

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) H. B. Robinson Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 2 6 1	PAGE (3) 1 OF 0 2
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TITLE (4)
Reactor Trip Resulting From a Turbine Generator Lockout

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	2 4	8 6	8 6	0 1 0	0 0	0 4	2 2	8 6			0 5 0 0 0
THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)											

OPERATING MODE (9)	POWER LEVEL (10) 1 0	20.402(b)	20.405(e)	<input checked="" type="checkbox"/>	50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.38(e)(1)		50.73(a)(2)(v)	73.71(e)
		20.405(a)(1)(ii)	50.38(e)(2)		50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 365A)
		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 George Honma	TELEPHONE NUMBER
	AREA CODE: 8 0 3 3 8 3 - 4 5 2 4

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS

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)

Abstract

On March 24, 1986, a unit startup was in progress with the reactor at 10% power. At 1454 hours, the Plant experienced a generator motoring trip (generator lockout) resulting in a turbine trip and subsequent reactor trip.

Unit 2 was being placed online. One of the Oil Circuit Breakers (OCB) was closed, connecting Unit 2 with the system grid. Once the OCB is closed, at least one of the shut position limit switches on the turbine governor valves must clear (governor valve not fully shut) within one minute to clear the motoring trip signal.

System load was being picked up, however, the governor valves were not opened sufficiently to clear at least one shut position limit switch within one minute of closing the OCB resulting in a generator motoring trip. The onshift operators were not aware, nor did procedures or logic diagrams indicate, that the governor valve shut limit switches were part of the generator motoring trip circuit. It was generally believed this feature came solely from megawatt output.

The turbine governor valve shut position limit switches were reset to clear with the turbine at rated speed. Procedures will be revised to incorporate the new setpoint and provide more specific guidance to the operator to avoid a generator motoring trip.

Additionally, the turbine trip logic diagram will be corrected and licensed operators will review this report to ensure understanding of this feature.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		0 1 0	- 0 0	0 0	0 2	OF	0 2

TEXT (if more space is required, use additional NRC Form 306A's) (17)

Event Description

On March 24, 1986, a unit startup was in progress with the reactor at 10% power. At 1454 hours, the Plant experienced a generator motoring trip (generator lockout) resulting in a turbine trip and subsequent reactor trip.

Unit 2 was being placed online. One of the Generator Output Oil Circuit Breakers (OCB) was closed, connecting Unit 2 with the system grid. Once the OCB is closed, at least one of the shut position limit switches on the turbine governor valves must clear (governor valve not fully shut) within one minute. This feature prevents the turbine generator from motorizing. These limit switches were set such that, with the generator producing as much as 30 megawatts, the motoring trip signal was still present. At least one closed limit switch on the governor should be open once the turbine reaches rated speed. Additional system load was being picked up in a controlled manner to avoid S/G level instabilities incurred at low power levels and to maintain RCS Tave. The turbine governor valves were not opened sufficiently to clear at least one shut position limit switch within one minute of closing the OCB; therefore, a generator motoring trip was received. Plant equipment performed as expected during the event.

Cause

The onshift operators were not aware that the governor valve shut limit switches were part of the generator motoring trip circuit. The turbine generator startup procedure did not address this feature nor was the motoring trip included on the turbine trip logic diagram. It was generally understood that any positive megawatt production would clear the motoring trip.

Corrective Actions

The turbine governor valve shut position limit switches were reset such that at least one limit switch will clear when the turbine reaches rated speed. Maintenance procedures will be revised to incorporate the new setpoint, and startup procedures will be revised to provide more specific guidance to the operator to avoid a spurious generator motoring trip.

Additionally, the turbine trip logic diagram will be corrected and licensed operators will review this report to ensure understanding of this feature.



Carolina Power & Light Company

ROBINSON NUCLEAR PROJECT DEPARTMENT
POST OFFICE BOX 790
HARTSVILLE, SOUTH CAROLINA 29550
APR 22 1986

Robinson File No: 13510C

Serial: RNP/85-1608

United States Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261
LICENSE NO. DPR-23
LICENSEE EVENT REPORT 86-010

Dear Sir:

In accordance with 10CFR50.73, Licensee Event Report System, the enclosed Licensee Event Report is submitted. This report fulfills the requirements for a written report within (30) days of a reportable event and is in accordance with the format set forth in NUREG-1022, September, 1983.

Very truly yours,

R. E. Morgan
General Manager
H. B. Robinson S. E. Plant

GH:esp

Enclosure

cc: INPO
H. E. P. Krug
J. N. Grace

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