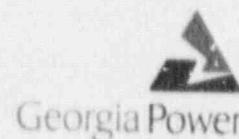


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J. T. Beckham, Jr.
Vice President—Nuclear
Hatch Project



the southern electric system

HL-1596
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April 24, 1991

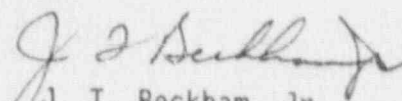
U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

PLANT HATCH - UNIT 2
NRC DOCKET 50-366
OPERATING LICENSE NPF-5
LICENSEE EVENT REPORT
MAIN STEAM ISOLATION VALVE
LOCAL LEAK RATE TEST FAILURES

Gentlemen:

In accordance with the requirements of 10 CFR 50.73(a)(2)(v), Georgia Power Company is submitting the enclosed Licensee Event Report (LER) concerning a condition that could have prevented an ESF from fully performing its safety function. This event occurred at Plant Hatch - Unit 2.

Sincerely,


J. T. Beckham, Jr.

SWR/ct

Enclosure: LER 50-366/1991-008

cc: (See next page.)

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U.S. Nuclear Regulatory Commission
April 24, 1991
Page Two

cc: Georgia Power Company
Mr. H. L. Sumner, General Manager - Nuclear Plant
Mr. J. D. Heidt, Manager Engineering and Licensing - Hatch
NORMS

U.S. Nuclear Regulatory Commission, Washington, D.C.
Mr. K. Jabbour, Licensing Project Manager - Hatch

U.S. Nuclear Regulatory Commission, Region II
Mr. S. D. Ebner, Regional Administrator
Mr. L. D. Wert, Senior Resident Inspector - Hatch

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) PLANT HATCH, UNIT 2										DOCKET NUMBER (2) 0 5 0 0 3 6 6				PAGE (3) 1 of 4		
TITLE (4) MAIN STEAM ISOLATION VALVE LOCAL LEAK RATE TEST FAILURES																
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 3	2 7	9 1	9 1	0 0 8	0 0	0 4	2 4	9 1					0 5 0 0 0			
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (11)														
5		20.402(b)				20.405(c)				50.73(a)(2)(iv)				73.71(b)		
POWER LEVEL		0 0 0				20.405(a)(1)(i)				X 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						
STEVEN B. TIPPS, MANAGER NUCLEAR SAFETY AND COMPLIANCE, HATCH										AREA CODE		912 367-7851				
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	S B	I S V	R 3 4 0	Y E S												
SUPPLEMENTAL REPORT EXPECTED (14)												EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)												<input checked="" type="checkbox"/> NO				
ABSTRACT (16)																

On 1/27/91, at approximately 1200 CST, Unit 2 was in the Refuel mode with the reactor vessel flooded. Fuel removal was in progress with fuel partially removed from the core. At that time, Local Leak Rate Testing (LLRT) of Main Steam Line Isolation valves (MSIVs, EGIS Code SB) 2B21-F022B and 2B21-F028B was completed, confirming that one pair of MSIV's in the same main steam line (MSL) leaked in excess of the Technical Specifications leakage limit. The other 6 MSIVs passed their LLRT, meeting the Technical Specifications requirement. The leakage of 92 SCFH through the one MSL was well within the capacity of the MSIV Leakage Control System to handle in the unlikely event of a Loss-of-Coolant Accident with the as-found MSIV leakage rates.

The root cause of this event is attributed to normal equipment wear resulting in slight degradation of the valve seating surfaces.

Corrective actions for this event include repairing and re-testing the valves.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (5)			PAGE (3)		
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PLANT HATCH, UNIT 2	05000366	91	008	00	2	OF	4

TEXT

PLANT AND SYSTEM IDENTIFICATION

General Electric - Boiling Water Reactor
Energy Industry Identification System codes are identified in the text as (EIIIS Code XX).

DESCRIPTION OF THE EVENT

The Local Leak Rate Test (LLRT) for Main Steam Line Isolation Valves (MSIVs, EIIIS Code SB) was begun on Unit 2 on 3/23/91 in accordance with surveillance procedure 42SV-TET-001-2S, "PRIMARY CONTAINMENT PERIODIC TYPE B AND TYPE C LEAKAGE TESTS." Of the eight MSIVs, inboard and outboard MSIVs 2B21-F022B and 2B21-F028B, respectively, were the only MSIVs which did not meet the Technical Specifications limit on MSIV leakage of 11.5 standard cubic feet per hour (SCFH). These two MSIVs are located on the same Main Steam Line (MSL).

