

## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) <b>SURRY POWER STATION, UNIT 2</b>										DOCKET NUMBER (2) <b>0 5 0 0 0 2 8 1 1</b>					PAGE (3) <b>1 OF 0 3</b>	
TITLE (4) <b>REACTOR TRIP - (6A FEEDWATER HEATER HIGH LEVEL)</b>																
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)			
													<b>0 5 0 0 0</b>			
<b>0 4 1 8 8 4</b>	<b>8 4</b>			<b>0 1 0</b>	<b>0 0 0</b>	<b>5 1 7 8 4</b>					<b>0 5 0 0 0</b>					
OPERATING MODE (9) <b>N</b>		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §. (Check one or more of the following) (11)														
POWER LEVEL (10) <b>0 8 6</b>		20.402(b)				20.405(c)				<input checked="" type="checkbox"/> 50.73(a)(2)(iv)				73.71(b)		
		20.405(a)(1)(i)				50.36(c)(1)				50.73(a)(2)(v)				73.71(c)		
		20.405(a)(1)(ii)				50.36(c)(2)				50.73(a)(2)(vii)				OTHER (Specify in Abstract below and in Text, NRC Form 366A)		
		20.405(a)(1)(iii)				50.73(a)(2)(i)				50.73(a)(2)(viii)(A)						
		20.405(a)(1)(iv)				50.73(a)(2)(ii)				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 <b>J. L. WILSON, STATION MANAGER</b>										TELEPHONE NUMBER AREA CODE <b>8 0 4 3 5 7 - 3 1 8 4</b>						
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																
CAUSE	SYSTEM	COMPONENT	MANUFAC. TURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFAC. TURER	REPORTABLE TO NPROS							
<b>X</b>	<b>S J</b>	<b>H X</b>	<b>Y 0 2 9</b>	<b>Y</b>												
<b>X</b>	<b>I G</b>	<b>R I</b>	<b>W 1 2 0</b>	<b>Y</b>												
SUPPLEMENTAL REPORT EXPECTED (14)										EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR		
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)										<input checked="" type="checkbox"/> NO						
ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single space typewritten lines) (16)																
<p>On April 18, 1984 and again on April 19, 1984, a reactor trip occurred as a result of a turbine trip from a high level in 6A feedwater heater. Leaking tubes and a small amount of flow blockage in the feedwater heater loop seal apparently was the cause of the high level condition. The leaking tubes have been plugged and a small amount of material was removed from the loop seal.</p>																
<div style="display: flex; justify-content: space-between;"> <span>8405220212 840517</span> <span>PDR</span> </div> <div style="display: flex; justify-content: space-between;"> <span>PDR</span> <span>ADOCK 05000281</span> </div> <div style="display: flex; justify-content: space-between;"> <span>S</span> <span>PDR</span> </div>																

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/85

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
SURRY POWER STATION, UNIT 2	0 5 0 0 0 2 8 1	8 4	— 0 1 0	— 0 0	0 2	OF	0 3

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

1. Description of the Event

On April 18, 1984 with Unit 2 at 86% power, following a maintenance outage which included the plugging of tubes in 6A feedwater heater, a reactor trip occurred as a result of a turbine trip from a high level in 6A feedwater heater. The high level in 6A feedwater heater occurred when the heater was being placed in service (closing of the feedwater heater bypass valve). Following the reactor trip, operators noted that all control and protection systems functioned properly except for the closing of the main turbine No. 1 stop valve.

On April 19, 1984, with Unit 2 at 85% power and increasing power following a previous reactor trip on April 18, 1984, a reactor trip occurred as a result of a turbine trip from a high level in 6A feedwater heater. The operators attempted to decrease power when high level alarms were received, however this action was not successful. Following the reactor trip, operators noted that all control and protection systems functioned properly except the source range instruments (EIIS No. RI) failed to automatically reinstate.

The operators followed appropriate plant procedures and quickly stabilized the plant following the reactor trips.

2. Safety Consequences and Implications

The sixth point feedwater heater high level turbine trip is intended to prevent water from reaching and thereby damaging the low pressure turbines. The turbine stop valves, in conjunction with the governor, intercept and reheat valves are closed upon receipt of a turbine trip signal to prevent a turbine overspeed condition and to limit plant cooldown subsequent to a reactor trip. The source range instrumentation is used to monitor neutron flux when shutdown.

The turbine intercept and reheat valves, functioned as designed to prevent overspeeding of the turbine. The Main Steam Isolation Valves remained operable to limit the post trip plant cooldown and the Source Range instruments were manually reinstated. Since all the protection systems remained functional and the plant parameters remained within the bounds of the accident analysis, an unreviewed safety question was not created or was the health and safety of the public affected.

3. Cause

Following the plant trip on April 18, 1984, 6A feedwater heater was inspected and found to have one (1) leaking tube and thirty one (31) leaking tube plugs. This was believed to be the cause of the 6A feedwater heater high level condition.

Although the turbine stop valve was mechanically bound, the reason for the binding could not be determined.

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Following the plant trip on April 19, 1984, the loop seal for 6A feedwater heater was inspected and found to contain a small piece of rubber from the liner of a no longer used flow element and a paint scraper. It is uncertain as to whether the material found could have restricted flow in the loop seal sufficiently to cause the high level trip, however, since its removal, no further 6A heater high level alarms have been received.

The source range instrumentation failed to reinstate due to an apparent compensation problem with intermediate range channel NI-36.

#### 4. Immediate Corrective Actions

Operators performed all appropriate Emergency Procedures and Function Restoration Procedures to ensure the plant was returned to a stable condition.

Also, the STA performed the status tree reviews to ensure specific plant parameters were noted and appropriate procedures were used to maintain those parameters within safe bounds.

#### 5. Additional Corrective Action

Following the plant trip on April 18, 1984, 6A feedwater heater was inspected and as a result, one tube was plugged and thirty-one plugs were tightened.

The Electro Hydraulic fluid was drained from No. 1 stop valve's operating piston and the valve remained in the open position. The valve was physically closed and then stroked satisfactorily. The stop valve closed following the subsequent trip on April 19, 1984.

Following the plant trip on April 19, 1984, 6A feedwater heater was re-inspected and found to be free of leaks. The loop seal was also inspected and a small amount of material was removed. NI-36 was adjusted.

#### 6. Action Taken to Prevent Recurrence

The No. 1 turbine stop valve will be inspected during the next refueling outage.

#### 7. Generic Implications

None.