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Docket No. 50-321

HL-6019

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

Edwin I. Hatch Nuclear Plant - Unit 1  
Licensee Event Report  
Water Level Transient Following Manual  
Reactor Scram Causes Group 2 PCIS Isolation

Ladies and Gentlemen:

In accordance with the requirements of 10 CFR 50.73(a)(2)(iv), Southern Nuclear Operating Company is submitting the enclosed Licensee Event Report (LER) concerning a Group 2 PCIS isolation resulting from a water level transient that followed a manual reactor scram.

Respectfully submitted,

A handwritten signature in cursive script that reads "Lewis Sumner".

H. L. Sumner, Jr.

IFL/eb

Enclosure: LER 50-321/2000-012

cc: Southern Nuclear Operating Company  
Mr. P. H. Wells, Nuclear Plant General Manager  
SNC Document Management (R-Type A02.001)

U.S. Nuclear Regulatory Commission, Washington, D.C.  
Mr. L. N. Olshan, Project Manager - Hatch

U.S. Nuclear Regulatory Commission, Region II  
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IE22

**LICENSEE EVENT REPORT (LER)**

(See reverse for required number of digits/characters for each block)

Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Information and Records Management Branch (T-6 F33), 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. If a document used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FACILITY NAME (1)  
Edwin I. Hatch Nuclear Plant - Unit 1

DOCKET NUMBER (2)  
05000-321

PAGE (3)  
1 OF 3

TITLE (4)  
Water Level Transient Following Manual Reactor Scram Causes Group 2 PCIS Isolation

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	DOCKET NUMBER(S)
11	06	2000	2000	012	00	12	01	2000		05000
										05000

OPERATING MODE (9)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § : (Check one or more) (11)									
1	20.2201(b)		20.2203(a)(2)(v)		50.73(a)(2)(i)		50.73(a)(2)(vii)			
POWER LEVEL (10) 16	20.2203(a)(1)		20.2203(a)(3)(i)		50.73(a)(2)(ii)		50.73(a)(2)(ix)			
	20.2203(a)(2)(i)		20.2203(a)(3)(ii)		50.73(a)(2)(iii)		73.71			
	20.2203(a)(2)(ii)		20.2203(a)(4)		X 50.73(a)(2)(iv)		OTHER			
	20.2203(a)(2)(iii)		50.36(c)(1)		50.73(a)(2)(v)		Specify in Abstract below or in NRC Form 366A			
	20.2203(a)(2)(iv)		50.36(c)(2)		50.73(a)(2)(vii)					

LICENSEE CONTACT FOR THIS LER (12)

NAME Steven B. Tipps, Nuclear Safety and Compliance Manager, Hatch	TELEPHONE NUMBER (Include Area Code) (912) 367-7851
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

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

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-space typewritten lines) (16)

On 11/06/2000 at 1540 EST, Unit 1 was in the Run mode at an approximate power level of 442 CMWT (16 percent rated thermal power). At that time, Operations personnel manually scrammed the reactor per procedure 34GO-OPS-013-1S, "Normal Plant Shutdown," to allow plant personnel to isolate and repair condensate demineralizer outlet header isolation valve 1N21-F253. Following the manual scram, water level decreased due to void collapse from the rapid reduction in power, reaching a minimum of approximately three inches above instrument zero (about 161 inches above the top of the active fuel). The decrease in water level resulted in receipt of a Group 2 Primary Containment Isolation System (PCIS) isolation signal and closure of the Group 2 Primary Containment Isolation Valves per design. The operating Reactor Feedwater Pump restored level to its desired value. Personnel reset the Group 2 isolation signal and restored the isolation valves to normal per procedure 34AB-C71-001-1S, "Scram Procedure."

This event was the result of the expected water level decrease from void collapse and proceduralized operator action following a reactor scram. Operations personnel increased water level to approximately 44 inches above instrument zero, about seven to nine inches above the normal operating level, in anticipation of the level decrease. Nevertheless, water level decreased to a point approximately equal to the Group 2 PCIS isolation setpoint. Personnel actions, procedural instructions, and equipment operation were appropriate for the situation; therefore, no corrective actions are required.

