

## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) EDWIN I. HATCH, UNIT I										DOCKET NUMBER (2) 0 5 0 0 0 3 2 1				PAGE (3) 1 OF 0 3												
TITLE (4) MAIN STEAM ISOLATION VALVE NOT FULLY OPEN SCRAM																										
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 NAMES				DOCKET NUMBER(S)													
0	7	2	4	8	5	8	5	0	2	7	0	0	0	8	2	0	8	5	0	5	0	0	0	0	0	0
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §. (Check one or more of the following) (11)																								
1		20.402(b)				20.406(c)				<input checked="" type="checkbox"/> 50.73(a)(2)(iv)				73.71(b)												
POWER LEVEL (10)		0 9 8				20.406(a)(1)(i)				50.36(e)(1)				50.73(a)(2)(v)				73.71(c)								
		20.406(a)(1)(ii)				50.36(e)(2)				50.73(a)(2)(vii)				OTHER (Specify in Abstract below and in Text, NRC Form 366A)												
		20.406(a)(1)(iii)				50.73(a)(2)(ii)				50.73(a)(2)(viii)(A)																
		20.406(a)(1)(iv)				50.73(a)(2)(iii)				50.73(a)(2)(viii)(B)																
		20.406(a)(1)(v)				50.73(a)(2)(iii)				50.73(a)(2)(ix)																
LICENSEE CONTACT FOR THIS LER (12)																										
NAME Steven B. Tipps, Superintendent of Regulatory Compliance										TELEPHONE NUMBER 9 1 2 3 6 7 7 8 5 1																
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																										
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDs	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDs	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDs	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDs							
X	S	B	I	S	V	A	5	8	5	Y																
SUPPLEMENTAL REPORT EXPECTED (14)																										
YES (If yes, complete EXPECTED SUBMISSION DATE)										<input checked="" type="checkbox"/> NO						EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR						

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On 07/24/85 at approximately 1320 CDT, with the plant in steady-state operation at 2436 MWt (100% power) licensed operations personnel noticed the following: an increase in reactor power (i.e., generator demand increased), the indicated flow for the "A" main steam line was lower than normal, and the indicated flow for the "B", "C", and "D" main steam lines was higher than normal. Licensed operations personnel started reducing reactor power. While they were reducing power, an automatic reactor scram was received at approximately 1328 CDT due to a "MAIN STEAM ISOLATION VALVE (MSIV) NOT FULLY OPEN" signal. Just before the scram occurred, the unit was operating at 2387 MWt (approximately 98% power).

Following an investigation, plant personnel determined that the cause of the above events was the "A" inboard MSIV (B21-F022A) drifting closed. Failure of the valve's stem caused it to drift closed. The failure of the stem was apparently due to the MSIV not being fully backseated, thereby allowing cyclical vibration to occur in the region near the back seat on the stem.

The "A" inboard MSIV was rebuilt and had its stem replaced.

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## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104  
EXPIRES 9/31/85

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
EDWIN I. HATCH, UNIT 1	0 5 0 0 0 3 2 1 8 5	—	0 2 7	—	0 0 0	2	OF 0 3

TEXT (If more space is required, use additional NRC Form 365A's) (17)

On 07/24/85 at approximately 1320 CDT, with the plant in steady-state operation at 2436 Mwt (100% power) licensed operations personnel noticed the following: an increase in reactor power (i.e., generator demand increased), the indicated flow for the "A" main steam line was lower than normal, and the indicated flow for the "B", "C", and "D" main steam lines was higher than normal. Licensed operations personnel started reducing reactor power. While they were reducing power, an automatic reactor scram was received at approximately 1328 CDT due to a "MAIN STEAM ISOLATION VALVE (MSIV) NOT FULLY OPEN" signal. Just before the scram occurred, the unit was operating at 2387 Mwt (approximately 98% power).

