

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) PLANT VOGTLE - UNIT 1	DOCKET NUMBER (2) 0 5 0 0 0 4 2 4	PAGE (3) 1 OF 0 4
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TITLE (4)
REACTOR TRIP CAUSED BY INADVERTENT CLOSURE OF MSIV DURING MAINTENANCE

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)																													
05	13	87	87	027	00	06	12	87			0 5 0 0 0																													
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:15%;">OPERATING MODE (9)</td> <td style="width:15%;">20.402(b)</td> <td style="width:15%;">20.406(a)</td> <td style="width:15%;"><input checked="" type="checkbox"/></td> <td style="width:15%;">50.73(a)(2)(iv)</td> <td style="width:15%;">73.71(b)</td> </tr> <tr> <td rowspan="5">POWER LEVEL (10) 090</td> <td>20.406(a)(1)(i)</td> <td>50.36(c)(1)</td> <td><input type="checkbox"/></td> <td>50.73(a)(2)(v)</td> <td>73.71(c)</td> </tr> <tr> <td>20.406(a)(1)(ii)</td> <td>50.36(c)(2)</td> <td><input type="checkbox"/></td> <td>50.73(a)(2)(vii)</td> <td rowspan="4">OTHER (Specify in Abstract below and in Text, NRC Form 366A)</td> </tr> <tr> <td>20.406(a)(1)(iii)</td> <td>50.73(a)(2)(i)</td> <td><input type="checkbox"/></td> <td>50.73(a)(2)(viii)(A)</td> </tr> <tr> <td>20.406(a)(1)(iv)</td> <td>50.73(a)(2)(ii)</td> <td><input type="checkbox"/></td> <td>50.73(a)(2)(viii)(B)</td> </tr> <tr> <td>20.406(a)(1)(v)</td> <td>50.73(a)(2)(iii)</td> <td><input type="checkbox"/></td> <td>50.73(a)(2)(ix)</td> </tr> </table>												OPERATING MODE (9)	20.402(b)	20.406(a)	<input checked="" type="checkbox"/>	50.73(a)(2)(iv)	73.71(b)	POWER LEVEL (10) 090	20.406(a)(1)(i)	50.36(c)(1)	<input type="checkbox"/>	50.73(a)(2)(v)	73.71(c)	20.406(a)(1)(ii)	50.36(c)(2)	<input type="checkbox"/>	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)	20.406(a)(1)(iii)	50.73(a)(2)(i)	<input type="checkbox"/>	50.73(a)(2)(viii)(A)	20.406(a)(1)(iv)	50.73(a)(2)(ii)	<input type="checkbox"/>	50.73(a)(2)(viii)(B)	20.406(a)(1)(v)	50.73(a)(2)(iii)	<input type="checkbox"/>	50.73(a)(2)(ix)
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THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)

LICENSEE CONTACT FOR THIS LER (12)

NAME W. E. Burns, Nuclear Licensing Manager - Vogtle	TELEPHONE NUMBER AREA CODE: 404 526-7014
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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

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)

On May 13, 1987 at 0304 CDT while in Mode 1 at 90% rated thermal power, a reactor trip occurred when steam generator (SG) #1 reached its Low-Low water level setpoint.

The reactor trip was caused by the inadvertent closure of the corresponding outboard main steam isolation valve (MSIV) during maintenance. (Vogtle has two MSIVs in series on each main steam supply line.) The closure of the MSIV caused a rapid pressure increase in SG #1 which produced an immediate decrease in the level of SG #1 to the Low-Low water level setpoint, initiating a reactor trip. The corresponding atmospheric relief valve opened to control pressure in SG #1. Operators closed the remaining train "B" MSIVs to slow the cooldown rate of the Reactor Coolant System and restored the plant to stable conditions by 0322 CDT.

The trip was caused by inadequate work instructions for performing maintenance on the MSIVs. Corrective action was taken to establish written guidelines describing proper methods to maintain valve position while performing maintenance.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) PLANT VOGTLE - UNIT 1	DOCKET NUMBER (2) 0 5 0 0 0 4 2 4	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 7	- 0 2 7	- 0 1 0	0 2	OF	0 4

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), since the event resulted in an unplanned automatic actuation of the Reactor Protection System (RPS).

B. UNIT STATUS AT TIME OF EVENT

At the time of the event, Unit 1 was in Mode 1 at 90% of rated thermal power (RTP). Reactor Coolant System (RCS) pressure and temperature were approximately 2235 psig and 584 degrees Fahrenheit, respectively. The main generator was on line with an electrical load of 1070 MWE. The plant was being maintained at approximately 90% RTP for startup testing. Maintenance was being performed on main steam isolation valve (MSIV) (HV-3006B). Plant Vogtle has two MSIV's in series on each main steam supply line (MSSL).

