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April 16, 2010

Docket Nos.: 50-425

NL-10-0714

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

**Vogtle Electric Generating Plant-Unit 2
Licensee Event Report 2-2010-001
Closure of RHR Injection Valve in Mode 1**

Ladies and Gentlemen:

In accordance with the requirements of 10 CFR 50.73(a)(2)(v)(D) and 10 CFR 50.73(a)(2)(vii)(D) Southern Nuclear Operating Company (SNC) is submitting the enclosed Licensee Event Report.

This letter contains no NRC commitments. If you have any questions, please advise.

Respectfully submitted,

A handwritten signature in black ink that reads "T. E. Tynan".

T. E. Tynan
Vice President – Vogtle

TET/TMH/sdc

Enclosure: Unit 2 Licensee Event Report 2-2010-001

cc: Southern Nuclear Operating Company
Mr. J. T. Gasser, Executive Vice President
Mr. T. E. Tynan, Vice President – Vogtle
Ms. P. M. Marino, Vice President – Engineering

U. S. Nuclear Regulatory Commission

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Mr. L. A. Reyes, Regional Administrator

Mr. R. E. Martin, NRR Project Manager – Vogtle

Mr. M. Cain, Senior Resident Inspector – Vogtle

Mr. P. Boyle, NRC Project Manager

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LICENSEE EVENT REPORT (LER)

Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to inilocollects@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 Vogtle Electric Generating Plant – Unit 2	2. DOCKET NUMBER 05000 425	3. PAGE 1 OF 4
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4. TITLE
Closure of RHR Injection Valve in Mode 1

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
02	18	2010	2010	001	00	04	16	2010	FACILITY NAME	DOCKET NUMBER
										05000
										05000

9. OPERATING MODE 1	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFRs: (Check all that apply)									
10. POWER LEVEL 100	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input checked="" 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)						
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input 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 checked="" 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/Mark Hickox, Principal Licensing Engineer	TELEPHONE NUMBER (Include Area Code) (706) 826-4129
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13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

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

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

On February 18, 2010 while reviewing a partially completed surveillance procedure for verifying the operability of the Train B shutdown panel transfer function, it was discovered that the motor operated valve (MOV) that isolates Residual Heat Removal (RHR) flow to loops 3 and 4 cold legs had been momentarily stroked closed twice with the unit in Mode 1, on January 5, 2010. Stroking this valve closed in Mode 1 renders both trains of RHR inoperable since the required emergency core cooling flow from the RHR pump(s) cannot be assured, and requires entry into Technical Specification LCO 3.0.3.

The cause of this event was due to cognitive error by Operations department personnel applying fundamental knowledge of the Emergency Core Cooling System configuration needed to satisfy Technical Specification Limiting Condition of Operations (LCO) requirements. Also, the procedure used to perform the test was inadequate since at the time the valve was stroked, it did not contain a caution to alert the operator that the valve could not be stroked with the unit at power.

**LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET**

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE		
Vogtle Electric Generating Plant-Unit 2	05000425	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2	OF	4
		2010	- 001	- 0			

NARRATIVE (If more space is required, use additional copies of NRC Form 366A)

A. REQUIREMENT FOR REPORT

The VEGP Emergency Core Cooling System (ECCS) consists of three subsystems: centrifugal charging (high head), safety injection (intermediate head), and residual heat removal (low head). Each of the three subsystems consist of two 100 percent capacity trains that are interconnected and redundant such that either train is capable of supplying 100 percent of the required flow to mitigate the accident consequences. Technical Specification 3.5.2 requires two trains of ECCS to be Operable in Modes 1-3. The design of the residual heat removal (RHR) subsystem at VEGP is such that each RHR pump must be capable of injecting into all four cold legs. There are two MOVs installed on the discharge of the RHR pumps that can isolate flow to the cold legs. One MOV isolates RHR injection flow to loops 1 and 2 cold legs while the other MOV isolates RHR injection flow to loops 3 and 4 cold legs. During the time the RHR to cold legs 3 and 4 MOV was closed, the low head accident required ECCS flow to the four cold legs from either RHR pump could not be assured. Therefore this condition is reportable under the following sections of 10CFR50.73:

10CFR50.73(a)(2)(v)(D), "Any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident."

10CFR50.73(a)(2)(vii)(D), "Any event where a single cause or condition caused...two independent trains...to become inoperable in a single system designed to mitigate the consequences of an accident."

B. UNIT STATUS AT TIME OF EVENT

At the time of the event on January 5, 2010 Unit 2 was operating in Mode 1 at 100 percent rated thermal power. There was no other inoperable equipment that contributed to this event.

