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January 31, 1991

W. G. Hairston, III
Senior Vice President
Nuclear Operations

ELV-02491
0819

Docket No. 50-425

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

Gentlemen:

VOGTLE ELECTRIC GENERATING PLANT
LICENSEE EVENT REPORT
DETECTOR FAILURE RESULTS IN
CONTAINMENT VENTILATION ISOLATION

In accordance with 10 CFR 50.73, Georgia Power Company hereby submits the enclosed report related to an event which occurred on January 9, 1991.

Sincerely,

W. G. Hairston, III

WGH,III/NJS/gm

Enclosure: LER 50-425/1991-002

xc: Georgia Power Company
Mr. C. K. McCoy
Mr. W. B. Shipman
Mr. P. D. Rushton
Mr. R. M. Odom
NORMS

U. S. Nuclear Regulatory Commission
Mr. S. D. Ebneter, Regional Administrator
Mr. D. S. Hood, Licensing Project Manager, NRR
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NRC Form 366 (6-89) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
VOGTLE ELECTRIC GENERATING PLANT - UNIT 2	0 5 0 0 0 4 2 5	1 OF 4

TITLE (4)
DETECTOR FAILURE RESULTS IN CONTAINMENT VENTILATION ISOLATION

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)
										0 5 0 0 0
0 1	0 9	9 1	9 1	0 0 2	0 0	0 1	3 1	9 1		0 5 0 0 0

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (11)					
POWER LEVEL	6 9	20.402(b)	20.405(c)	X	50.73(a)(2)(iv)	73.71(b)	
		20.405(a)(1)(i)	50.36(c)(1)		50.73(a)(2)(v)	73.71(c)	
		20.405(a)(1)(ii)	50.36(c)(2)		50.73(a)(2)(vii)	OTHER (Specify in Abstract below)	
		20.405(a)(1)(iii)	50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		
		20.405(a)(1)(iv)	50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)		
		20.405(a)(1)(v)	50.73(a)(2)(iii)		50.73(a)(2)(x)		

LICENSEE CONTACT FOR THIS LER (12)

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

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

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORT TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORT TO NPRDS	
X	I L	D E T	W 1 2 0	Y							

SUPPLEMENTAL REPORT EXPECTED (14)

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

ABSTRACT (16)

On 1-9-91, at 1202 CST, an intermediate level alert alarm was received for containment area radiation monitor 2RE-0003. Investigation and comparison with a redundant monitor, 2RE-0002, determined that the alarm was due to a spurious signal spike. At 1255 CST, a high radiation level alarm and a Containment Ventilation Isolation (CVI) were received from 2RE-0003. All equipment responded as designed to isolate containment ventilation and to maintain negative pressure for the piping penetration area. Investigation verified that a failure of 2RE-0003 had occurred. Technical Specifications 3.3.3.1 and 3.3.2 action requirements were entered because less than the minimum required number of radiation monitoring channels which initiate a CVI were operable. After lifting the actuation leads from 2RE-0003, the CVI signal was reset at 1712 CST and normal system alignments were reestablished.

Troubleshooting determined that the detector assembly for 2RE-0003 had failed. The root cause has not been determined. A spare detector assembly is not currently available. Therefore, a containment entry will not be made to complete repairs until after a spare is obtained. Any defective parts will be returned to Westinghouse for analysis.

A. REQUIREMENT FOR REPORT

This report is required per 10CFR50.73(a)(2)(iv) since the failure of a containment area radiation monitor resulted in an unplanned Containment Ventilation Isolation (CVI). A CVI is considered an actuation of an Engineered Safety Feature (ESF).

B. UNIT STATUS AT TIME OF EVENT

At the time of this event, Unit 2 was operating in Mode 1 (Power Operation) at 69% of rated thermal power. Containment ventilation radiation monitor 2RE-2565 was out of service under engineering review for a problem experienced on 11-21-90 when the monitor was taken to "bypass." With 2RE-2565 out of service, the minimum channels operable requirements of Technical Specifications (TS) 3.3.3.1 and 3.3.2, for radiation monitoring channels capable of initiating a CVI, were being satisfied by containment area (low range) radiation monitors 2RE-0002 and 2RE-0003.

