

Dennis R. Madison
Vice President - Hatch

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July 13, 2009

Docket No.: 50-321

NL-09-0994

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001

Edwin I. Hatch Nuclear Plant
Licensee Event Report
Inadequate Procedure results in a
Group 1 Isolation and Reactor Scram

Ladies and Gentlemen:

In accordance with the requirements of 10 CFR 50.73(a)(2)(iv)(A), Southern Nuclear Operating Company is submitting the enclosed Licensee Event Report (LER) concerning a Group 1 isolation and reactor scram resulting from an inadequate procedure.

This letter contains no NRC commitments. If you have any questions, please advise.

Sincerely,

A handwritten signature in black ink that reads "Dennis R. Madison".

D. R. Madison
Vice President – Hatch

DRM/MJK/

Enclosure: LER 1-2009-005

cc: Southern Nuclear Operating Company
Mr. J. T. Gasser, Executive Vice President
Ms. P. M. Marino, Vice President – Engineering
RTYPE: CHA02.004

U. S. Nuclear Regulatory Commission
Mr. L. A. Reyes, Regional Administrator
Mr. R. E. Martin, NRR Project Manager – Hatch
Mr. J. A. Hickey, Senior Resident Inspector – Hatch

LICENSEE EVENT REPORT (LER)

Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means 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.

1. FACILITY NAME Edwin I. Hatch Nuclear Plant Unit 1	2. DOCKET NUMBER 05000 321	3. PAGE 1 OF 3
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4. TITLE
Inadequate Procedure results in a Group 1 Isolation and Reactor Scram

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
05	15	2009	2009	- 005 -	0	07	13	2009		05000
									FACILITY NAME	DOCKET NUMBER
										05000

9. OPERATING MODE 4	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: (Check all that apply)									
10. POWER LEVEL 000	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)						
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)						
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(vii)(B)						
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)						
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)						
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)						
<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)							
<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER							
<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A							

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME Edwin I. Hatch / Steve Tipps, Principal Licensing Engineer	TELEPHONE NUMBER (Include Area Code) 912-537-5880
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13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

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

14. SUPPLEMENTAL REPORT EXPECTED <input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
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ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On May 15, 2009 at 05:19 EDT, Unit 1 was in the cold shutdown mode with reactor power at 0 CMWT. At that time, a Group 1 isolation signal on actual low condenser vacuum was generated when Operations personnel moved the reactor mode switch to the run position per subsection 7.1 of special purpose procedure 42SP-05-12-09-PI-1-1, "Test of Nuclear Instrumentation Response to Diverse Logic System Actuations." Because the Main Steam Isolation Valves (MSIVs) were open at the time the Group 1 isolation signal was generated, they closed per design resulting in a reactor scram trip signal on MSIVs less than 90 percent open with the mode switch in the run position. Since the unit was in the cold shutdown condition at the time of the event, all controls rods were already inserted fully and therefore no rod motion occurred. However, the Main Steam Line Drain and Reactor Water Sample Line isolation valves also closed per design on the Group 1 isolation signal. Operations personnel returned the reactor mode switch to the shutdown position and reset the isolation and scram signals. Operations personnel left the MSIVs in the closed position.

This event was caused by a personnel error resulting in the development of an inadequate procedure.

The procedure was reviewed, revised, and successfully performed. The initial procedure writer was coached.

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CONTINUATION SHEET**

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

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 May 15, 2009 at 05:19 EDT, Unit 1 was in the cold shutdown mode to investigate problems in the nuclear instrumentation system (EIIS Code IG) that had been previously identified. At that time, a Group 1 isolation signal on actual low condenser vacuum (EIIS Code SG) was generated when Operations personnel moved the reactor mode switch to the run position per subsection 7.1 of special purpose procedure 42SP-05-12-09-PI-1-1, "Test of Nuclear Instrumentation Response to Diverse Logic System Actuations." Because the Main Steam Isolation Valves (EIIS Code SB), (MSIVs) were open at the time the Group 1 isolation signal was generated; they closed per design resulting in a reactor scram trip signal on MSIVs less than 90 percent open with the mode switch in the run position. Since the unit was in the cold shutdown condition at the time of the event, all controls rods (EIIS Code AA) were already inserted fully and therefore no rod motion occurred. However, the Main Steam Line Drain (EIIS Code SB) and Reactor Water Sample Line (EIIS Code CE) isolation valves also closed per design on the Group 1 isolation signal. Operations personnel returned the reactor mode switch to the shutdown position and reset the isolation and scram signals. Operations personnel left the MSIVs in the closed position.

