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Georgia Power
the southern electric system

May 18, 1992

ELV-03761
000394

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
FEEDWATER ISOLATION DUE TO STEAM
GENERATOR WATER LEVEL SWELL

In accordance with 10 CFR 50.73, Georgia Power Company (GPC) hereby submits the enclosed report related to an event which occurred on April 28, 1992.

Sincerely,

C. K. McCoy

CKM/NJS

Enclosure: LER 50-425/1992-006

xc: Georgia Power Company
Mr. W. B. Shipman
Mr. M. Sheibani
NORMS

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

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 3

TITLE (4)
FEEDWATER ISOLATION TO STEAM GENERATOR WATER LEVEL SWELL

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 4	2 8	9 2	9 2	0 0 6	0 0	0 5	1 8	9 2		0 5 0 0 0

OPERATING MODE (9)	4	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (11)											
POWER LEVEL	0 0 0		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	
MEHDI SHEIBANI, NUCLEAR SAFETY AND COMPLIANCE	706	826-3209

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	

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

ABSTRACT (16)

On April 28, 1992, warmup and pressurization of the main steamlines was in progress per the instructions of Unit Operating Procedure (UOP) 12002-C, "Unit Heatup to Normal Operating Temperature and Pressure (Mode 4 to Mode 3)." After achieving a steamline pressure of 30 psig and a steamline temperature of 230 degrees Fahrenheit, operators initiated the opening of the loop 4 downstream main steam isolation valve (MSIV). The upstream loop 4 MSIV was already open. This unexpectedly caused the level in steam generator (SG) 4 to swell and exceed its Hi-Hi level setpoint, resulting in a feedwater isolation (FWI) at 0115 EDT. The bypass feedwater regulating valves (BFRVs), which were open, automatically closed on receipt of the FWI signal. After restoring the proper level in SG 4, the BFRVs were reopened and normal plant heatup resumed.

The root cause of the event was procedure inadequacy. Procedure 12002-C did not contain adequate procedural cautions to prevent operators from opening the MSIV with a relatively high differential pressure. The procedure led operators to believe that a differential pressure of less than 50 psid across the MSIV was indication of sufficient steamline warming and pressurization. As evidenced by this event, this is not true at low steam generator pressure.

Due to this event, UOP 12002-C has been revised to ensure that an appropriate steamline temperature and pressure exists before opening the second MSIV in any loop.

TEXT

A. REQUIREMENT FOR REPORT

This report is required per 10 CFR 50.73 (a)(2)(iv) because an unplanned automatic feedwater isolation (FWI) occurred.

B. UNIT STATUS AT TIME OF EVENT

At the time of the event, Unit 2 was in Mode 4 (hot shutdown) at 0 percent of rated thermal power. Preparations for entry into Mode 3 (hot standby) were in progress. Reactor coolant system (RCS) temperature and pressure were approximately 337 degrees Fahrenheit and 378 psig, respectively. Steam generator (SG) water levels were being controlled manually by starting and stopping the motor driven auxiliary feedwater (AFW) pumps as necessary. Also, the condensate and feedwater system was on long cycle recirculation with the main and bypass feedwater isolation valves shut, the main feedwater regulating valves shut, and the bypass feedwater regulating valves open. There was no inoperable equipment which contributed to the occurrence of this event.

C. DESCRIPTION OF EVENT

On April 28, 1992, warmup and pressurization of the main steamlines was in progress per the instructions of Unit Operating Procedure (UOP) 12002-C, "Unit Heatup to Normal Operating Temperature and Pressure (Mode 4 to Mode 3)." The atmospheric relief valves associated with SGs 1, 2, and 4 were open to maintain RCS temperature. To warm the main steamlines, the bypass isolation valves and the bypass control valves for the loop 3 and loop 4 main steam isolation valves (MSIVs) were open.

At 0115 EDT, steamline pressure was approximately 30 psig and steamline temperature was approximately 230 degrees Fahrenheit. This compared to SG pressures and temperatures of approximately 75 psig and 320 degrees Fahrenheit. Per the requirements of Procedure 12002-C, step B4.3.1.e, opening the MSIVs should not be initiated until less than 50 psid exists across the valve disc. Since this procedure requirement was satisfied, operators opened the downstream loop 4 MSIV (the upstream loop 4 MSIV had previously been opened). This unexpectedly caused the level in SG 4 to swell from approximately 72-percent narrow range (NR) to approximately 90-percent NR. This exceeded the Hi-Hi level setpoint of 86-percent NR which resulted in a FWI and a turbine trip signal. The bypass feedwater regulating valves were the only components which were open/reset and which receive a FWI or turbine trip signal. Therefore, they were the only components which actuated. After restoring the appropriate level in SG 4, the FWI signal was reset at 0141 EDT. Long cycle recirculation was reestablished, and plant heatup was resumed per the instructions of the UOP.

TEXT

D. CAUSE OF EVENT

The root cause of the event was procedure inadequacy. Procedure 12002-C did not contain adequate procedural cautions to prevent operators from opening the MSIV with a relatively high differential pressure. The procedure led operators to believe a differential pressure of less than 50 psid across the MSIV is indication of sufficient steamline warming and pressurization. As evidenced in this event, this is not true at low steam generator pressure.

E. ANALYSIS OF EVENT

While the circumstances of this event resulted in a level swell in SG 4, this did not result in an unsafe plant condition. A FWI and a turbine trip signal occurred per design when the SG level reached the Hi-Hi level setpoint. The bypass feedwater regulating valves actuated to their proper position upon receipt of the FWI signal. Also, there was no detectable change in RCS temperature due to the change in level for SG No. 4. Based on these considerations, there was no adverse effect on plant safety or on the health and safety of the public.

F. CORRECTIVE ACTIONS

1. Procedure 12002-C has been revised to require that steamline temperature and pressure be reasonably close to steam generator temperature and pressure before initiating the opening of the second MSIV in any loop.

2. This event will be discussed during 1992 Licensed Operator Requalification Training.

G. ADDITIONAL INFORMATION

1. Failed Components Identification

None.

2. Previous Similar Events

None.

3. Energy Industry Identification System Codes

Main Steam System - SB
Main Feedwater System - SJ
Auxiliary Feedwater System - BA