**LICENSEE EVENT REPORT (LER)**  
TEXT CONTINUATION

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

PLANT AND SYSTEM IDENTIFICATION

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

DESCRIPTION OF EVENT

On 11/06/2000 at 1540 EST, Unit 1 was in the Run mode at an approximate power level of 442 CMWT (16 percent rated thermal power). At that time, Operations personnel manually scrammed the reactor per plant procedure 34GO-OPS-013-1S, "Normal Plant Shutdown," to complete a planned reactor shutdown begun at 1200 EST. The valve disc pin in condensate demineralizer outlet header isolation valve 1N21-F253 (EIIS Code SD) had separated from the shaft, preventing the disc from opening fully and the valve from passing sufficient flow to allow the unit to operate at full power. Therefore, the reactor was shut down to allow plant personnel to isolate and repair the valve. Prior to inserting the manual scram signal, Operations personnel increased reactor vessel water level to approximately 44 inches above instrument zero, about seven to nine inches above the normal operating level, in anticipation of a level decrease caused by the planned scram.

Following the manual scram, vessel water level decreased due to void collapse from the rapid reduction in power, reaching a minimum of approximately three inches above instrument zero (about 161 inches above the top of the active fuel). The decrease in water level resulted in receipt of Reactor Protection System (EIIS Code JC) actuation and Group 2 Primary Containment Isolation System (PCIS, EIIS Code JM) isolation signals on low reactor vessel water level. The Group 2 Primary Containment Isolation Valves (EIIS Code JM) closed per design. Because the preceding manual scram resulted in the insertion of the control rods (EIIS Code JD), the Reactor Protection System actuation on low water level did not result in control rod movement.

The operating Reactor Feedwater Pump (EIIS Code SJ) automatically restored water level to its desired value. Operations personnel confirmed the Group 2 PCIS isolation valves closed as expected, reset the Group 2 isolation signal, and restored the isolation valves to their normal positions per plant procedure 34AB-C71-001-1S, "Scram Procedure."

CAUSE OF EVENT

This event was the result of the expected water level decrease from void collapse and proceduralized operator action following a reactor scram. Operations personnel increased water level to approximately 44 inches above instrument zero, about seven to nine inches above the normal operating level, in anticipation of the level decrease. Nevertheless, water level decreased to a point approximately equal to the Group 2 PCIS isolation setpoint resulting in receipt of a Group 2 PCIS isolation signal and closure of the Group 2 isolation valves per design. Personnel actions, procedural instructions, and equipment operation were appropriate for the situation and did not contribute to this event.

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

REPORTABILITY ANALYSIS AND SAFETY ASSESSMENT

This report is required by 10 CFR 50.73 (a)(2)(iv) because of the unplanned actuation of Engineered Safety Feature systems. Following a manual scram, reactor vessel water level decreased due to void collapse. Level reached a minimum of about three inches above instrument zero (about 161 inches above the top of the active fuel). The decrease in water level resulted in automatic Reactor Protection System actuation and Group 2 PCIS isolation on low water level and closure of the Group 2 Primary Containment Isolation Valves per design. The Reactor Protection System and PCIS are Engineered Safety Feature systems.

The operating Reactor Feedwater Pump automatically restored water level to its desired value. Operations personnel verified correct system response and restored the isolation valves to their normal positions.

All systems functioned as expected and per their design given the water level transient. Water level was maintained well above the top of the active fuel throughout the transient and was restored to its desired value without the need for emergency core cooling system actuation. Therefore, it is concluded the event had no adverse impact on nuclear safety. This analysis is applicable to all power levels.

CORRECTIVE ACTIONS

Personnel actions, procedural instructions, and equipment operation were appropriate for the situation and did not contribute to this event. Therefore, no corrective actions are required.

ADDITIONAL INFORMATION

Other Systems Affected: No systems other than those already mentioned in this report were affected by this event.

Failed Components Information: No failed components directly caused or resulted from this event.

Commitment Information: This report does not create any permanent licensing commitments.

Previous Similar Events: There has been one previous similar event in the past two years in which a planned manual reactor scram at low power level resulted in unplanned Engineered Safety Feature system actuations. In this event, reported in Licensee Event Report 50-366/1999-002, dated 02/24/1999, Unit 2 was scrammed manually with power level at approximately 17 percent rated thermal power. The resulting water level transient caused the Group 2 Primary Containment Isolation Valves to close on low reactor vessel water level. Like this event, personnel actions, procedural instructions, and equipment operation were appropriate for the situation and did not contribute to the previous event. Therefore, no corrective actions were required.