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January 9, 1991

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Senior Vice President
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ELV-02391
277

Docket No. 50-424

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

Gentlemen:

VOGTLE ELECTRIC GENERATING PLANT
LICENSEE EVENT REPORT
INCORRECT REACTOR COOLANT DRAIN TANK VOLUME
CURVE RESULTS IN RCS LEAKAGE MISCALCULATION

In accordance with 10 CFR 50.73, Georgia Power Company hereby submits the enclosed report related to an event which was discovered on December 11, 1990.

Sincerely,


W. G. Hairston, III

WGH,III/NJS/gm

Enclosure: LER 50-424, 1987-084

xc: Georgia Power Company

Mr. J. K. McCoy
Mr. W. B. Shipman
Mr. P. D. Rushton
Mr. R. M. Odom
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Mr. S. D. Ebner, Regional Administrator
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Mr. B. R. Bonser, Senior Resident Inspector, Vogtle

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) VOOTLE ELECTRIC GENERATING PLANT - UNIT 1 DOCKET NUMBER (2) 05000424 PAGE (3) 1 OF 4

TITLE (4) INCORRECT REACTOR COOLANT DRAIN TANK VOLUME CURVE RESULTS IN RCS LEAKAGE MISCALCULATION

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQ NUM	REV	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
04	19	87	87	084	00	01	09	91		05000
										05000

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (11)

OPERATING MODE (9)	20.402(b)	20.405(a)(1)(i)	20.405(a)(1)(ii)	20.405(a)(1)(iii)	20.405(a)(1)(iv)	20.405(a)(1)(v)	20.405(c)	50.73(a)(2)(i)	50.73(a)(2)(ii)	50.73(a)(2)(iii)	50.73(a)(2)(iv)	50.73(a)(2)(v)	50.73(a)(2)(vi)	50.73(a)(2)(vii)	50.73(a)(2)(viii)(A)	50.73(a)(2)(viii)(B)	50.73(a)(2)(ix)	73.71(b)	73.71(c)	OTHER (Specify in Abstract below)
1																				
POWER LEVEL																				

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
R. M. ODOM, NUCLEAR SAFETY AND COMPLIANCE	AREA CODE 404 TELEPHONE NUMBER 826-3201

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORT TO NRPDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORT TO NRPDS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (if yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

ABSTRACT (16)

On 12-7-90, the Unit 1 reference curve used for determining the volume of the Reactor Coolant Drain Tank (RCDT) was found to be incorrect. Per the curve, 100% RCDT level indication corresponded to a volume equal to the total volume of the tank. However, the upper tap for the RCDT level indicator is physically located slightly below the top of the tank and, therefore, 100% level indication actually represents a volume less than full tank volume. The curve was corrected and, since the curve is used to determine RCDT inleakage for the RCS leakage/inventory balance surveillance, a review of prior performances of the surveillance was initiated to determine if Technical Specification (TS) requirements had been met. On 12-11-90, the results of this review indicated that in one instance, on 4-19-87, unidentified leakage had been calculated to be less than the TS limit, but upon recalculation using the corrected curve, unidentified leakage was shown to have been slightly greater than the TS limit. Therefore, on 4-19-87, a failure to enter TS action requirements for unidentified leakage exceeding the TS limit occurred.

In addition to correcting the Unit 1 RCDT volume curve, the Unit 2 RCDT volume curve was checked and found to be correct.

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A. REQUIREMENT FOR REPORT

This report is required per 10 CFR 50.73 (a)(2)(1) since use of an incorrect reference curve resulted in a failure to implement the appropriate action requirements of Technical Specification (TS) 3.4.6.2 pertaining to Reactor Coolant System (RCS) unidentified leakage.

B. UNIT STATUS AT TIME OF EVENT

At the time of discovery on 12-11-90 of the failure to implement the TS action requirements, Unit 1 was operating in Mode 4 (Hot Shutdown) at 0% rated thermal power. At the time that the failure to enter the action requirements of TS 3.4.6.2 occurred on 4-19-87, Unit 1 was operating in Mode 1 (Power Operation) at approximately 49% rated thermal power. Other than that described herein, there was no inoperable equipment which contributed to the occurrence of this event.

