Future splices of safety related motor leads will be done by approved procedure.

7.0 Similar Events

None.

8.0 Manufacturer/Model Number

Westinghouse/Type VSS-509 UP

VIRGINIA ELECTRIC AND POWER COMPANY
Surry Power Station
P. O. Box 315
Surry, Virginia 23883

August 16, 1988

U. S. Nuclear Regulatory Commission
Document Control Desk
016 Phillips Building
Washington, DC 20555

Serial No. : 88-014A
Docket No. : 50-280
Licensee No. : DPR-32

Gentlemen:

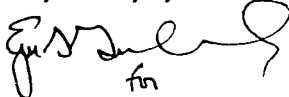
Pursuant to Surry Power Station Technical Specifications, Virginia Electric and Power Company hereby submits the following Licensee Event Report for Surry Unit 1.

REPORT NUMBER

88-008-01

This report has been reviewed by the Station Nuclear Safety and Operating Committee and will be reviewed by Safety Evaluation and Control.

Very truly yours,



David L. Benson
Station Manager

Enclosure

cc: Dr. J. Nelson Grace
Regional Administrator
Suite 2900
101 Marietta Street, NW
Atlanta, Georgia 30323

IE22
11