C. DESCRIPTION OF EVENT

On May 13, 1987, at 0304 CDT, a reactor trip occurred when steam generator (SG) #1 reached its Low-Low water level setpoint. Maintenance was being performed on the corresponding MSSL outboard MSIV to correct a small hydraulic leak in the actuator that was causing the hydraulic pump to stroke excessively. During this maintenance, the MSIV was inappropriately blocked open, both mechanically and hydraulically. The hydraulic blocking of the MSIV should have been accomplished by closing the redundant hydraulic shutoff valves, which would have locked the actuator in a fixed position. Instead, only one of the two hydraulic shutoff valves was isolated. When the MSIV hydraulic fluid dump valves were de-energized, the hydraulic fluid flowed to the overflow tank, thus applying a closing force. The hydraulic closing force disabled the mechanical block, allowing the valve to close. The closure of the MSIV caused a rapid pressure increase in SG #1 which produced an immediate decrease in the level of SG #1 to the Low-Low water level setpoint; initiating a reactor trip, an Auxiliary Feedwater (AFW) system actuation, and subsequently a turbine trip, and feedwater isolation (FWI). The corresponding atmospheric relief valve opened to control pressure in SG #1. Operators closed the remaining train "B" MSIVs to slow the cooldown rate of the RCS and restored the plant to stable conditions by 0322 CDT.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) PLANT VOGTLE - UNIT 1	DOCKET NUMBER (2) 950042487	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
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TEXT (if more space is required, use additional NRC Form 365A's) (17)

D. CAUSE OF EVENT

The immediate cause of the event was the water level decrease in SG #1 to the Low-Low water level setpoint. This was caused by the rapid pressure increase in the SG #1 due to the closure of the MSSL outboard MSIV. The root cause of the trip was inadequate work instructions for performing maintenance on MSIVs while operating at power. The MSIV disassembly procedure does not address performing maintenance of the MSIV in a fully open position. Verbal work instructions (an emergency work order) were provided to the maintenance personnel to hydraulically block open the affected MSSL outboard MSIV. However, the MSIV was mechanically blocked open and only one of the redundant hydraulic lines was blocked (isolated). The power was subsequently removed from the MSIV isolation valve, whereupon the mechanical block failed and the MSIV closed.

E. ANALYSIS OF EVENT

Unit 1 was in Mode 1 when the reactor automatically tripped due to SG #1 water level decreasing to the low-low water level setpoint. Automatic systems functioned as required. The control rods fully inserted into the core upon receipt of the trip signal. Atmospheric relief valve (1PV-3000A) opened to control pressure in SG #1. The remaining train B MSIVs were closed at 0305 CDT to control the cooldown rate. The plant was taken to Mode 3 at 0322 CDT by applicable plant procedures. The plant's systems are capable of responding appropriately to similar events at any power levels. Based upon the above information, it is concluded this event had no adverse impact on plant safety or the health and safety of the public.

F. CORRECTIVE ACTIONS

- (1) Guidelines describing proper methods to maintain valve position while performing maintenance on MSIV's have been established and provided to Work Planning for implementation. Additionally, this action was expanded to include other critical valves in the main steam supply system. (feedwater isolation valves).
- (2) The administrative control of emergency maintenance procedures has been redefined in plant procedure 00350-C, "Maintenance Program".

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		8 7	- 0 1 2 7	- 0 0	0 4	OF 0 4

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- (3) The MSIV disassembly procedure has been revised to properly sequence the steps for hydraulically isolating the MSIV.
- (4) Miscellaneous valves associated with the hydraulic operators of the MSIVs, and feedwater isolation valves were temporarily tagged. A permanent tag is expected to be installed on these valves by August 3, 1987.

G. ADDITIONAL INFORMATION

- (1) Previous Similar Events

None

- (2) Energy Industry Identification Code

Main Steam System - SB
 Condensate and Feedwater System - SJ
 Auxiliary Feedwater System - BA
 Control Rod Drive System - AA

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Georgia Power

the southern electric system

SL-2656
0325m
X7GJ17-V310

June 12, 1987

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 INADVERTENT
CLOSURE OF MSIV DURING MAINTENANCE

Gentlemen:

Pursuant to the requirements of 10 CFR 50.73(a)(2)(iv), Georgia Power Company is submitting a Licensee Event Report (LER) concerning an event where a reactor trip was caused by an inadvertent closure of an MSIV during maintenance.

Sincerely,

L. T. Gucwa

PAH/lm

Enclosure: LER 50-424/1987-027

c: (see next page)

LE22
" "

U. S. Nuclear Regulatory Commission
June 12, 1987
Page Two

c: Georgia Power Company

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