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April 13, 2017

Docket No.: 50-366

NL-17-0624

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

Edwin I. Hatch Nuclear Plant Unit 2
LER 2017-002-00
Emergency Diesel Generator Start Due to Inadvertent Electrical Bus De-Energization

Ladies and Gentlemen:

In accordance with the requirements of 10 CFR 50.73(a)(2)(iv)(A), Southern Nuclear Operating Company (SNC) 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,

David R. Vineyard
Vice President – Hatch

DRV/jcb

Enclosure: LER 2017-002-00

U. S. Nuclear Regulatory Commission

NL-17-0624

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cc: Southern Nuclear Operating Company

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

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

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U. S. Nuclear Regulatory Commission

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Mr. R. Hall, NRR Project Manager – Hatch

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

Edwin I. Hatch Nuclear Plant Unit 2

LER 2017-002-00

**Emergency Diesel Generator Start Due to Inadvertent Electrical Bus De-
Energization**



LICENSEE EVENT REPORT (LER)

(See Page 2 for required number of digits/characters for each block)

(See NUREG-1022, R.3 for instruction and guidance for completing this form
<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/>)

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 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.

1. FACILITY NAME Edwin I. Hatch Nuclear Plant Unit 2	2. DOCKET NUMBER 05000366	3. PAGE 1 OF 3
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4. TITLE
Emergency Diesel Generator Start Due to Inadvertent Electrical Bus De-Energization

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	16	2017	2017	- 002	- 00	4	13	2017	FACILITY NAME	DOCKET NUMBER

9. OPERATING MODE 5	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)											
	<input type="checkbox"/> 20.2201(b)			<input type="checkbox"/> 20.2203(a)(3)(i)			<input type="checkbox"/> 50.73(a)(2)(ii)(A)			<input type="checkbox"/> 50.73(a)(2)(viii)(A)		
	<input type="checkbox"/> 20.2201(d)			<input type="checkbox"/> 20.2203(a)(3)(ii)			<input type="checkbox"/> 50.73(a)(2)(ii)(B)			<input type="checkbox"/> 50.73(a)(2)(viii)(B)		
	<input type="checkbox"/> 20.2203(a)(1)			<input type="checkbox"/> 20.2203(a)(4)			<input type="checkbox"/> 50.73(a)(2)(iii)			<input type="checkbox"/> 50.73(a)(2)(ix)(A)		
10. POWER LEVEL 0	<input type="checkbox"/> 20.2203(a)(2)(i)			<input type="checkbox"/> 50.36(c)(1)(i)(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)(ii)			<input type="checkbox"/> 50.36(c)(1)(ii)(A)			<input type="checkbox"/> 50.73(a)(2)(v)(A)			<input type="checkbox"/> 73.71(a)(4)		
	<input type="checkbox"/> 20.2203(a)(2)(iii)			<input type="checkbox"/> 50.36(c)(2)			<input type="checkbox"/> 50.73(a)(2)(v)(B)			<input type="checkbox"/> 73.71(a)(5)		
	<input type="checkbox"/> 20.2203(a)(2)(iv)			<input type="checkbox"/> 50.46(a)(3)(ii)			<input type="checkbox"/> 50.73(a)(2)(v)(C)			<input type="checkbox"/> 73.77(a)(1)		
	<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)(D)			<input type="checkbox"/> 73.77(a)(2)(i)		
	<input type="checkbox"/> 20.2203(a)(2)(vi)			<input type="checkbox"/> 50.73(a)(2)(i)(B)			<input type="checkbox"/> 50.73(a)(2)(vii)			<input type="checkbox"/> 73.77(a)(2)(ii)		
			<input type="checkbox"/> 50.73(a)(2)(i)(C)			<input type="checkbox"/> OTHER			Specify in Abstract below or in NRC Form 366A			

12. LICENSEE CONTACT FOR THIS LER

LICENSEE CONTACT Edwin I. Hatch / Jimmy Collins – Licensing Supervisor	TELEPHONE NUMBER (Include Area Code) 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

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 February 16, 2017, at 1320 EST with Unit 2 at 0 percent rated thermal power due to being in a refueling outage, maintenance electricians were sent to the field to perform a protective relay trip test for the 2D start-up transformer (SAT). During the test setup, the 2E 4160 VAC Emergency Bus was inadvertently and momentarily de-energized, causing the 2A Emergency Diesel Generator (EDG) to autostart, secondary containment to isolate, and start of the standby gas treatment system. Subsequent investigations revealed that the cause of the event was due to a movement operated contact (MOC) switch adapter was not required to be installed on the 2D normal supply breaker in the 2E 4160 VAC bus. All systems responded appropriately.