CAUSE OF EVENT

The direct cause of this event was personnel error resulting in the development of an inadequate test procedure. Specifically, procedure 42SP-05-12-09-PI-1-1 did not contain the necessary steps to defeat the low condenser vacuum isolation logic that is armed when the reactor mode switch is in the run position. Consequently, the MSIVs, and the Main Steam Line Drain and Reactor Water Sample Line isolation valves, closed as designed on an actual low condenser vacuum signal when the reactor mode switch was moved to the run position as directed by the test procedure. The procedure was inadequate because the engineer who drafted the procedure overlooked the low condenser vacuum Group 1 isolation logic on the plant elementary diagrams and misinterpreted the procedure review process thus not requiring a technical review of the procedure prior to issuance.

REPORTABILITY ANALYSIS AND SAFETY ASSESSMENT

This event is reportable per 10 CFR 50.73(a)(2)(iv)(A) because unplanned actuations of safety feature systems listed in 10 CFR 50.73 occurred. In this instance, a Group 1 isolation along with a reactor protection system (EIIS Code IG), (RPS) actuation resulting in a reactor scram.

The Condenser Vacuum - Low Function is provided to prevent over pressurization of the main condenser in the event of a loss of the main condenser vacuum. Since the integrity of the condenser is an assumption in offsite dose calculations, the Condenser Vacuum - Low Function is assumed to be operable and capable of initiating closure of the MSIVs. The closure of the MSIVs is initiated to

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prevent the addition of steam that would lead to additional condenser pressurization and possible rupture of the diaphragm installed to protect the turbine exhaust hood, (EIS Code TA) thereby preventing a potential radiation leakage path following an accident. Condenser vacuum pressure signals are derived from four pressure switches that sense the pressure in the condenser. Four channels of Condenser Vacuum - Low Function are available and are required to be operable to ensure that no single instrument failure can preclude the isolation function. The Allowable Value is chosen to prevent damage to the condenser due to pressurization, thereby ensuring its integrity for offsite dose analysis. As noted in the technical specifications, the channels are not required to be operable in Modes 2 and 3 when all turbine stop valves (TSVs); (EIS Code TA) are closed, since the potential for condenser over pressurization is minimized. Switches are provided to manually bypass the channels when all TSVs are closed. This provides an isolation function for the Group 1 valves.

In this event, a Group 1 isolation signal was generated per design when the mode switch was moved to run with the low condenser vacuum isolation logic armed. Although an actual low condenser vacuum condition existed, the Group 1 isolation was not necessary to protect the condenser integrity. With the unit in Cold Shutdown, no steam was present to create the potential for over pressurization and thus condenser integrity could not have been challenged. However, the Group 1 isolation logic functioned as designed and would have prevented over pressurization of the condenser had it been required to do so.

Based on this analysis, it is concluded that this event had no adverse impact on nuclear safety.

CORRECTIVE ACTIONS

Engineering Support personnel reviewed and revised procedure 42SP-05-12-09-PI-1-1 to correct the error. Personnel successfully performed the corrected procedure on May 20, 2009.

The procedure drafter was coached on the importance of a thorough technical review, the proper application of human performance tools, and correct interpretation of the procedure review matrix.

ADDITIONAL INFORMATION

Other Systems Affected: None

Failed Components Information: None

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

Previous Similar Events:

There are no similar events within the past two years in which an inadequate procedure resulted in a Group 1 isolation and reactor scram.