Southern Nuclear

Regulatory Affairs

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AUG 3 0 2018

Docket No: 50-424

NL-18-1028

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

Vogtle Electric Generating Plant – Unit 1
Licensee Event Report 2018-001-00
Manual Reactor trip due to High Steam Generator Water Level

Ladies and Gentlemen:

In accordance with the requirements of 10 CFR 50.73(a)(2)(iv)(A), Southern Nuclear Operating Company is submitting the enclosed Licensee Event Report, 2018-001-00 for Vogtle Electric Generating Plant Unit 1. This letter contains no NRC commitments. If you have any questions, please contact Matt Horn (706) 848-1544.

Respectfully submitted,

Cheryl A. Gayheart
Regulatory Affairs Director

CAG/KCW

Enclosure: Unit 1 Licensee Event Report 2018-001-00

Cc: Regional Administrator
NRR Project Manager – Vogtle 1 & 2
Senior Resident Inspector – Vogtle 1 & 2
RType: CVC7000

Vogtle Electric Generating Plant – Unit 1
Licensee Event Report 2018-001-00
Manual Reactor trip due to High Steam Generator Water Level

Enclosure

Unit 1 Licensee Event Report 2018-001-00

NRC FORM 366 (04-2018) U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

(See Page 2 for required number of digits/characters for each block)

(See NUREG-1022, R.3 for instruction and guidance for completing this form http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/)

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 03/31/2020

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 Information Services Branch (T-2 F43), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by 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.

1. Facility Name	2. Docket Number	3. Page
Vogtle Electric Generating Plant	05000424	1 OF 2

4. Title
Manual Reactor Trip due to High Steam Generator Water Level

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
									N/A	05000
07	03	2018	2018	- 001	- 00	08	30	2018	Facility Name N/A	Docket Number 05000

9. Operating Mode	11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: *(Check all that apply)*			
1	☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)
	☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)
	☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)
	☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☒ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
10. Power Level	☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)
100	☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
	☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(C)	☐ 73.77(a)(1)
	☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(D)	☐ 73.77(a)(2)(ii)
	☐ 20.2203(a)(2)(vi)	☐ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(vii)	☐ 73.77(a)(2)(iii)
		☐ 50.73(a)(2)(i)(C)	☐ Other (Specify in Abstract below or in NRC Form 366A	

12. Licensee Contact for this LER

Licensee Contact	Telephone Number (Include Area Code)
Vogtle Electric Generating Plant, Matthew Horn, Regulatory Affairs Manager	706-848-1544

13. Complete One Line for each Component Failure Described in this Report

Cause	System	Component	Manufacturer	Reportable To ICES	Cause	System	Component	Manufacturer	Reportable To ICES
E	SN	X	X999	Y	N/A				

14. Supplemental Report Expected	15. Expected Submission Date	Month	Day	Year
☐ Yes (If yes, complete 15. Expected Submission Date) ☒ No		N/A	N/A	N/A

Abstract (Limit to 1400 spaces, i.e., approximately 14 single-spaced typewritten lines)

At 0954 EDT on July 3, 2018, with Unit 1 in Mode 1, 100 percent power, the reactor was manually tripped due to high steam generator water level. The high steam generator water level was caused by a controller failure on Heater Drain Tank B which led to a feedwater oscillation on the secondary side of the plant. This oscillation caused steam generator water levels to increase. Control Room operators monitored this increase and manually tripped the plant prior to reaching the automatic trip setpoint.

The unit was stabilized in Mode 3 with decay heat removed through the main steam lines through the steam dumps and into the condenser.

This event had no adverse effects on the health and safety of the public and is of very low safety significance. This event is reportable under 10CFR50.73(a)(2)(iv)(A) due to manual actuation of systems listed in 10CFR50.73(a)(2)(iv)(B).

Unit 2 was not affected.

1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
		YEAR	SEQUENTIAL NUMBER	REV NO.
Vogtle Electric Generating Plant	05000-424	2018	- 001	- 00

NARRATIVE

A. Event Description

On July 3, 2018 at approximately 0920 EDT, Unit 1 was in Mode 1, 100 percent power. All systems were in their normal lineup. At that time, the high-level dump controller [PMC] for the Heater Drain Tank B [TK] malfunctioned. This caused the high-level dump valve to cycle open, closed, then open again. The cycling of this valve caused a flow oscillation in the feedwater system. Due to the low Feed Pump suction pressure caused by this flow oscillation, the third condensate pump automatically started. As the third condensate pump started, the high-level dump valve closed and then sent excess water into the Steam Generators [SG]. The Control Room Operators were monitoring water levels in the Steam Generators and when the water level rose and continued to rise, they manually initiated a reactor trip/turbine trip. This initiated a Reactor Protection System actuation. The reactor was tripped at approximately 0954 EDT. Feedwater isolated and the auxiliary feedwater system automatically started and supplied water to the steam generators. Decay heat was removed via the main steam system through the steam dumps and into the condenser.

B. Cause of Event

The cause of the manual plant trip was a malfunction of the controller on the Heater Drain Tank B high-level dump valve and the resulting flow oscillation caused by the repeated opening and closing of this valve coincident with the third condensate pump starting which cause an increase in steam generator water level.

C. Safety Assessment

When the Control Room Operators manually initiated the trip, all systems responded as designed. Engineered Safety Features (ESF) automatic actuations for Auxiliary Feedwater, Feedwater Isolation, and Turbine Trip occurred as expected, and the control rods fully inserted into the core. Because all systems responded as required and there were no adverse effects on the health and safety of the public, the safety significance of this event is very low.

D. Corrective Actions

The controller for Heater Drain Tank B was replaced and satisfactorily tested prior to being returned to service.

E. Previous Similar Events

None