POW 28-06-01

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)	DOCKET NUMBER (2)	PAGE (3)
SURRY POWER STATION, UNIT 1	0 5 0 0 0 2 8 0	1 OF 0 3

TITLE (4): REACTOR TRIP (STEAM DUMP LEAKAGE)

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 7	8 5	8 5	— 0 0 4	— 0 0	0 2	2 1	8 5		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9): N

POWER LEVEL (10): 0 1 0

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

[ ] 20.402(b)	[ ] 20.405(c)	[√] 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)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER	
	AREA CODE	
R. F. SAUNDERS, STATION MANAGER	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 NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS
E	S D	T C V	B 3 1 4	Y					

SUPPLEMENTAL REPORT EXPECTED (14)

		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
[ ] YES (If yes, complete EXPECTED SUBMISSION DATE)	[√] NO				

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

On 1-27-85, unit 1 was critical with reactor power stable at 5% following a reactor trip on 1-26-85 (See LER-85-003-00). The steam dump valves were isolated earlier because of known but not specifically identified or quantified leakage. As the dumps were unisolated, the resulting leakage led to a primary system temperature decrease which caused reactor power to increase. As power neared 10%, it was decided to latch the turbine to prevent a trip. Approximately two minutes after the turbine was latched, the four turbine stop valves closed resulting in a reactor trip at 0748 hours.

One factor contributing to the trip was not sufficiently considering the effect of the steam leakage on plant parameters.

Another contributor to the event was that only one EH (Electro Hydraulic) pump was available and running when the turbine was latched and it did not satisfy the EH demands during the latching operation.

The steam dump leakage was identified and isolated. The Human Performance Evaluation System Coordinator is investigating this event and will provide feedback to the Operating Staff to improve human performance in similar circumstances.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6) YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	PAGE (3)
SURRY POWER STATION, UNIT 1	0 5 0 0 0 2 8 0	8 5	— 0 0 4	— 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 1-17-85, unit 1 was critical with reactor power stable at 5% following a reactor trip on 1-26-85 (See LER-85-003-00). The steam dump valves were unisolated in preparation for placing the unit on line. These valves were manually isolated earlier during the shift because of known but not specifically identified or quantified leakage. As the dumps were unisolated, the resulting leakage led to a primary system temperature decrease which caused reactor power to increase. A reactor power of 10% with the turbine unlatched will cause a reactor trip. Although the control rods were first used to retard the power increase, as power neared 10%, it was decided to latch the turbine to prevent a trip. Approximately two minutes after the turbine was latched, the four turbine stop valves closed resulting in a reactor trip at 0748 hours.

2. Probable Consequences

A reactor trip from such a low power level does not result in a significant safety question. Similar trips from full power are analyzed in the UFSAR without exceeding any safety limit. Also, other safety related systems were operable during this event to maintain plant parameters within the bounds of the safety analysis, therefore an unreviewed safety question was not created and the public's health and safety remained unaffected.

3. Cause

One factor contributing to the trip was not sufficiently considering the effect of the steam leakage on plant parameters.

Another contributor to the event was that only one EH (Electro Hydraulic) pump was available and running when the turbine was latched. Procedure OP-2.2 (Power Operations-Turbine) requires both EH pumps to be running while latching the turbine; however, one pump is sufficient for EH requirements during normal operation. One EH pump did not supply enough pressure to satisfy the EH system demands during the latching operation. This was verified later during a duplication of the event. The result was that the four turbine stop valves drifted closed yielding a turbine trip that caused a reactor trip.

4. Immediate Corrective Action

When the power increase was observed, the steam dump isolation valves were closed. The valves could not be closed fast enough to prevent the trip.
The Operators performed the appropriate emergency and function restoration procedures to ensure that plant parameters were returned to stable conditions.

The Shift Technical Advisor performed the status tree reviews to ensure that specific parameters were noted and the appropriate procedures were used to maintain these parameters within safe bounds.

5. Additional Corrective Action

The steam dump leakage was identified and isolated.

6. Action Taken to Prevent Recurrence

The Human Performance Evaluation System Coordinator is investigating this event and will provide feedback to the Operating Staff to improve human performance in similar circumstances.

7. Generic Implications

None.