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SOUTHERN COMPANY
*Energy to Serve Your World℠*

December 29, 1999

LCV-1412

Docket No. 50-424
50-425

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

Ladies and Gentlemen:

VOGTLE ELECTRIC GENERATING PLANT
LICENSEE EVENT REPORT 1-99-004
INADEQUATE TECHNICAL SPECIFICATION SURVEILLANCES
DUE TO ERROR IN CALIBRATIONS

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 occurred on Unit 1 and Unit 2 on December 1, 1999.

Sincerely,

J. B. Beasley, Jr

JBB/JPC

Enclosure: LER 1-99-004

cc: Southern Nuclear Operating Company
Mr. J. T. Gasser
Mr. M. Sheibani
SNC Document Management

U. S. Nuclear Regulatory Commission
Mr. L. A. Reyes, Regional Administrator
Mr. Ramin R. Assa, Vogtle Project Manager, NRR
Mr. J. Zeiler, Senior Resident Inspector, VEGP

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PDR ADOCK 05000424

NRC FORM 366 (6-1998) U.S.NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104 EXPIRES: 06/30/2001
Estimated burden per response to comply with this mandatory information request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503. If 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)

| FACILITY NAME (1) | DOCKET NUMBER (2) | PAGE (3) |
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TITLE (4)

## INADEQUATE TECHNICAL SPECIFICATION SURVEILLANCES DUE TO ERROR IN CALIBRATIONS

| 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 NAME | DOCKET NUMBER |
| 12 | 01 | 1999 | 1999 | 004 | 00 | 12 | 29 | 1999 | VEGP – UNIT 2 | 0 5 0 0 0 4 2 5 |
| | | | | | | | | | FACILITY NAME | 0 5 0 0 0 |

| OPERATING MODE (9) | 1 |
|---|---|
| POWER LEVEL (10) | 1 0 0 |

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)

| | | | |
|---|---|---|---|
| 20.2201(b) | 20.2203(a)(2)(v) | X 50.73(a)(2)(i) | 50.73(a)(2)(viii) |
| 20.2203(a)(1) | 20.2203(a)(3)(i) | 50.73(a)(2)(ii) | 50.73(a)(2)(x) |
| 20.2203(a)(2)(i) | 20.2203(a)(3)(ii) | 50.73(a)(2)(iii) | 73.71 |
| 20.2203(a)(2)(ii) | 20.2203(a)(4) | 50.73(a)(2)(iv) | OTHER |
| 20.2203(a)(2)(iii) | 50.36(c)(1) | 50.73(a)(2)(v) | *Specify in Abstract below* |
| 20.2203(a)(2)(iv) | 50.36(c)(2) | 50.73(a)(2)(vii) | *or in NRC Form 366A* |

LICENSEE CONTACT FOR THIS LER (12)

| NAME | TELEPHONE NUMBER (include area code) |
|---|---|
| Mehdi Sheibani, Nuclear Safety and Compliance | 7 0 6 - 8 2 6 - 3 2 0 9 |

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

| CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO EPIX | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO EPIX |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| | | | | | | | | | |

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

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


On December 1, 1999, a review of as-left calibration data from steam generator (SG) level transmitters determined that five (5) transmitters in Unit 1 and five (5) transmitters in Unit 2 were suspected to have been left outside of calibration tolerances. This was due to a mis-application of static shift compensation incorporated during recent procedure revisions. TS SR 3.0.3 was invoked to allow 24 hours to perform adequate surveillances on the ten level transmitters involved. Procedures were revised and level transmitters were re-calibrated and returned to service within the necessary 24 hours. The calibration error was found to be on the order of 0.5 %, which is well within the Technical Specification (TS) allowable value for actuating both low and high SG water level signals.

Operation of the plant while relying on the inadequately performed surveillances represented a condition prohibited by the TS. The cause of this event was inadequate procedure revisions. In 1998, a program was instituted to revise the methodology for transmitter calibrations to eliminate the task of performing a transmitter zero-shift test at each calibration interval. In some cases, the revised procedures utilized the incorrect value for the static shift compensation. All affected procedures have been identified and the impact to each function assessed. This error did not result in the as-left calibrations for any transmitters, other than those described above, being outside of acceptable calibration tolerances.

