Dennis R. Madison
Vice President - Hatch

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SOUTHERN COMPANY

April 30, 2010

Docket No.: 50-366

NL-10-0812

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

Edwin I. Hatch Nuclear Plant
Licensee Event Report
Failure to Recognize PCIV as Inoperable Results in a
Condition Prohibited By the Technical Specification

Ladies and Gentlemen:

In accordance with the requirements of 10 CFR 50.73(a)(2)(i)(B), Southern Nuclear Operating Company is submitting the enclosed Licensee Event Report (LER) concerning the failure to recognize a PCIV as inoperable which resulted in a condition prohibited by the technical specification.

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

Sincerely,

D. R. Madison
Vice President – Hatch

DRM/MJK/

Enclosure: LER 2-2010-001

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. E. D. Morris, Senior Resident Inspector – Hatch

NRC FORM 366 (9-2007) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 08/31/2010

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.

LICENSEE EVENT REPORT (LER)

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Edwin I. Hatch Nuclear Plant Unit 2	05000 366	1 OF 4

4. TITLE
Failure to Recognize PCIV as Inoperable Results in a Condition Prohibited By the Technical Specification

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
										05000
03	10	2010	2010	- 001 -	0	04	30	2010	FACILITY NAME	DOCKET NUMBER
										05000

9. OPERATING MODE
1

10. POWER LEVEL
99.8

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: *(Check all that apply)*

- ☐ 20.2201(b)
- ☐ 20.2201(d)
- ☐ 20.2203(a)(1)
- ☐ 20.2203(a)(2)(i)
- ☐ 20.2203(a)(2)(ii)
- ☐ 20.2203(a)(2)(iii)
- ☐ 20.2203(a)(2)(iv)
- ☐ 20.2203(a)(2)(v)
- ☐ 20.2203(a)(2)(vi)
- ☐ 20.2203(a)(3)(i)
- ☐ 20.2203(a)(3)(ii)
- ☐ 20.2203(a)(4)
- ☐ 50.36(c)(1)(i)(A)
- ☐ 50.36(c)(1)(ii)(A)
- ☐ 50.36(c)(2)
- ☐ 50.46(a)(3)(ii)
- ☐ 50.73(a)(2)(i)(A)
- ☒ 50.73(a)(2)(i)(B)
- ☐ 50.73(a)(2)(i)(C)
- ☐ 50.73(a)(2)(ii)(A)
- ☐ 50.73(a)(2)(ii)(B)
- ☐ 50.73(a)(2)(iii)
- ☐ 50.73(a)(2)(iv)(A)
- ☐ 50.73(a)(2)(v)(A)
- ☐ 50.73(a)(2)(v)(B)
- ☐ 50.73(a)(2)(v)(C)
- ☐ 50.73(a)(2)(v)(D)
- ☐ 50.73(a)(2)(vii)
- ☐ 50.73(a)(2)(viii)(A)
- ☐ 50.73(a)(2)(viii)(B)
- ☐ 50.73(a)(2)(ix)(A)
- ☐ 50.73(a)(2)(x)
- ☐ 73.71(a)(4)
- ☐ 73.71(a)(5)
- ☐ OTHER

Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME	TELEPHONE NUMBER (Include Area Code)
Edwin I. Hatch / Steve Tipps, Principal Licensing Engineer	912-537-5880

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
X	BN	SHV	R344	Yes					

14. SUPPLEMENTAL REPORT EXPECTED

☐ YES *(If yes, complete 15. EXPECTED SUBMISSION DATE)* ☒ NO

15. EXPECTED SUBMISSION DATE

MONTH	DAY	YEAR

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

On March 10, 2010 at 20:00 EST, Unit 2 was at approximately 2799 CMWTh, 99.8 percent power. Earlier that day Operations personnel were performing the Reactor Core Isolation Cooling (RCIC) operability procedure. During that evolution an annunciator indicated that the RCIC barometric condenser pressure was high. Subsequent investigation determined that the vacuum pump discharge check valve was stuck closed. A review of the system operability was performed and since the barometric condenser is not required for RCIC to fulfill its' design function for its' mission time it was determined that RCIC was operable. This valve performs a second function of primary containment isolation valve. The cause of the valve sticking was unknown and thus the valve must be considered inoperable and the appropriate Technical Specification should be entered for the inoperable valve. This was not identified until after the action time for the applicable Technical Specification had expired; therefore, a condition prohibited by the Technical Specification existed.

The cause of this event was failure to review operability from both a system and a component level.

Corrective actions are to incorporate this example into the Operations training program and the failed valve has been replaced and tested with an acceptable PCIV.