A review of the event determined that the MOC switch adapter was not required to be installed by the procedure, but was instructed to be installed by supervision. Corrective actions were taken to cover supervisor roles and responsibilities and the need for all workers to follow plant standards for procedure use and adherence. All breaker procedures and protective relay test procedures were reviewed to determine if a MOC switch adapter needs to be installed. Continuing training will also be held to cover this event and its lessons learned.



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

(See NUREG-1022, R.3 for instruction and guidance for completing this form
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		YEAR	SEQUENTIAL NUMBER	REV NO.
Edwin I. Hatch Nuclear Plant Unit 2	05000-366	2017	- 002	- 00

NARRATIVE

Event Description

On February 16, 2017, at 1320 EST with Unit 2 at 0 percent rated thermal power due to being in a refueling outage, maintenance electricians were sent to the field to perform a protective relay trip test for the 2D start-up transformer (SAT) (EIS Code XMFR). During the test setup, the 2E 4160 VAC Emergency Bus (EIS Code BU) was inadvertently and momentarily de-energized, causing the 2A Emergency Diesel Generator (EDG) (EIS Code DG) to autostart, secondary containment to isolate, and start of the standby gas treatment system. Although, the 2A EDG autostarted, it did not tie to the 2E 4160 VAC Emergency Bus as the 2E 4160 VAC Emergency Bus was re-energized from the 2C SAT. Subsequent investigations revealed that a movement operated contact (MOC) switch adapter had been installed on the 2D normal supply breaker in the 2E 4160 VAC Emergency Bus. The procedure did not call for the MOC switch adapter to be installed and was installed at the direction of supervision. The switch adapter caused the alternate supply breaker that was feeding the 2E 4160 VAC Emergency Bus to momentarily open and then reclose, consequently ending the event.

Event Cause Analysis

The cause of the event is due to a MOC switch adapter being incorrectly installed on the 2D normal supply breaker in the 2E 4160 VAC Emergency Bus. Causal analysis determined that the MOC switch adapter was not required to be installed per the procedure. The supervisor made the decision to install the adapter after a review of the electrical prints and assumed he had eliminated the trip potential by opening the appropriate link. The supervisor stepped out of role and did not follow plant standards for procedure use and adherence.

Safety Assessment

This event is reportable per 10 CFR 50.73(a)(2)(iv)(A) due to the valid actuation of an emergency ac electrical power system that was not part of a pre-planned sequence.

The electrically powered safety loads are separated into redundant load groups such that loss of any one group will not prevent the minimum safety functions from being performed. Essential loads are divided between the three essential 4160 VAC Emergency Buses: 2E, 2F, and 2G. Availability of any two of these buses is sufficient to meet any accident conditions. The startup transformers are used to supply the 4160 VAC buses during normal operation, maintenance outages, and shutdown. Emergency buses 2E, 2F, and 2G are normally supplied by the 2D startup transformer. On failure of the normal source (2D transformer), the three emergency buses are energized from the 2C startup transformer. This is accomplished by an automatic transfer. In the event that both startup transformer supplies are lost, the power supply for the emergency buses is fed from emergency diesel generators.

Upon a momentary loss of the 2E Emergency Bus supply power, the alternate supply power breaker automatically reclosed, reenergizing the bus. All respective systems operated as designed upon the momentary loss of power and no component failures were identified. Due to Unit 2 being in a scheduled refueling outage, shutdown cooling was being provided by the Decay Heat Removal (DHR) system during this time. Therefore, there was no loss of shutdown cooling and the outage safety assessment was not impacted by this event. This event is considered to have very low safety significance.



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Corrective Actions

A stand down was held with all maintenance supervisors to cover supervisor roles and responsibilities and the need for all workers to follow plant standards for procedure use and adherence. Also, a stand down was held with craft personnel to reinforce the need to always follow the procedure and to not deviate from written procedures even under the direction of supervision. All breaker procedures and protective relay test procedures were reviewed to determine if a MOC Switch Adapter needs to be installed. Continuing training will also be held to cover this event and its lessons learned.

Previous Similar Events

None.