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

## A. REQUIREMENT FOR REPORT

This report is required per 10 CFR 50.73 (a)(2)(i) because the unit operated in a condition prohibited by the Technical Specifications (TS) as a result of inadequate surveillance testing.

## B. UNIT STATUS AT TIME OF EVENT

At the time of the discovery of this event, both Unit 1 and Unit 2 were operating in Mode 1 (power operation) at 100 percent 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 November 29, 1999, plant personnel were investigating possible errors in feedwater flow instrument calibrations in Unit 2. An instrument and controls (I&C) assistant team leader (ATL) was reviewing calibration procedures for feedwater flow instruments when he noticed an error in a static shift value used in the calibrations. The control room was advised and further investigation continued. On December 1, 1999, a review of as-left calibration data from steam generator (SG) level transmitters determined that five (5) transmitters in Unit 1 and five (5) transmitters in Unit 2 were suspected to have been left outside of their calibration tolerances due to this mis-application of static shift compensation. TS SR 3.0.3 was invoked at 1202 EST to allow 24 hours to perform adequate surveillances on the ten level transmitters involved. The necessary procedures were revised and the level transmitters were re-calibrated. These transmitters were returned to service on December 2, 1999, at 0942 EST, in Unit 2, and at 0944 EST, on Unit 1. The calibration error was found to be on the order of 0.5 %, which is well within the Technical Specification (TS) allowable value for actuating both low and high SG water level signals. A follow-up review of the post-calibration data showed that only 7 of the 10 were actually found outside calibration tolerances. These seven channels were indicating high, which was conservative with respect to the nominal trip setpoint for the SG high-high level function. Although these seven channels were non-conservative with respect to the nominal trip setpoint for the SG low-low level function, they were all within the allowable value for the SG low-low level function.

Operation of the plant while relying on the inadequately performed surveillances represented a condition prohibited by the TS.

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

D. CAUSE OF EVENT

The cause of this event was inadequate procedure revisions. In 1998, a program was instituted to revise the methodology for transmitter calibrations to eliminate the task of performing a transmitter zero-shift test at each calibration interval. The program included transmitters for SG water levels, pressurizer water levels, reactor coolant pump seal flows, and other transmitter applications. The zero-shift test elimination was to be accomplished by incorporating each transmitter's specifically known (measured) static shift value into its calibration. There are two tests performed to determine the zero-shift value of a transmitter for a specific application: one test at the system design pressure and the second at the system operating pressure. Based on a review of test data for selected instruments, the two values were found to be similar, and the two tests assumed to be equivalent. Therefore, the design pressure value was programmatically chosen as the zero shift compensation factor. However, the operating pressure value should have been chosen because the zero shift values at the two pressures may be different, depending upon the specific transmitter characteristics. So in some cases, the revised procedures utilized an incorrect value for the static shift compensation. A review of other transmitters affected by the 1998 program changes found them to be within their calibration tolerances.

E. ANALYSIS OF EVENT

The seven transmitters involved had been previously calibrated during the spring of 1999 in Unit 1 or during the fall of 1999 in Unit 2. Although these seven transmitters did not meet their calibration tolerances, they remained capable of performing their intended safety functions of initiating a reactor trip and other ESF actuations. These seven channels were indicating high, which was conservative with respect to the nominal trip setpoint for the SG high-high level function. Although these seven channels were non-conservative with respect to the nominal trip setpoint for the SG low-low level function, they were all within the allowable value for the SG low-low level function. No other transmitters were found to be outside of their calibration tolerances. Based on 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.

This event does not represent a safety system failure.

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

F. CORRECTIVE ACTIONS

1) The procedures for calibrating the affected SG level transmitters were changed and the necessary re-calibrations were performed.

2) By January 15, 2000, the process for making programmatic changes to I&C procedures will be strengthened.

3) The remainder of the transmitter calibration procedures that were a part of the program to eliminate the zero-shift testing at each calibration interval will be revised prior to their next use.

4) Transmitters that have as-left values close to the acceptable calibration limits, based on revised static shift corrections, will be re-calibrated at an accelerated rate and will be completed by March 15, 2000.

G. ADDITIONAL INFORMATION

1) Failed Components:
None

2) Previous Similar Events:
None. Several LERs have been written that identified inadequate instrument calibrations. However, these were the result of initial plant start-up errors rather than a program change.

3) Energy Industry Identification System Code:
Main Feedwater System - SJ