

NRC Form 366
(9-83)U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES 8/31/85

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 3	
TITLE (4) REACTOR TRIP-VOLTAGE TRANSIENT															
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 1	2 6	8 5	8 5	0 0 3	0 0	0 2	2 1	8 5					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) 1 0 0		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 R. F. SAUNDERS, STATION MANAGER										TELEPHONE NUMBER AREA CODE 8 0 4 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 NPDs	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDs						
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)

On January 26, 1985, Unit No. 1 was operating at 100% power with Channel 2 of Overpower-Overtemperature ΔT in a tripped condition. At 0930, Unit No. 1 experienced an Overpower ΔT (OP ΔT) reactor trip. Plant parameters did not indicate a valid OP ΔT condition at the time of the reactor trip. The reactor trip was due to a voltage transient induced on Vital Bus I when a momentary overload condition existed that caused circuit breaker No. 13 to trip open. Electrical checks were made in an attempt to determine the reason for the tripping of the circuit breaker. The cause for the overload condition could not be identified. Channel 2 Overpower and Over-temperature was modified and removed from a tripped condition.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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SURRY POWER STATION, UNIT 1	0 5 0 0 0 2 8 0	8 5	— 0 0 3	— 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 January 26, 1985, Unit No. 1 was operating at 100% power with channel 2 of Overpower and Overtemperature ΔT in a tripped condition. Channel 2 was in a tripped condition because of a failed temperature sensor. At 0930, an Overpower ΔT reactor trip was experienced.

Following the reactor trip, operators noted that control and protection systems functioned properly except for: (1) Steam Generator blowdown trip valve TV-BD-100C indicated in an intermediate position, (2) a 15 amp circuit breaker (No. 13) on Vital Instrument Bus I (reactor protection channel 1) in a tripped condition.

Operators followed appropriate plant procedures and quickly stabilized the plant following the reactor trip.

2. Probable Consequences

Plant parameters did not indicate a valid OPAT condition at the time of the reactor trip. The redundant steam generator blowdown trip valve did indicate closed and blowdown flow was verified to be secured. The components powered by the tripped circuit breaker are containment isolation valves for non-essential systems. A loss of power will cause the valves to close thereby performing their safety function, i.e. containment isolation. The closure of these valves did not have an affect on the stabilization of the plant following the reactor trip.

Since plant parameters remained within their normal limits and safety system functions remained intact, an unreviewed safety question was not created and the health and safety of the public were unaffected.

3. Cause

The reactor trip was due to a voltage transient induced on Vital Bus I when a momentary overload condition existed that caused circuit breaker No. 13 to trip open. The cause for the overload condition could not be identified.

The voltage transient caused a channel 1 OPAT reactor trip signal and with channel 2 OPAT already in a tripped condition, a 2 out of 3 OPAT reactor trip occurred. The failure of TV-BD-100C to indicate fully closed was due to a faulty valve position limit switch.

4. Immediate Corrective Action

Operators performed 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 the appropriate procedures were used to maintain those parameters within safe bounds.

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5. Additional Corrective Actions

Electrical checks (continuity, insulation resistance), were made in an attempt to determine the reason for tripping the circuit breaker. The static and dynamic load currents were measured with 2 amps being the maximum current drawn by the affected circuit.

6. Action Taken to Prevent RecurrenceREACTOR TRIP

The ΔT protection circuit was connected to another temperature sensor (Channel 2 ΔT control) and the OP ΔT and OT ΔT were removed from a tripped condition. The ΔT protection temperature sensor will be replaced during a forthcoming outage and the ΔT control circuit returned to its original configuration.

BLOWDOWN TRIP VALVE

The limit switch will be replaced during an upcoming maintenance outage.

7. Generic Implications

None.