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A SOUTHERN COMPANY

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Docket Nos.: 50-321

NL-16-0471

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

Edwin I. Hatch Nuclear Plant  
License Event Report 2016-001-00  
Performance of Fuel Movement with Inoperable Rod Position Indication  
System in Violation of Technical Specifications

Ladies and Gentlemen:

In accordance with the requirements of 10 CFR 50.73(a)(2)(i)(B) Southern Nuclear Operating Company hereby submits the enclosed Licensee Event Report.

This letter contains no NRC commitments. If you have any questions, please contact Greg Johnson at (912) 537-5874.

Respectfully submitted,

A handwritten signature in black ink that reads "C. R. Pierce". The signature is written in a cursive, flowing style.

C. R. Pierce  
Regulatory Affairs Director

CRP/cdp

Enclosure: LER 2016-001-00

cc: Southern Nuclear Operating Company

Mr. S. E. Kuczynski, Chairman, President & CEO

Mr. D. G. Bost, Executive Vice President & Chief Nuclear Officer

Mr. D. R. Vineyard, Vice President – Hatch

Mr. M. D. Meier, Vice President – Regulatory Affairs

Mr. D. R. Madison, Vice President – Fleet Operations

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Mr. G. L. Johnson, Regulatory Affairs Manager - Hatch

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U. S. Nuclear Regulatory Commission

Ms. C. Haney, Regional Administrator

Mr. M. D. Orenak, NRR Project Manager – Hatch

Mr. D. H. Hardage, Senior Resident Inspector – Hatch

**Edwin I. Hatch Nuclear Plant Unit 1**

**License Event Report 2016-001-00**

**Performance of Fuel Movement with Inoperable Rod Position Indication  
System in Violation of Technical Specifications**



**LICENSEE EVENT REPORT (LER)**

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to Infocollects.Resource@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.

<b>1. FACILITY NAME</b> Edwin I. Hatch Nuclear Plant Unit 1	<b>2. DOCKET NUMBER</b> 05000 321	<b>3. PAGE</b> 1 OF 3
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**4. TITLE**  
Performance of Fuel Movement with Inoperable Rod Position Indication System in Violation of Technical Specifications

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
02	11	2016	2016	- 001 -	00	04	08	2016	FACILITY NAME	DOCKET NUMBER

<b>9. OPERATING MODE</b>	<b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)</b>			
5	<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)
<b>10. POWER LEVEL</b>  0	<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**

<b>LICENSEE CONTACT</b> Edwin I. Hatch / Carl James Collins – Licensing Supervisor	<b>TELEPHONE NUMBER (Include Area Code)</b> 912-537-2342
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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

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

On 02/11/16, Unit 1 fuel movement activities were restarted after repairs to the main grapple camera. A refueling interlock of the main grapple was encountered while moving a double blade guide, caused by the disconnection of 20 Rod Position Information System (RPIS) Position Indicating Probes (PIPs). The operating crew began troubleshooting and determined that bypassing the RPIS probe "full-in" would clear the interlock. However the crew used a section of the site specific procedure for control rod withdrawal during refuel that wasn't applicable at the time.

The RPIS indications were bypassed and the movement of the double blade guide was recommenced at 12:00 followed by fuel movement. After a review of Technical Specifications 3.9.4, it was determined that fuel movement should not be performed with the RPIS probe disconnected and bypassed because the associated control rods were not disarmed with a tagout. Fuel movement activities were then halted.

<b>NRC FORM 366A</b> (02-2014)	<b>U.S. NUCLEAR REGULATORY COMMISSION</b>	<b>APPROVED BY OMB: NO. 3150-0104</b>	<b>EXPIRES: 1/31/2017</b>
 <b>LICENSEE EVENT REPORT (LER) CONTINUATION SHEET</b>		Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to Infocollects.Resource@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.	

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**NARRATIVE**

PLANT AND SYSTEM IDENTIFICATION

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

DESCRIPTION OF EVENT

On 02/11/16, during the Hatch 1R27 outage, fuel movement activities were halted, due to a faulty grapple camera. Once the camera was fixed, the fuel movement activities recommenced. After a couple of minutes, the operator was unable to lower a blade guide into the core. It was discovered that a refueling interlock of the main grapple was encountered. This had occurred because 20 Rod Position Indication System (RPIS) Position Indicating Probes (PIPs) had been disconnected. The work to remove the PIPs was authorized by the Work Release Supervisor and the Unit 1 Shift Supervisor, out of sequence.

