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July 09, 2010

Docket Nos.: 50-321
50-366

NL-10-1351

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

Edwin I. Hatch Nuclear Plant
Licensee Event Report 2010-003-0
Main Control Room Environmental Control System Boundary not Single Failure
Proof Due to Degraded Barrier

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.

This letter contains no NRC commitments. If you have any questions, please contact Doug McKinney at (205)992-5982.

Respectfully submitted,

A handwritten signature in black ink that reads "Mark J. Ajluni". The signature is written in a cursive style with a large initial "M".

M. J. Ajluni
Nuclear Licensing Director

MJA/EGA/lac

Enclosures:
Licensee Event Report 2010-003-0

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cc: Southern Nuclear Operating Company
Mr. J. T. Gasser, Executive Vice President
Mr. D. R. Madison, Vice President – Hatch
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
Mr. P.G. Boyle, NRR Project Manager

**Edwin I. Hatch Nuclear Plant
Licensee Event Report 2010-003-0
Main Control Room Environmental Control System Boundary not Single
Failure Proof Due to Degraded Barrier**

Enclosure

Licensee Event Report 2010-003-0

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 4
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4. TITLE
Main Control Room Environmental Control System Boundary Not Single Failure Proof Due To Degraded Barrier

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	11	2010	2010	- 003 -	0	07	09	2010	Edwin I. Hatch Nuclear Plant Unit 2	05000 366
									FACILITY NAME	DOCKET NUMBER
										05000

9. OPERATING MODE I	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: <i>(Check all that apply)</i>							
10. POWER LEVEL 99.9	<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)(viii)(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 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 checked="" 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 / Doug McKinney, Regulatory Response Manager	TELEPHONE NUMBER (Include Area Code) (205)992-5982
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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 <i>(If yes, complete 15. EXPECTED SUBMISSION DATE)</i> <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 11, 2010 Unit 1 was at 2800 CMWTh, 99.9 percent power, and Unit 2 was also at 2800 CMWTh, 99.9 percent power. On this date, it was determined that when procedure 42SV-Z41-003-0 was performed as required by the Technical Specification (TS) Surveillance Requirement 3.7.4.4 to test the operability of the Main Control Room Environmental Control system (MCREC, EISS Code VI) boundary, the required pressurization of the Main Control Room could not be reached. As part of the test, a damper (1Z41F019) was failed open to simulate the condition of the boundary given a single failure of the damper. The results of the test showed that with this damper failed open, the TS required pressurization of ≥ 0.1 inches water column of the Main Control Room (MCR, EISS Code NA) could not be reached. Instead, the MCR could only be pressurized to 0.06 inches water column. Upon identification, the operating crew entered the appropriate required action statement.

This event was caused by the apparent degradation of the MCR boundary. Both restroom exhaust dampers were secured in their "closed" position, and the subsequent control room boundary surveillance test was satisfactorily performed with a pressurization of 0.11 inches water column. Interim corrective actions include maintaining the related dampers in the closed position until actions to resolve the condition have been taken and performance of a cause analysis with corrective actions taken as required by the cause analysis.

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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 (EIS Code XX).

DESCRIPTION OF EVENT

On May 11, 2010, Unit 1 was at 2800 CMWTh, 99.9 percent power, and Unit 2 was also at 2800 CMWTh, 99.9 percent power. On this date, it was determined that when procedure 42SV-Z41-003-0 was performed as required by the Technical Specification (TS) Surveillance Requirement 3.7.4.4 to test the operability of the Main Control Room Environmental Control system (MCREC, EIS Code VI) boundary, the TS acceptance criteria to demonstrate control room pressurization could not be reached. As part of the test, one of the bathroom dampers (1Z41F019 or 1Z41F020) is failed open to simulate the condition of the main control room boundary (MCR, EIS Code NA) given a single failure of the damper. The results of the test showed that with this damper failed open, the TS acceptance criteria for pressurization of ≥ 0.1 inches water column could not be reached. Instead, the MCR could only be pressurized to 0.06 inches water column. Since the testing performed confirmed that the control room pressurization safety function was not single failure proof, given the fact that the dampers going to the men's and women's restrooms in the main control room have a single damper to each that automatically closes rather than having redundant dampers in the exhaust pathway from each room, the operating crew entered the appropriate TS required action statement (RAS), which involved securing both restroom exhaust dampers in the "closed" position. Subsequent testing with closed dampers demonstrated the ability of the MCREC system to pressurize the main control room boundary by achieving and maintaining the required pressurization of ≥ 0.1 inches of water column. The associated dampers will remain closed until implementation of corrective actions to resolve this issue.

