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C. K. McCoy
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Vogtle Project

August 16, 1994



LCV-0435

Docket No. 50-425

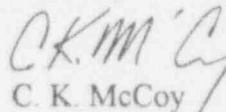
U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

Ladies and Gentlemen:

VOGTLE ELECTRIC GENERATING PLANT
LICENSEE EVENT REPORT - PRESSURE BOUNDARY LEAKAGE
FOUND FOLLOWING UNIT SHUTDOWN

In accordance with the requirements of 10 CFR 50.73, Georgia Power Company submits the enclosed report related to an event discovered on July 23, 1994.

Sincerely,


C. K. McCoy

CKM/AFS

Enclosure: LER 2-94-5

cc: Georgia Power Company
Mr. J. B. Beasley, Jr.
Mr. M. Sheibani
NORMS

U. S. Nuclear Regulatory Commission
Mr. S. D. Ebnetter, Regional Administrator
Mr. D. S. Hood, Licensing Project Manager, NRR
Mr. B. R. Bonser, Senior Resident Inspector, Vogtle

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NRC FORM 366 (5-92)		U.S. NUCLEAR REGULATORY COMMISSION			APPROVED OMB NO. 3150-0104 EXPIRES: 5/31/95 ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNB87714), 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.				
LICENSEE EVENT REPORT (LER)									
FACILITY NAME (1) Vogtle Electric Generating Plant -- Unit 2								DOCKET NUMBER (2) 5 0 0 0 4 2 5	
TITLE (4) PRESSURE BOUNDARY LEAKAGE FOUND FOLLOWING UNIT SHUTDOWN								PAGE (3) 1 OF 3	
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
07	23	94	94	005	00	08	16	94	FACILITY NAME
		DOCKET NUMBER(S) 0 5 0 0 0							
OPERATING MODE (9) 3		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 7: (Check one or more of the following) (11)							
POWER LEVEL (10) 0		20.402(b)		20.405(c)		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 and in Text, NRC Form 365A)	
		20.405(a)(1)(iii)		X		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)(ix)			
LICENSEE CONTACT FOR THIS LER (12)									
NAME Mehdi Sheibani, Nuclear Safety and Compliance								TELEPHONE NUMBER (include area code)	
								AREA CODE 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 NRC		CAUSE	SYSTEM	COMPONENT	REPORTABLE TO NRC
B	A/B	P/S/F	W138	N					
SUPPLEMENTAL REPORT EXPECTED (14)									
YES (If yes, complete EXPECTED SUBMISSION DATE)					X NO				
					EXPECTED SUBMISSION DATE (15)				
ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-space typewritten lines) (16)									
<p>This report is required per 10 CFR 50.73 (a)(2)(i)(B) because pressure boundary leakage was discovered after the unit was shutdown to repair what appeared to be stem leakage due to diaphragm failure of a drain line isolation valve.</p> <p>An increasing trend of containment sump activity and radiation monitor activity, together with reactor coolant system (RCS) inventory balances, led personnel to believe that leakage existed in the containment building. This unidentified leakage was estimated to be approximately one-half gpm. Plant personnel were able to identify the source of this leakage on July 22, 1994, when an investigation using a remotely operated camera inside the biological shield wall found what appeared to be stem leakage due to diaphragm failure at the loop 3 intermediate leg drain line isolation valve. On July 23, 1994, the unit was shutdown to Mode 3 (hot standby) to repair the leak. Once the reactor was subcritical, personnel were able to access the area for a firsthand inspection which subsequently determined that RCS pressure boundary leakage had existed due to a leaking socket weld at the valve, rather than stem leakage due to diaphragm failure.</p> <p>The root cause of this event was a welding defect. Inspection of the weld found an area of deep-seated porosity that would not have been expected to be detected by the liquid penetrant testing that was performed during original construction. The leaking weld was completely removed and a new weld performed. The unit returned to power on August 4, 1994.</p>									

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB7714), 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.

FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (6)

PAGE (3)

Vogtle Electric Generating Plant - Unit 2

0 5 0 0 0 4 2 5

YEAR

SEQUENTIAL
YEARREVISION
NUMBER

9 4

- 0 0 5

- 0 0

2 OF 3

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)(B) because pressure boundary leakage was discovered after the unit was shutdown to repair what appeared to be stem leakage due to diaphragm failure of a drain line isolation valve.

B. UNIT STATUS AT TIME OF EVENT

At the time of the discovery of this event, Unit 2 was in Mode 3 (hot standby) at 0 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

An increasing trend of containment sump activity and radiation monitor activity, together with reactor coolant system (RCS) inventory balances, led personnel to believe that leakage existed in the containment building. This unidentified leakage was estimated to be approximately one-half gpm. Plant personnel were able to identify the source of this leakage on July 22, 1994. At 1230 EDT, an investigation using a remotely operated camera inside the biological shield wall found what appeared to be stem leakage due to diaphragm failure at the loop 3 intermediate leg drain line isolation valve, 2-1204-U4-030. On July 23, 1994, at 1629 EDT, the unit was shutdown to Mode 3 (hot standby) to repair the leak. Once the reactor was subcritical, personnel were able to access the area for a firsthand inspection which subsequently determined that RCS pressure boundary leakage had existed due to a leaking socket weld at the valve, rather than stem leakage due to diaphragm failure. The unit entered Mode 5 (cold shutdown) on July 24, 1994, at 0445 EDT, in compliance with the TS 3.4.6.2.a action statement, which allowed removal of the leaking weld and a new weld performed.

D. CAUSE OF EVENT

The direct cause of this event was the defective weld that allowed RCS pressure boundary leakage. The root cause of this event was a welding defect. Inspection of the weld found an area of deep-seated porosity that would not have been expected to be detected by the liquid penetrant testing that was performed during original construction.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS
INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD
COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION
AND RECORDS MANAGEMENT BRANCH (MNBB7714), 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.

FACILITY NAME (1) Vogtle Electric Generating Plant - Unit 2	DOCKET NUMBER (2) 05000425	LER NUMBER (6)			PAGE (3)		
		YEAR 94	SEQUENTIAL YEAR 005	REVISION NUMBER 00			

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

E. ANALYSIS OF EVENT

Had the defective weld developed into a total shearing of the two-inch line involved, the small bore LOCA that would occur would be mitigated by operation of the charging pumps and safety injection pumps, which would provide makeup of RCS coolant until the unit could be shutdown and depressurized. This scenario would represent an event that has been fully evaluated in the plant's safety analysis. However, no such accident scenario occurred as a result of this defective weld. 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 ACTION

The defective weld was removed and a new weld performed per ASME Section XI criteria.

Welds on the other three loops were visually inspected for similar problems with none identified, and the unit was returned to service.

G. ADDITIONAL INFORMATION

1) Previous Similar Events:
None

2) Failed Components:
ASME Section III, Class 1, 2-inch, socket weld installed by Pullman Power Products, a division of Wheelabrator-Frye Inc.

3) Energy Industry Identification System Code:
Reactor Coolant System - AB
Chemical Volume and Control System - CB
Safety Injection System - BQ