C. DESCRIPTION OF EVENT

On 1-9-91, at 1202 CST, an intermediate level alert alarm was received in the control room for radiation monitor 2RE-0003. Control room operators immediately checked redundant monitor 2RE-0002 and containment area (high range) radiation monitor 2RE-0005, but only normal background radiation levels were indicated. Chemistry was then notified to investigate the cause of the alarm and Health Physics was contacted to verify that all personnel were out of containment. At 1235 CST, the containment minipurge supply and exhaust valves were closed as a precautionary measure. At 1240 CST, Chemistry reported that 2RE-0003 had experienced an approximate 4 second spike. This spike was determined to be spurious since 10 minute averages for 2RE-0003 did not show an increase in measured radiation levels, no other channel had indicated an increase in radiation levels, and no abnormality was identified for other containment parameters.

At 1255 CST, a high level radiation alarm and a CVI were received from 2RE-0003. Control room operators responded to verify that appropriate valves and dampers assumed their proper alignment, that the Auxiliary Building normal ventilation system tripped, and that the piping penetration area ESF filter exhaust system started. All equipment was found to have responded as designed. Monitors 2RE-0002 and 2RE-0005 were again checked and found to still be indicating normal background radiation levels. Chemistry was contacted to perform further investigation and it was subsequently verified that 2RE-0003 had failed high.

Due to the failure of 2RE-0003, action was initiated to lift the actuation leads for the monitor (to allow the CVI signal to be reset) and the applicable requirements of TS 3.3.3.1 and 3.3.2 were entered for having one less than the minimum required number of operable radiation monitoring channels which are capable of initiating a CVI. After the actuation leads were lifted, the CVI

signal was reset at 1712 CST and normal system alignments were reestablished. The minipurge supply and exhaust valves remained closed in accordance with the action requirements of TS 3.3.3.1 and 3.3.2. Subsequently, at 0322 CST on 1-12-91, monitor 2RE-2565 was restored to operable status and the action requirements of TS 3.3.3.1 and 3.3.2 were exited after it was verified that the problem which had been experienced for 2RE-2565 did not affect the operability of the monitor (i.e., the problem only occurred when the monitor was taken to "bypass").

D. CAUSE OF EVENT

Troubleshooting of 2RE-0003 determined that the direct cause of the CVI was a failure of the detector assembly which is located within containment. The root cause for the CVI (i.e., the cause for the failure of the detector assembly) has not been determined. A spare detector assembly is not currently available on site and since the detector assembly is located in a significant radiation field (due to operation of the reactor), a containment entry will not be made to complete repairs until after a spare is obtained and a forced outage or the next refueling outage occurs. Following the repair or replacement of the detector assembly, any defective part(s) will be returned to Westinghouse for failure analysis. While the root cause of the failure has not been established, review of a prior similar failure involving radiation monitor 1RE-0003 (reference LER 50-424/1989-009) suggests that the detector tube may have failed due to degradation of the tube quenching gas.

E. ANALYSIS OF EVENT

The CVI signal generated during the event resulted from a component failure, not from an actual abnormal radiation condition within containment. On receipt of the CVI signal, all equipment responded as designed to isolate containment ventilation and to maintain the piping penetration area at a slightly negative pressure. Control room operators responded appropriately to verify the validity of the indicated high alarm condition and to verify all equipment actuations. 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. Radiation monitor 2RE-0003 will be repaired during a forced outage or the next refueling outage after a spare detector assembly is obtained.

2. Any defective parts will be returned to Westinghouse for failure analysis. Based on results of the failure analysis, a supplement to this LER may be submitted to expand on the cause and corrective action of this event.

G. ADDITIONAL INFORMATION

1. Failed Components Identification

Containment Area (Low Range) Radiation Monitor - 2RE-0003
Detector Assembly - Westinghouse Part No. 6091D42G01
Detector Tube - Westinghouse Part No. 8459A08H01

2. Previous Similar Events

LER 50-424/1989-009 described a CVI which occurred on 3-13-89 due to a failure of the detector tube for radiation monitor 1RE-0003. Additionally, a failure involving the detector assembly for monitor 2RE-0003 was experienced on 4-27-90; however, that failure did not result in a CVI.

3. Energy Industry Identification System Codes

Radiation Monitoring System - IL
Containment Isolation Control System - JM
Auxiliary Building Environmental Control System - VF