The RPIS indications were bypassed and the blade guide was lowered into the core followed by continuing fuel movement. After a review of Technical Specification 3.9.4, Control Rod Position Indication, it was determined that fuel movement should not be performed with the RPIS probe disconnected and bypassed because the associated control rods were not hydraulically disarmed by closing the drive water and exhaust water isolation valves in accordance with the Technical Specification Bases. Fuel movement was then halted. The Unit 1 Shift Supervisor instructed the PIPs to be reinstalled. The PIPs were installed, RPIS full-in bypass box switches for all rods (20) were un-bypassed and the fuel movement activities were resumed.

CAUSE OF EVENT

The cause of moving fuel while the RPIS "full-in" indication was inoperable was due to inadequate procedure usage. The operations Shift Manager also became involved in troubleshooting and did not maintain an oversight role. This contributed to a misinterpretation of technical specifications, leading to the inappropriate decision to bypass the (20) RPIS full-in indications prior to commencing fuel movement.

REPORTABILITY ANALYSIS AND SAFETY ASSESSMENT

This event is reportable per 10 CFR 50.73(a)(2)(i)(B) as an operation or condition prohibited by Technical Specifications (TS) 3.9.4 which prohibits performing fuel movement when one or more required control rod position indication channels are inoperable.

Refueling equipment interlocks restrict the operation of the refueling equipment or the withdrawal of control rods to reinforce unit procedures that prevent the reactor from potentially achieving criticality during refueling. The refueling interlock circuitry senses the conditions of the refueling equipment and the control rods. Depending on the sensed conditions, interlocks are actuated to prevent the operation of the refueling equipment or the withdrawal of control rods.

NRC FORM 366A  
(02-2014)**LICENSEE EVENT REPORT (LER)  
CONTINUATION SHEET**

U.S. NUCLEAR REGULATORY COMMISSION

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**NARRATIVE**

The disconnection of the RPIS PIPs did not result in any damage to safety related equipment, offsite radiological releases, or personnel injuries. The Control Rod Drive Pumps had been stopped, thus preventing any potential control rod movement by removing the motive force. The control rods were therefore effectively hydraulically disarmed but not as suggested by the Tech Spec Bases 3.9.4 by closing the drive water and exhaust water isolation valves. Even though this condition was contrary to Tech Spec requirements, no change in reactivity resulted and no movement of the control rods occurred. Based on this information this reported condition had very low safety significance.

**CORRECTIVE ACTIONS**

Immediately following the event fuel movement was halted and the PIPS were installed. Qualifications were withdrawn for the personnel involved and a "stand down" was held with the Operations department where emphasis was stated on the importance of remaining in assigned roles.

Operations training will be presented using this event as operating experience during license training prior to the next refueling outage. Special focus will be placed on the technical specifications that apply during this evolution, the importance of staying within roles, and avoidance of making decisions driven by schedule concerns. Operations training will also perform specific pre-outage training on non-routine tasks (including control rod manipulations and fuel removal) prior to the next refueling outage.

**ADDITIONAL INFORMATION**

Other Systems Affected: None.

Failed Components Information: None.

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

Previous Similar Events:

LER 2012-001-0

On 2/25/2012, with the unit in Mode 5 for refueling, the "full-in" indication for Control Rod (CR) 22-27 was noted to be inoperable, and a required action statement (RAS) for TS 3.9.4 was entered. In accordance with the RAS the control room staff visually verified that the CR was fully inserted, action was taken to electrically disarm the associated CR drive, and a tag-out was conducted as part of the disarming action. A modified probe buffer card was installed to bypass the "full-in" indication signal in order to remove the rod block. Notation of the use of the modified probe buffer card was added to an existing TS RAS to track its installation and loss of the RPIS indication. At 2121 EST on 2/28/2012, the tag-out described above was cleared (i.e., removed) without removing the modified probe buffer card and without performing a functional test of the "full-in" indication prior to moving fuel in the reactor vessel. Fuel movement occurred from the time the tag-out was removed until 0817 EST on 3/21/2012 when the error was discovered; resulting in a condition prohibited by TS for CR position indication. The cause of this event was attributed to less than adequate procedural controls and the failure of involved personnel to effectively "self-check" as a human error prevention technique. A procedure change was implemented to require the shift supervisor to sign a tag-out if used to comply with a TS requirement. Because the lack of a tagout was cited in the 2016 event, the corrective actions from the 2012 event would not be expected to have prevented the condition reported in this LER.