Specifically, MSIV LLRT testing is performed in the following manner per procedure. In the first stage, the reactor vessel is not yet flooded for defueling activities. The cavity between the two MSIVs is pressurized with air to approximately 28.8 psig per Unit 2 Technical Specifications section 3.6.1.2.c, and then the leakage is measured. This is a measure of the total leakage from the cavity, and the proportion of the leakage from each valve exiting the cavity is not yet known. In the second stage of the test, the reactor vessel and MSL leading to the valves is flooded with water sufficient to provide pressure against the inboard MSIV approximately equal to the test pressure. With the MSL thus flooded, the cavity between the MSIVs is again pressurized with air to 28.8 psig, and the leakage is measured. Flooding the MSL essentially seals off the inboard MSIV, limiting leakage to that of the outboard MSIV only. Thus the second measurement yields the sum of the leakage for the outboard valve and the MSIV Leakage Control System (MSIV-LCS, EIIIS Code BD) valve for that pair of MSIVs. The difference between the first measurement and the second is defined as the leakage of the inboard valve.

For inboard and outboard MSIVs 2B21-F022B and 2B21-F028B, in the first phase of their LLRT, the leakage was approximately 262 SCFH. The reactor was then flooded, and the second stage of testing on these valves was completed on 3/27/91. At that time, the leakage was measured as approximately 92 SCFH. Since, in this case, the total leakage through the MSL cannot be greater than that of the two outboard valves, the total leakage through the MSL was at that time estimated at approximately 92 SCFH. Thus, it was confirmed that leakage in excess of the maximum allowable existed on this MSIV pair. Inspection of the MSIV's following disassembly revealed no disrupted metal or visible damage to the poppet or seat.

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TEXT

CAUSE OF THE EVENT

The root cause of this event is attributed to normal equipment wear resulting in slight degradation of the valve seating surfaces.

REPORTABILITY ANALYSIS AND SAFETY ASSESSMENT

This event is reportable per 10 CFR 50.73(a)(2)(v) because the leakage rates of two MSIVs located in the same MSL exceeded the leakage rate limit of 11.5 SCFH per MSIV stated in Unit 2 Technical Specifications section 3.6.1.2.c.

The surveillance testing performed to measure primary containment leakage rates is in accordance with the requirements of 10 CFR 50, Appendix J (Types A, B, and C testing) and is performed on a frequency specified by the Unit 2 Technical Specifications. This testing allows timely detection of valve degradation so that maintenance and repairs can be performed as necessary to restore leakage rates to within their Technical Specifications limits. The limitations on containment leakage rates ensure that the total amount of leakage during a potential accident will not exceed the value assumed in the Final Safety Analysis Report (FSAR) for Hatch Unit 2. The maintenance of primary containment integrity in conjunction with these leakage rate limitations will maintain the potential site boundary radiation doses below the limits of 10 CFR 100 during accident conditions.

In this event MSIVs 2B21-F022B and 2B21-F028B exceeded their leakage limit of 11.5 SCFH per valve. Both of these valves are located in the same MSL, and the total leakage through this MSL was approximately 92 SCFH. No other MSIVs had leakage rates in excess of the Technical Specifications limits. It is not possible to determine exactly when the MSIVs exceeded their leakage requirements during the surveillance interval. The MSIVs were within allowable limits at the beginning of the surveillance interval and such degradation is often a function of time and use.

The large volume of the main condenser and main steam lines could provide for sufficient holdup and plate-out of any fission products contained in the MSIV leakage to minimize the contribution of MSIV leakage to offsite radiation doses during potential accident conditions. Unit 2 currently has an MSIV Leakage Control System (MSIV-LCS). This system can handle up to 100 SCFH leakage per MSL by directing the leakage into an area of the plant served by the Standby Gas Treatment System (SGTS, EIIIS Code BH) for processing prior to release to the atmosphere. The MSIV-LCS would assure that offsite dose due to MSIV leakage does not contribute to exceeding 10 CFR 100 limits in the unlikely event of a Loss-of-Coolant Accident (LOCA) with the as-found MSIV leakage rates.

Based on the above analysis, it is concluded that this event had no adverse impact on nuclear safety. This analysis is applicable to all power levels.

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TEXT CONTINUATION

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TEXT

CORRECTIVE ACTIONS

The poppet of the outboard valve, 2B21-F028B, was replaced with a new poppet from stock. Replacement was necessary because some of the threads in the poppet assembly became galled during disassembly and not because of damage to seating surfaces. The in-body seat of this valve was also ground to provide a better seating surface. Repairs on the inboard valve have been completed and both valves have been successfully leak rate tested.

ADDITIONAL INFORMATION

1. Other Systems Affected: No other systems were affected by this event.
2. Previous Similar Events: There have been no events during the past two years in which two MSIVs in the same MSL failed LLRT.
3. Failed Components Identification:

Master Parts List Number: 2B21-F022B and 2B21-F028B
Manufacturer: Rockwell Manufacturing Corporation
Model Number: 1612JMMNTY
Type: Air Operated Valve
Manufacturer Code: R340
EIIIS System Code: SB
Reportable to NPRDS: Yes
Root Cause Code: X
EIIIS Component Code: ISV