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SOUTHERN COMPANY
Energy to Serve Your World℠

September 19, 2005

Docket No.: 50-425

NL-05-1589

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

Vogtle Electric Generating Plant - Unit 2
Licensee Event Report 2-2005-002
Instrument Setpoint Drift Leads to Operation of the Unit in a
Condition Prohibited by Technical Specifications

Ladies and Gentlemen:

In accordance with the requirements of 10 CFR 50.73, Southern Nuclear Operating Company hereby submits a Vogtle Electric Generating Plant licensee event report for a condition that was determined to be reportable on July 21, 2005.

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

Sincerely,

Don E. Grissette

DEG/RJF/daj

Enclosure: LER 2-2005-002

cc: Southern Nuclear Operating Company
Mr. J. T. Gasser, Executive Vice President
Mr. T. E. Tynan, General Manager – Plant Vogtle
RType: CVC7000

U. S. Nuclear Regulatory Commission
Dr. W. D. Travers, Regional Administrator
Mr. C. Gratton, NRR Project Manager – Vogtle
Mr. G. J. McCoy, Senior Resident Inspector – Vogtle

NRC FORM 366 (6-2004) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 06/30/2007

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 infocollects@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.

LICENSEE EVENT REPORT (LER)

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

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
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4. TITLE

Instrument Setpoint Drift Leads to Operation of the Unit in a Condition Prohibited by Technical Specifications

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER(S)
										05000
07	21	2005	2005	002	00	09	19	2005	FACILITY NAME	DOCKET NUMBER(S) 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)(i)(C)		50.73(a)(2)(vii)
		20.2201(d)		20.2203(a)(3)(ii)		50.73(a)(2)(ii)(A)		50.73(a)(2)(viii)(A)
		20.2203(a)(1)		20.2203(a)(4)		50.73(a)(2)(ii)(B)		50.73(a)(2)(viii)(B)
		20.2203(a)(2)(i)		50.36(c)(1)(i)(A)		50.73(a)(2)(iii)		50.73(a)(2)(ix)(A)
10. POWER LEVEL		20-2203(a)(2)(ii)		50.36(c)(1)(ii)(A)		50.73(a)(2)(iv)(A)		50.73(a)(2)(x)
		20-2203(a)(2)(iii)		50.36(c)(2)		50.73(a)(2)(v)(A)		73.71(a)(4)
100%		20.2203(a)(2)(iv)		50.46(a)(3)(ii)		50.73(a)(2)(v)(B)		73.71(a)(5)
		20.2203(a)(2)(v)		50.73(a)(2)(i)(A)		50.73(a)(2)(v)(C)		OTHER
		20.2203(a)(2)(vi)	X	50.73(a)(2)(i)(B)		50.73(a)(2)(v)(D)		Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME	TELEPHONE NUMBER (Include Area Code)
Tom Webb, Performance Analysis	(706) 826-3105

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
B	JA	TC	W120	Y						

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

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

Reactor Coolant System Loop 2 Overtemperature Delta-T (OTDT) instrument channel 2T-421 was restored to service on February 26, 2005, following maintenance to correct overtemperature setpoint (OTSP) drift by replacing a summing amplifier. After the channel was returned to service, the OTSP signal continued to drift until March 3, 2005, when 2T-421 was again removed from service and a different summing amplifier replaced, correcting the drift anomaly. On July 21, 2005, an engineering evaluation of the instrument channel drift evolution concluded that this channel's OTSP signal had drifted outside of the Technical Specifications (TS) allowable values for the input signals for a period of time longer than allowed by the action requirements. Therefore, the unit had operated in a condition prohibited by the TS.

The causes of this event include the failure to perform adequate troubleshooting and post-maintenance testing on February 26, 2005. I&C technicians and their supervision were advised of the proper course of action expected for this type of event, and procedures were revised to clarify the expectations for functional testing following corrective maintenance.

A. REQUIREMENT FOR REPORT

This report is required per 10 CFR 50.73 (a)(2)(i)(B). The unit operated in a condition prohibited by the Technical Specifications (TS) when the Loop 2 pressurizer pressure signal input to the overtemperature setpoint (OTSP) exceeded its allowable value for a period of time greater than allowed by the action requirements.

B. UNIT STATUS AT TIME OF EVENT

At the time of the discovery of this event, Unit 2 was in Mode 1 (Power Operation) at 100% of rated thermal power. Other than that described herein, there was no inoperable equipment that contributed to the occurrence of this event.

C. DESCRIPTION OF EVENT

On February 26, 2005, control room operators noticed that Reactor Coolant System (RCS) Loop 2 Overtemperature Delta-T (OTDT) reactor trip setpoint indicator 2TDI-0421C in the RCS Loop 2 OTDT reactor trip setpoint instrument channel 2T-421 (Process Control System) was reading about 5% higher than the other 3 channels. I&C technicians removed instrument channel 2T-421 from service. Initial calibration checks showed that the output of the summing amplifier 2TY-421L was reading higher than expected. I&C technicians replaced 2TY-421L and performed a calibration. Operators performed a channel check and instrument channel 2T-421 was restored to service.