C. DESCRIPTION OF EVENT

On 12-7-90, the Unit 1 Shift Superintendent recognized that the Unit 1 Plant Technical Data Book curve used for determining the contained volume of the Reactor Coolant Drain Tank (RCDT) was incorrect. This curve is used in conjunction with RCDT level readings obtained from level indicator LI-1003 to determine the volume (gallons) of water contained within the RCDT. Per the curve, 100% level indication corresponded to a volume of 350 gallons. While total RCDT volume is equal to 350 gallons, the Shift Superintendent recognized that the curve was incorrect since the upper tap for level indicator LI-1003 is physically located at a level 3.625 inches below the top of the tank. Following this discovery, a calculation was performed and it was determined that 100% level indication actually corresponded to a volume of approximately 332 gallons. The Unit 1 RCDT volume curve was then revised to correctly indicate RCDT volume versus indicated level.

Since the RCDT volume curve is used to determine RCDT leakage during performance of procedure 14905-1, "RCS Leakage Calculation (Inventory Balance)," a review was also initiated to determine what effect use of the incorrect curve may have had on prior performances of the leakage surveillance. This review indicated that use of the incorrect curve had typically resulted in a slightly larger than actual value for RCS identified leakage and a slightly smaller than actual value for unidentified leakage. However, with one exception, recalculated values for the current and prior leakage surveillances were found to be within TS limits. On 12-11-90, it was determined that a leakage surveillance which had been performed on 4-19-87 was outside TS limits with respect to unidentified leakage. For that surveillance, the unidentified leakage had been calculated to be 0.97 GPM but recalculation using the corrected curve resulted in a value of 1.21 GPM. Therefore, on 4-19-87, a failure to implement the action requirements of TS 3.4.6.2. for unidentified leakage exceeding 1 GPM occurred.

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D. CAUSE OF EVENT

The root cause of this event was an incorrect RCDT volume curve. The reason for unidentified leakage exceeding 1 GPM on 4-19-87 was apparently due to a steam leak from a pressurizer spray valve. On 5-12-87, pressurizer spray valve 1PV-0455C was observed to have a steam leak to atmosphere. On 5-16-87, after the Unit was placed in Mode 5 (Cold Shutdown), the packing for pressurizer spray valves 1PV-0455B & C was replaced and unidentified leakage was subsequently found to be reduced.

E. ANALYSIS OF EVENT

Only the one instance on 4-19-87 could be identified where use of the incorrect curve actually resulted in failure to comply with TS action requirements. Following the RCS leakage surveillance on 4-19-87, another RCS leakage surveillance was performed on 4-20-87. A recalculation of values obtained during performance of that surveillance resulted in a value of 0.82 GPM for unidentified leakage. Therefore, unidentified leakage did not remain above the TS limit for a significant amount of time.

Also, as noted in the bases for TS 3/4.4.6.2, the limit of 1 GPM for unidentified leakage is considered to be a threshold value that is set "sufficiently low to ensure early detection of additional leakage." Therefore, while use of the incorrect RCDT volume curve did typically result in a slightly smaller than actual value for unidentified leakage, it is noted that use of that curve still provided for "early" detection of leakage of any magnitude. 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.

F. CORRECTIVE ACTIONS

1. The Unit 1 RCDT volume curve has been corrected and reissued. The Unit 2 RCDT volume curve has been checked and verified to be correct.
2. On 12-7-90, the current RCS leakage calculation for Unit 1 was recalculated and verified to be acceptable using the corrected RCDT volume curve.
3. Similar tank volume curves will be evaluated and corrected, if necessary, by March 30, 1991.

G. ADDITIONAL INFORMATION

1. Failed Components Identification
None.

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2. Previous Similar Events

None.

3. Energy Industry Identification System Codes

Reactor Coolant System (PWR) - AB

Boron Recycle System (PWR) - CA

Chemical and Volume Control/Makeup and Purification System (PWR) - CB