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)
PLANT VOGTLE - UNIT 1	0 5 0 0 0 4 2 4	1 OF 0 4

TITLE (4)

REACTOR TRIP CAUSED BY STATOR COOLING SYSTEM VALVE CONTROLLER FAILURE

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 4	0 7	8 8	8 8	0 0 8	0 0	0 5	0 6	8 8		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)	1	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)	X 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
W. E. Burns, Nuclear Licensing Manager - Vogtle	4 0 4 5 2 6 - 7 0 1 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	
B	T J	T C I	E 1 2 0	N							
B	B A	H S	E 1 5 5	N							

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

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

At 0838 CDT on April 7, 1988, with Unit 1 operating at 100 percent rated thermal power, a Stator Coolant System alarm was received in the control room. A plant equipment operator (PEO) was dispatched to investigate and found system water temperature to be increasing. Control room operators promptly began to reduce the turbine-generator/reactor load while the PEO attempted to start the second stator cooling water pump. These actions were unable to prevent the turbine tripping on high stator coolant water temperature which, in turn, caused a reactor trip at 0846 CDT. All control rods inserted and Auxiliary Feedwater (AFW) System actuated when the steam generators (SG's) reached their low water level setpoints.

The cause of this event was a manufacturing error in using an undersized linkage shaft on a stator cooling water valve (1TCV-6800) temperature controller. Vibration of the underlying equipment skid led the undersized linkage shaft to strip the minimally engaged threads and drop out of a nylon thumb nut, giving a signal for valve 1TCV-6800 to close. Corrective action included replacement of the temperature controller.

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

A. REQUIREMENT FOR REPORT

This report is required per 10 CFR 50.73 (a)(2)(iv) because of an unplanned actuation of the Reactor Protection System (RPS).

B. UNIT STATUS AT TIME OF EVENT

At the time of the April 7, 1988, event, Unit 1 was in Mode 1 (power operations) at 100 percent rated thermal power. There was no inoperable equipment that contributed to this event other than the malfunctioning of a stator cooling water valve controller.

C. DESCRIPTION OF EVENT

At 0838 CDT on April 7, 1988, a Stator Coolant System alarm was received in the control room. A plant equipment operator (PEO) was dispatched to investigate and found system water temperature to be increasing. Control room operators promptly began to reduce the turbine/reactor load while the PEO attempted to increase flow through the system heat exchanger by starting the second stator cooling water pump. However, the failure of a temperature controller for the stator cooling water valve (1TCV-6800) caused a invalid signal for the valve to close, thus causing the stator cooling water to bypass the system heat exchangers. This, in turn, caused the stator cooling water temperature to increase. The PEO was unable to prevent the high water temperature from causing a turbine trip and the consequential reactor trip at 0846 CDT. The control rods inserted and Auxiliary Feedwater (AFW) System actuated upon the Steam Generators (SG's) reaching their low water level setpoints. By 0950 CDT, the plant was stabilized in Mode 3 (hot standby).

During the event (at 0930 CDT), a malfunctioning handswitch caused a valve breaker (for valve 1HV-5139A, an auxiliary feedwater flow control valve) to trip open as control room operators attempted to throttle AFW flow to SG #1. The operators reset the valve breaker and manually manipulated the valve handswitch.

D. CAUSE OF EVENT

The cause of this event was the separation (from its nylon thumb nut) of the linkage shaft on the stator cooling water valve temperature controller. This resulted in the temperature controller sending a signal to the valve causing it to close. Closure of the valve caused the stator cooling water to bypass the system heat exchangers.

The root cause of the event was an undersized (short length) linkage arm which had only minimally engaged threads within the thumb nut. Normal vibration of the equipment skid led the linkage shaft to strip the minimally engaged threads and drop out of the thumb nut.

E. ANALYSIS OF EVENT

When the turbine tripped, the reactor also tripped as designed. Main feedwater isolated and the Auxiliary Feedwater system actuated. Control room operators responded properly by stabilizing the plant in Mode 3 (hot standby). Based on these considerations, it is concluded that there was no adverse effect on plant safety or public health and safety as a result of this event.

F. CORRECTIVE ACTIONS

1. Plant personnel have replaced the temperature controller with a newer model and removed the controller from the skid to reduce vibration.

2. Plant personnel have completed a search for and inspection of other such controllers to determine if similar conditions may exist elsewhere in the plant. No such conditions were found.

G. ADDITIONAL INFORMATION

1. Failed Components

   a. Valve controller manufactured by Fisher and Porter Type #5101451TC

   b. Handswitch manufactured for Westinghouse Electric by Electro-Switch Corp. Model #MK3SPB-Q

2. Previous Similar Events

   None. A review of previous LER's indicated that reactor trips were initiated from the stator cooling system; however, the initiating cause was a temperature switch which was not a factor in this event.

3. Energy Industry Identification System

Generator Stator Cooling System - TJ
Auxiliary Feedwater System - BA
Main Feedwater System - SJ
Control Rod Drive System - AA

Georgia Power Company
333 Piedmont Avenue
Atlanta, Georgia 30308
Telephone 404 526-6526

Mailing Address
Post Office Box 4545
Atlanta, Georgia 30302

Georgia Power
the southern electric system

Executive Department

SL-4643
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X7GJ17-V310

May 6, 1988

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

PLANT VOGTLE - UNIT 1
NRC DOCKET 50-424
OPERATING LICENSE NPF-68
LICENSEE EVENT REPORT
REACTOR TRIP CAUSED BY
GENERATOR STATOR COOLING SYSTEM FAILURE

Gentlemen:

In accordance with the requirements of 10 CFR 50.73(a)(2)(iv), Georgia Power Company is submitting a Licensee Event Report (LER) concerning an event where an Engineered Safety Feature failed to actuate correctly.

Sincerely,

R. P. McDonald
Executive Vice President,
Nuclear Operations

PAH/lm

Enclosure: LER 50-424/1988-008

c: (see next page)

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Georgia Power

c: Georgia Power Company
Mr. P. D. Rice
Mr. G. Bockhold, Jr.
GO-NORMS

U. S. Nuclear Regulatory Commission
Dr. J. N. Grace, Regional Administrator
Mr. J. B. Hopkins, Licensing Project Manager, NRR (2 copies)
Mr. J. F. Rogge, Senior Resident Inspector-Operations, Vogtle

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