Following the scram, reactor water level immediately decreased to instrument zero. The Reactor feed pumps were used to return the level to normal. After the MSIV's automatically isolated, the reactor feed pumps tripped causing reactor water level to begin dropping again. RCIC was then used to maintain level. Water level dropped low enough and the pressure transient was high enough that the reactor recirculation pumps tripped. Reactor pressure spiked to approximately 1090 PSIG and actuated all of the safety relief valves (SRV's) except for the "B" SRV; "B" did not actuate because its setpoint is 1100 PSIG  $\pm$  11 PSIG. The four Low-Low Set SRV's (i.e., the "A", "C", "G", and "H") were used to maintain reactor pressure between 1033 and 847 psig, and RCIC was used to maintain water level.

At approximately 1350 CDT, operations personnel restarted the "A" reactor recirculation pump; however, they experienced problems trying to restart the "B" recirculation pump. The plant proceeded to Cold Shutdown to investigate the MSIV problems. Following an expedited replacement of the brushes on the drive motor for the "B" M/G set drive motor, plant personnel restarted the "B" recirculation pump at approximately 1757 CDT on 07/24/85.

The investigation into why the steam flow in the "A" steam line decreased resulting in high erratic steam flow in the other steam lines and finally a full reactor scram was as follows:

1. Maintenance personnel visually inspected all of the MSIV's, paying particular attention to the "A" MSIV inboard and outboard valves. All of the valves appeared to be normal.
2. Operations personnel then cycled each MSIV while maintenance personnel were listening to internal valve movements via a stethoscope placed against the valve body. Personnel could hear no movements when the "A" inboard MSIV was cycled.
3. Maintenance personnel then inspected the internals of the "A" inboard MSIV and noted a failure of the stem.
4. Further inspection of the failed stem revealed no evidence of a failure due to failed mechanisms or metallurgical defects.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/85

FACILITY NAME (1)  EDWIN I. HATCH, UNIT I	DOCKET NUMBER (2)  0500032185	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

5. Based on engineering judgement and inspection of the broken valve stem, an Atwood-Morrill (i.e., MSIV vendor) field representative determined that the "A" inboard MSIV had not been fully backseated, thereby, allowing cyclical vibration to occur in the region near the backseat on the stem. This apparently resulted in the stem fatigue failure.

The "A" inboard and outboard MSIV's were rebuilt and repacked. The stem was replaced on the "A" inboard MSIV. All eight MSIV's were stroked and any adjustment to ensure correct strokes and proper backseating were made under the supervision of the Atwood Morrill field representative. After rebuilding the inboard and outboard MSIV's in the "A" steam line the LLRT was satisfactorily performed on 08/03/85. The closure time was also checked on all MSIV's prior to returning "A" inboard and outboard back to service to ensure that the requirements of Tech. Specs. Table 3.7.1 were satisfied.

The failed MSIV was a Atwood and Morrill Company valve model number DWG. 21049-H.

This event did not affect Unit 2 (i.e., Unit Two's MSIV's were manufactured by a different vendor), nor did this event affect the health and safety of the public. There have been no past similar events.

The following actions are being taken to attempt to preclude recurrence:

1. The "REPACKING VALVES AND THE ADJUSTMENT OF VALVE PACKING" procedure (52CM-MME-001-0) will be revised to include the manufacturer's instructions for stroking and properly setting the backseating of the valves when Unit one MSIV's are repacked.
2. Engineering is performing an investigation to determine if increasing the MSIV stem size would help in preventing recurrence.

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Georgia Power

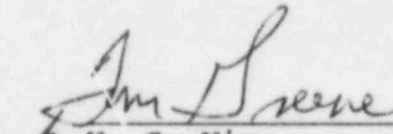
Edwin I. Hatch Nuclear Plant

August 20, 1985  
LR-MGR-039-0885

PLANT E. I. HATCH  
Licensee Event Report  
Docket No. 50-321

United States Nuclear Regulatory Commission  
Document Control Desk  
Washington, D. C. 20555

Attached is Licensee Event Report No. 50-321/1985-027. This report is required by 10CFR50.73(a)(2)(iv).

  
H. C. Nix  
General Manager

HCN/SBT/vlz

xc: NRC Region II  
Letter File (2)  
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