CAUSE OF EVENT

This event was caused by the apparent degradation of the MCR boundary. The restroom exhausts are designed and configured with the exhausts from the Men's and Women's restrooms having individual single isolation dampers. The "closed" restroom doors provide the redundant barriers, and the Unit 2 FSAR credits the restroom doors as being normally closed to serve as redundant barriers to the dampers.

Prior to this event, testing of the MCR boundary had been performed that involved failing the restroom exhaust dampers open individually during the test. These previous tests demonstrated that in this configuration, the MCR pressurization acceptance criteria ≥ 0.1 inches water column could be satisfied as required by the Technical Specifications. Because the current "as found" test results of 0.06 inches water column failed to meet the TS requirements, the restroom exhaust dampers were secured in the "closed" position.

REPORTABILITY ANALYSIS AND SAFETY ASSESSMENT

This event is reportable under 10 CFR 50.73(a)(2)(i)(B), any operation or condition which was prohibited by the plant's Technical Specifications (Tech Specs). The testing performed confirmed that the control room pressurization safety function was not single failure proof since the dampers going to the Men's and Women's restrooms in the main control room have a single damper to each that automatically closes rather than having redundant dampers in the exhaust pathway from each room.

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This results in a condition requiring entry into Tech Spec 3.7.4, Condition B, whenever either of these dampers was left in the "open" position. This Tech Spec Condition requires isolation of this boundary within 24 hours. The normal position of these dampers is "open", which means the unit has been in this condition multiple times over the last three years for a time longer than permitted by the Tech Specs. The dampers automatically close upon activation of the control room pressurization and are susceptible to a single failure involving a failure of one of the dampers failing to close.

The MCREC System is a standby system, and the air-conditioning portion of it operates during normal and accident unit operation to maintain the control room environment. Upon receipt of the initiation signal(s), indicative of conditions that could result in radiation exposure to control room personnel, the MCREC System automatically switches to the pressurization mode of operation by activation of the filter unit to prevent infiltration of contaminated air into the control room and cleanup of the outside air for pressurization. A system of dampers isolates the control room, and a part of the recirculated air is routed through either of the two filter subsystems. Outside air is taken in at the normal ventilation intake and is mixed with the recirculated air before being passed through HEPA and charcoal adsorber filter subsystems for removal of airborne radioactive particles and gaseous iodines. The MCREC System is designed to maintain habitability of the control room for a 30 day continuous occupancy after a Design Basis Accident without exceeding 5 rem whole body dose or its equivalent to any part of the body. A single MCREC filter unit will pressurize the control room to a positive pressure of ≥ 0.1 inches water gauge to prevent infiltration of contaminated air from surrounding buildings and cleanup of the outside air for pressurization.

Prior to this event, testing of the MCR boundary had been performed and involved failing the restroom exhaust dampers open individually during the test. These tests demonstrated that in this configuration the MCR pressurization requirement of ≥ 0.1 inches water column could be satisfied, as required by the Technical Specifications. Even though the "as found" testing in this event resulted in the MCREC subsystem pressurizing the MCR envelope to 0.06 inches water column, which is less than that required by the Technical Specifications, the MCREC subsystems were still able to provide positive pressure within the MCR boundary. As a result, the operation of the MCREC subsystems would continue to prevent infiltration of contaminated air into the MCR in their "as found" state. Additionally, even though there was a decrease in differential pressure between the MCR and the turbine building, the unfiltered inleakage value that was measured during the control room habitability unfiltered inleakage testing is not expected to increase, since the MCR envelope is virtually one enclosure without adjacent room or spaces. Once both restroom exhaust room dampers were placed in the "closed" position, MCR boundary testing demonstrated that the TS acceptance criteria of ≥ 0.1 inches water column was met.

Based on this information, this event had no adverse impact on nuclear safety.

CORRECTIVE ACTIONS

The related dampers will be maintained in the closed position until actions to resolve the condition have been taken.

A design change is in progress to install redundant dampers. This action will be tracked in the Corrective Action Program.

A cause determination will be performed and corrective actions taken as required. These actions will be tracked by the Corrective Action Program.

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ADDITIONAL INFORMATION

Other Systems Affected: None

Failed Components Information:

This event was caused by the apparent degradation of the MCR boundary and did not involve the failure of a specific component.

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

Previous Similar Events:

There are no previous similar events in the past two years where the MCREC system was inoperable due to a degraded component that affected the MCREC pressurization mode.

However, LER 1-2009-006-0, "Main Control Room Air Conditioner Inoperable Due to Inoperable Solenoid Valve", involved degraded components that resulted in the main control room air conditioner no longer being single failure proof, thereby requiring entry into a TS RAS and additional corrective actions to address that condition. The underlying causes associated with this LER are different from those associated with LER 1-2010-003-0, and the resulting corrective actions from the previous LER would not have prevented the occurrence of the condition reported in 1-2010-003.