On February 28, 2005, control room operators noted that 2TDI-0421C continued to trend up after the summing amplifier was replaced. A work order was written to investigate.

On March 1, 2005, non-intrusive voltage measurements were taken in the cabinet, which indicated that the pressurizer pressure summing amplifier 2PY-456H may be suspect. A work order was scheduled for March 3, 2005, to correspond with an already scheduled Channel Operational Test (COT) for channel 2T-421.

On March 3, 2005, voltage readings were again taken prior to removing the channel from service for the COT. These readings again indicated a problem with summing amplifier 2PY-456H, and I&C removed instrument channel 2T-421 from service. I&C also performed an as-found COT, confirming a problem with 2PY-456H. This summing amplifier was replaced and calibrations were performed on both 2PY-456H and 2TY-421L, and the COT was completed. Instrument channel 2T-421 was restored to service.

On June 23, 2005, the NRC resident inspector held a meeting with plant management to discuss concerns regarding the maintenance process and channel 2T-421 operability issues surrounding this event.

The delay between the March 3, 2005, discovery that summing amplifier 2PY-456H was outside of setpoint tolerance and the engineering evaluation which showed that this condition existed on February 26, 2005, was a result of an I&C technician determining that a procedure step was not applicable (N/A). This procedure step would have required a Condition Report (CR) for as found conditions out of tolerance, and this CR would have initiated an engineering evaluation of the condition. The I&C technician erroneously determined the step to be N/A based on the fact that three previous CRs had been written on channel 2T-421.

On July 21, 2005, the Engineering Support Department determined that the amount of drift of the pressurizer pressure signal input to the OTSP exceeded the allowable values in TS Table 3.3.1-1, Note 1. The channel had been restored to service post-maintenance on February 26, 2005, with this condition present, and it was not corrected until March 3, 2005, which represents a period of time greater than the 72 hours allowed by the TS action requirements. Therefore, the unit operated in a condition prohibited by the TS.

D. CAUSE OF EVENT

The causes of this event were:

1. The event was initiated from summing amplifier 2PY-456H drifting beyond its allowable value.

2. Proper troubleshooting was not performed on February 26, 2005, per the work order, as needed to identify summing amplifier 2PY-456H as the source of the drifting OTSP signal. Prior experience led both Operations personnel and I&C technicians to limit the troubleshooting scope to only check for summing amplifier 2TY-421L as the failed component.

3. A COT was not performed to verify the condition of instrument channel 2T-421 prior to restoring it to service on February 26, 2005, because the procedure being utilized did not require a COT to be performed following maintenance activities. A contributing cause was the failure to generate a CR on March 3, 2005, for as found conditions out of tolerance.

4. An engineering evaluation of the event was not performed in a reasonable time frame.

E. ANALYSIS OF EVENT

The affected channel, RCS Loop 2 OTDT, provides a signal on a 2-out-of-4 logic to the OTDT Reactor Trip function. The other three channels were not out of service during the period from when 2TDI-0421C was first found reading about 5% higher than the average of the three other Delta-T loops, to the time when the correct summing amplifier (2PY-456H) was replaced and the loop was recalibrated on March 3, 2005. This means the three other channels were still able to provide adequate indication and protection signals. Therefore, this condition represented only a degraded function and not a loss of system function. Based on this consideration, there was no adverse effect on plant safety, or on the health and safety of the public, as a result of the event.

This event does not represent a safety system functional failure.

F. CORRECTIVE ACTIONS

1. Summing amplifier 2PY-456H was replaced and calibrated. A channel COT was performed on March 3, 2005, to verify proper functionality. Testing found a failed potentiometer on the summing amplifier circuit card.

2. I&C personnel and their supervision have been briefed on the requirement to perform troubleshooting to determine the cause of problems, on expectations for asking for additional help on complex control loops or system problems, on the importance of noting non-obvious procedure "N/A's," and on the requirements to perform COTs after system repairs.

3. Procedures for performing RCS Temperature Loop COTs and channel calibrations have been revised to require a COT after corrective maintenance. In addition, procedure 29401-C, "Work Order Functional Tests," has also been revised to clarify the expectations for performing COTs following corrective maintenance.

4. Procedures for performing RCS Temperature Loop COTs and channel calibrations have been revised to require an engineering review for out-of-calibration conditions.

G. ADDITIONAL INFORMATION

1. Failed Components:
   Summing Amplifier (NSA circuit card) manufactured by Westinghouse Electric Corporation.
   Part / Model # 2837A14G02.

2. Previous Similar Events:

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

There have been no previous similar LERs in the last three years.

3. Energy Industry Identification System Code:
   Process Control System – JA
   Reactor Coolant System - AB