

**Southern Nuclear
Operating Company, Inc.**
Vogtle Electric Generating Plant
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Waynesboro, Georgia 30830
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June 5, 2012



Docket Nos.: 50-424

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001

Vogtle Electric Generating Plant – Unit 1
Licensee Event Report 2012-002-00
Manual Reactor Trip Due to Circuit Board Failure

Ladies and Gentlemen:

In accordance with the requirements of 10 CFR 50.73(a)(2)(iv)(A), Southern Nuclear Operating Company hereby submits the enclosed Licensee Event Report concerning an event of the unplanned manual actuation of the Reactor Protection System and the automatic actuation of the Auxiliary Feedwater System following the failure of a circuit board in the feedwater control system.

This letter contains no NRC commitments. If you have any questions, please contact Mr. B. D. McKinney at (205) 992-5982.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'T. E. Tynan', followed by a horizontal line.

T. E. Tynan
Vice President – Vogtle

TET/WEB

Enclosure: LER 1-2012-002, Revision 0

cc: Southern Nuclear Operating Company
Mr. S. E. Kuczynski, Chairman, President & CEO
Mr. D. G. Bost, Executive Vice President & Chief Nuclear Officer
Mr. B. L. Ivey, Vice President – Regulatory Affairs
Mr. B. J. Adams, Vice President – Fleet Operations
Mr. A. J. Ajluni, Nuclear Licensing Director
RType: CVC7000

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U. S. Nuclear Regulatory Commission
Mr. V. M. McCree, Regional Administrator
Mr. P. G. Boyle, NRR Senior Project Manager - Vogtle
Mr. L. M. Cain, Senior Resident Inspector – Vogtle

Enclosure

NL-12-1109

Vogtle Electric Generating Plant – Unit 1

Licensee Event Report 1-2012-002-00

Manual Reactor Trip Due to Circuit Board Failure

LICENSEE EVENT REPORT (LER)

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA/Privacy Section (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects.resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

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4. TITLE
Manual Reactor Trip Due to Circuit Board Failure

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
04	14	2012	2012	- 002 -	00	06	13	2012	FACILITY NAME	DOCKET NUMBER
										05000
										05000

9. OPERATING MODE 1	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: (Check all that apply)									
	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)						
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)						
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)						
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)						
10. POWER LEVEL 100	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)						
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)						
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)						
	<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER						
	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A						

12. LICENSEE CONTACT FOR THIS LER	
FACILITY NAME Vogtle Electric Generating Plant / B. D. McKinney / Regulatory Response Mgr.	TELEPHONE NUMBER (Include Area Code) 205-992-5982

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT									
CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
X	SJ	PDC	G080	Y					

14. SUPPLEMENTAL REPORT EXPECTED					15. EXPECTED SUBMISSION DATE		MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE)					<input checked="" type="checkbox"/> NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On April 14, 2012, at approximately 1346 Eastern Daylight Time (EDT) time, with Unit 1 operating in Mode 1 at 100 percent rated thermal power, Unit 1 operators initiated a manual reactor trip due to the loss of flow from the 1B Main Feedwater Pump (MFP). The Reactor Trip System, the Engineered Safety Feature Actuation System, and other responding equipment performed as expected. The plant was stabilized in Mode 3. The cause of the loss of 1B MFP flow was the failure of a "Position 5" circuit board in the feed pump turbine speed control circuit. This board failure is preliminarily attributed to component aging.

The failed board has been shipped to a vendor for a detailed failure analysis. Upon review of the detailed failure analysis, the conclusions, if different than component aging, will be provided in a Supplemental LER. The controller board is obsolete and no longer has original manufacturer support. The prompt corrective action was to replace the subject circuit board.

The safety significance of this event is low. There were no adverse effects on the health and safety of the public.

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A. REQUIREMENT FOR REPORT

This report is required per 10 CFR 50.73(a)(2)(iv)(A) due to an unplanned manual actuation of the Reactor Protection System (RPS) [JC] and an automatic actuation of the Auxiliary Feedwater System (AFW) [BA].

B. UNIT STATUS AT TIME OF EVENT

At the time of this event, Unit 1 was in Mode 1 at 100 percent rated thermal power.

C. DESCRIPTION OF EVENT

On April 14, 2012, with Unit 1 operating in Mode 1 at 100 percent rated thermal power at approximately 1346 hours EDT, Unit 1 operators noted a feedwater flow abnormality and initiated a manual reactor trip due to the loss of flow from the 1B MFP. The Reactor Trip System, the Engineered Safety Feature Actuation System, and other responding equipment performed as expected. The plant was stabilized in Mode 3.

In accordance with 10 CFR 50.72(b)(2)(iv)(B) which specifies the reporting requirements for a manual actuation of the RPS on Unit 1, a 4-hour non-emergency notification was made on April 14, 2012, at 1612 EDT (Event Notification 47836).

D. CAUSE OF EVENT

The apparent cause of the event was a failed "Position 5" circuit board judged to be due to component aging in the MFP turbine speed control circuit. A "Position 5" circuit board's function within the MFP controller is to process feedback signals from the pilot valve position, operating valve position and shaft speed. Its failure impacted the control signal provided to the MFP speed governor thus resulting in steam generator flow mismatches. The failed board has been shipped to a vendor for a detailed failure analysis. The controller board is obsolete and no longer has vendor support from the original manufacturer.

E. SAFETY ASSESSMENT

When the reactor was manually tripped all rods fully inserted. As a result of the reactor trip, the turbine tripped, the Feedwater System isolated and the AFW system actuated in accordance with plant design. Control room operators responded appropriately to control feedwater to the steam generators and the plant was stabilized in Mode 3. Results of the analysis discussed in Final Safety Analysis Report for Plant Vogtle, Chapter 15.2.7, Loss of Normal Feedwater Flow bound this event and show that a loss of normal feedwater does not adversely affect the core, the Reactor Coolant System, or the steam system. The auxiliary feedwater capacity is such that reactor coolant

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NARRATIVE

inventory is not relieved from the pressurizer relief or safety valves. Based upon these considerations, there was no adverse effect on plant safety or on the health and safety of the public as a result of this event.

F. CORRECTIVE ACTION

The prompt corrective action was to replace the subject "Position 5" circuit board. In addition, the failure of the circuit board was entered into the Corrective Action Program in order to track a longer term solution.

G. ADDITIONAL INFORMATION

1) Failed Components:

Component: MDT-20 Control System
Manufacturer: GE

2) Previous Similar Events:

A review of Licensee Event Reports for the past three years did not identify another instance in which there was a manual reactor trip following the loss of feedwater pump at Vogtle Electric Generating Plant due to a failure of a circuit board in the feedwater control system.

3) Energy Industry Identification System Code:

Plant Protection System - JC
Solid State Protection System - JG
Auxiliary Feedwater System - BA
Feedwater System - SJ

4) Commitment Information:

This report does not create any new permanent licensing commitments.