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 March 10, 2010 at 20:00 EST, Unit 2 was at approximately 2799 CMWTh, 99.8 percent power. Earlier that day Operations personnel were performing the Reactor Core Isolation Cooling (RCIC, EIIS Code BN) operability procedure. During that evolution an annunciator indicated that the RCIC barometric condenser pressure was high. Subsequent investigation determined that the vacuum pump discharge check valve, 2E51-F028, was stuck closed. A review of the system operability was performed and since the barometric condenser is not required for RCIC to fulfill the design function for the system mission time it was determined that RCIC was operable. This valve performs a second function of primary containment isolation valve (PCIV, EIIS Code NH). The cause of the valve sticking was unknown and thus the valve must be considered inoperable and the appropriate Technical Specification should be entered for the inoperable Primary Containment Isolation Valve. This was not identified until after the action time for the applicable Technical Specification had expired; therefore, a condition prohibited by the Technical Specification existed.

CAUSE OF EVENT

The cause of this event was the failure to review the PCIV operability from both a system and a component level. This resulted in the failure to identify the need to enter the plant Technical Specifications for the inoperable PCIV.

REPORTABILITY ANALYSIS AND SAFETY ASSESSMENT

This event is reportable under the provisions of 10 CFR 50.73(a)(2)(i)(B) Any operation or condition which was prohibited by the plant's Technical Specifications. Specifically, the PCIV was inoperable and the compensatory actions were not taken within the allowed timeframe.

The function of the Primary Containment (EIIS Code NH) is to isolate and contain fission products released from the reactor primary system (EIIS Code AD) following a design basis accident (DBA) and to confine the postulated release of radioactive material. The Primary Containment consists of a steel vessel which surrounds the reactor primary system and provides a barrier against the uncontrolled release of radioactive material to the environment. Some leakage from the Primary Containment is assumed to occur, although the majority of the leakage is assumed to be released into the Secondary Containment (EIIS Code NG). The total allowable leakage rate for the Primary Containment is designated "L sub a", and is equal to 1.2 percent by weight of the containment air volume per day. The leakage that occurs within the secondary containment is treated by the Standby Gas Treatment System (EIIS Code BH) before being released at an elevated point through the Main Stack (EIIS Code VL).

The failed valve, the RCIC vacuum pump discharge check valve, is within the secondary containment boundary. In addition the valve discharges into the top of the Torus (EIIS Code NH) and terminates below the water line. The Torus is postulated to remain water filled post accident. Therefore this valve does not communicate with the gas atmosphere within the Torus.

Primary Containment leakage criteria were established using conservative licensing basis evaluation methods in accordance with NRC Regulatory Guide 1.3. These methods conservatively assume that the postulated accident results in fuel damage with 100 percent of the core noble gas activity and 50 percent of the iodine activity released.

The Final Safety Analysis Report (FSAR) for Plant Hatch Unit 2 designates the DBA as the break of a Reactor Recirculation System (EIIS Code AD) pipe which results in the rapid depressurization of the reactor vessel to the Primary Containment. However, the FSAR analysis shows that, for such an accident, resulting peak fuel cladding temperatures would be less than those required to produce damage to the fuel. The plant-specific SAFER/GESTR analysis for this accident scenario shows that no damage to the fuel cladding would occur even if additional failures are postulated, such as failures of certain power supplies and certain low pressure emergency core cooling systems. Therefore, by this analysis, the only radioactive materials present in the released coolant would be those already present due to normal operation and the small additional amount of contaminated or activated crud released from vessel internals and primary system piping during the initial stages of the transient. In addition since this valve communicates with Primary Containment through a pipe that is submerged in the Torus communication with a gaseous release is not postulated. Realistically, therefore, the 10 CFR 100 off-site dose limits would likely not have been exceeded had an actual event occurred.

Based on this analysis contained in the FSAR, it is concluded that the RCIC valve failure being reported did not result in any adverse impact on nuclear safety. This analysis applies to all operating conditions.

CORRECTIVE ACTIONS

Corrective action is to incorporate this example into the Operation training program.

The failed valve has been replaced and tested with an acceptable PCIV.

ADDITIONAL INFORMATION

Other Systems Affected: None

Failed Components Information:
Master Parts List Number: 2E51-F028B
Manufacturer: Rockwell International
Model Number: 3674T
Type: Valve, Shutoff
Manufacturer Code: R344

EIIS System Code: BN
Reportable to EPIX: Yes
Root Cause Code: X
EIIS Component Code: SHV

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
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Commitment Information:
This report does not create any new permanent licensing commitments.

Previous Similar Events:
LER 2-2009-005 is an event where a manual action could have been taken instead of entering the Technical Specification. In that event the manual action, realignment of a suction source, was not taken and the Technical Specification also was not entered. It is similar to this event in that proper entry into the Technical Specification as not made. The corrective action for this event focused on revision of a procedure to correct the specific event by requiring the manual action to be taken. Therefore the corrective action would not have prevented the current event.