C. DESCRIPTION OF EVENT

Technical Specification surveillance requirement (SR) 3.3.4.2 verifies each required remote shutdown panel control circuit and transfer switch performs the intended function every 18 months. At VEGP, there are two procedures that implement this surveillance requirement. One procedure contains all of the required components on the A train shutdown panel and another procedure contains all of the required components on the B train shutdown panel. Many of the components on the shutdown panel are capable of being operated with the unit at power (e.g. during system outages) while others require the unit to be shutdown.

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NARRATIVE (If more space is required, use additional copies of NRC Form 366A)

To ensure all components on a given shutdown panel are tested, Operations department personnel maintain a "master" copy of each procedure in the control room and update the "master" procedure as individual components are tested. Once all components are tested, the procedure is signed off as completed and sent to Document Control for retention.

On February 18, 2010 in preparation for an upcoming system outage on RHR Train A, the operator was reviewing the A train remote shutdown panel test procedure to determine which components could be tested. During the review it was noticed that the procedure had been revised on January 11, 2010 to add a caution to preclude stroking the RHR pump discharge to loops 1 and 2 cold leg isolation valve while at power. Subsequently, the operator reviewed the B train shutdown procedure and found that it had also been revised on January 11, 2010 to add a caution to preclude stroking the RHR pump discharge to loops 3 and 4 cold leg isolation valve while at power. The procedure revisions were as a result of a Condition Report that was initiated in August 2009 due to a similar event that had almost occurred on Unit 1 but had been caught prior to the valves being stroked. Once the operator reviewed the master copy of the B train shutdown panel test procedure on February 18, 2010, it was determined that the RHR to loop 3 and 4 cold leg MOV had been stroked closed on January 5, 2010. The test was performed six days prior to the procedure being revised to caution the user that the valve could not be stroked with the unit at power.

To perform the remote shutdown test procedure on this component requires that control be transferred to the shutdown panel and the valve stroked from the open to close position and then back to the open position. Once the valve stroke sequence was completed at the shutdown panel, control was transferred back to the control room. To ensure the valve control circuitry was functioning properly, the valve was stroked from open to close and then back to the open position from the control room handswitch.

A review of valve position indication on the plant computer determined that the valve was not in the fully open position for approximately 30 seconds during each stroke. However, during the time the valve was not fully open, an operator was continuously available to open the valve had the need arisen.

D. CAUSE OF EVENT

The cause of this event was due to cognitive error by Operations department personnel applying fundamental knowledge of the Emergency Core Cooling System configuration needed to satisfy Technical Specification Limiting Condition of Operations (LCO) requirements. Also, the procedure used to perform the test was inadequate since at the time the valve was stroked, it did not contain a caution to alert the operator that the valve could not be stroked with the unit at power.

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NARRATIVE (If more space is required, use additional copies of NRC Form 366A)

E. ANALYSIS OF EVENT

This event represents a loss of safety system function since during the brief period of time the valve was closed, emergency core cooling accident required flowrate from the low head RHR pumps could not be assured. However, based on a risk assessment of the valve being closed for the short duration involved, the increase in both core damage frequency (CDF) and large early release frequency (LERF) were found to be negligible. Additionally, there were no events which required an ECCS actuation during the time the valve was closed. Based on these considerations, there was no adverse affect on plant safety or on the health and safety of the public.

F. CORRECTIVE ACTIONS

1. A new procedure was developed for performing the remote shutdown surveillance test for the RHR cold leg injection MOVs. This procedure contains the necessary cautions to alert the user that the procedure cannot be performed in Modes 1, 2 and 3.
2. The individuals involved with this event were coached to ensure an understanding of the relationships between surveillance procedures, Technical Specification LCOs, and use and applicability of Technical Specification Bases.

G. ADDITIONAL INFORMATION

1. Failed Components:

None

2. Previous Similar Event:

Licensee Event Report 1-1996-002 involved a similar event on Unit 1 in which this valve was stroked with the unit at power. The corrective actions from that event included counseling the operations department personnel, conducting a shift briefing and covering this event as part of the "Lessons Learned" segment during licensed operator re-qualification training. These corrective actions to prevent recurrence proved not to be effective in preventing this event since they were one time actions that did not address the fundamental operator knowledge gap on the configuration requirements for the emergency core cooling system to ensure compliance with the Technical Specifications and accident analysis assumptions and further did not institutionalize the knowledge into plant procedures.

3. Energy Industry Identification System Codes:

Residual Heat Removal Low Pressure Injection System-BP