December 6, 2012

L-2012-419
10 CFR 50.73

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Re: St. Lucie Unit 2
Docket Nos 50-389
Reportable Event: 2012-003
Date of Event: October 7, 2012
Inadvertent Trip of 2B3 4.16kv Switchgear

The attached Licensee Event Report 2012-003 is being submitted pursuant to the requirements of 10 CFR 50.73 to provide notification of the subject event.

Respectfully,

Joseph Jensen
Site Vice President
St. Lucie Plant

JJ/dlc

Attachment

IE22
NRR

NRC FORM 366 (10-2010)	U.S. NUCLEAR REGULATORY COMMISSION	APPROVED BY OMB: NO. 3150-0104	EXPIRES: 10/31/2013
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	

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
St. Lucie Unit 2	05000389	1 OF 3

4. TITLE

Inadvertent Trip of 2B3 4.16kv Switchgear

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
10	7	2012	2012	- 003 -	00	12	6	12	St. Lucie Unit 2	05000389
									FACILITY NAME: na	DOCKET NUMBER: na

9. OPERATING MODE

6

10. POWER LEVEL

0%

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

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

12. LICENSEE CONTACT FOR THIS LER

NAME	TELEPHONE NUMBER (Include Area Code)
Don Cecchett - Licensing Engineer	772-467-7155

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
A	EK	NA	NA	NO					

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 October 7, 2012, while in a defueled condition, a differential current lockout occurred on the St Lucie Unit 2 2B3 4.16kV essential bus, causing the bus to de-energize. At the time of the event, the 2B emergency diesel generator (EDG) was loaded to the essential bus. Due to the differential current lockout, all bus loads were lost and the 2B EDG output breaker feeding the essential bus opened. The 2B EDG transferred to emergency mode and the 2A EDG remained operable and in standby. This event is reportable pursuant to 10CFR50.73(a)2)(iv)(A).

An investigation concluded the apparent cause was accidental shorting of the differential relay terminals while attempting to rack in the 2B component cooling water (CCW) breaker. Immediate corrective actions included systems checks and restoring the power to the 2B3 4.16kV essential bus. The 2B3 bus differential and lockout relays were tested satisfactory and no indications of equipment failure were identified.

Corrective actions included a needs analysis to incorporate changes to training based on the lessons learned.

This event had no effect on the health and safety of the public.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
St. Lucie Unit 2	05000389	2012	- 003	- 00	Page 2 of 3

NARRATIVE

Description of the Event

On October 7, 2012, while in a defueled condition, a differential current lockout occurred on the St Lucie Unit 2 2B3 4.16kV essential bus, causing the bus to de-energize [JE]. At the time of the event, the 2B emergency diesel generator (EDG) was loaded to the essential bus. Due to the differential current lockout, all bus loads were lost and the 2B EDG output breaker feeding the essential bus opened. The 2B EDG transferred to emergency mode and the 2A EDG remained operable and in standby.

Cause of the Event

An apparent cause evaluation concluded that plant personnel did not adequately assess the risk significance associated with exposed differential relay terminals in the immediate work environment.

Analysis of the Event

The cause of the 4.16kV 2B3 essential bus inadvertent de-energization was due to the accidental shorting out of the differential relay terminals while attempting to rack in the 2B component cooling water (CCW) breaker. An investigation concluded there was no equipment malfunction that led to the de-energization of the 2B3 4.16kV essential bus. The 2B3 essential bus and the differential and lockout relays were tested satisfactorily with no anomalies and no indications of equipment failure.

Had a detailed risk assessment of the immediate work area been performed, additional precautions could have been implemented.

Immediate corrective actions performed included systems checks and power restoration to the 2B3 4.16kV essential bus.

Analysis of Safety Significance

At the time of the event the plant was defueled and decay heat removal was being supplied by the 2A fuel pool cooling train. All equipment responded as expected.

The actuation signal was valid and the EDG responded appropriately for plant conditions. The fact the EDG was unable to close on the essential bus because of the differential lockout was the expected response for the system.

This event is reportable under 10 CFR 50.73(a)(2)(iv)(A), as any event or condition that resulted in a manual or automatic activation of any of the systems listed in paragraph (a)(2)(iv)(B) of this section. The system listed under (a)(2)(iv)(B) is (8) emergency ac electrical power systems, including EDGs.

Risk assessments are performed daily during outages using a qualitative assessment in accordance with the "Outage Risk Assessment and Control Procedure" (AP-0010526). An evaluation of plant equipment was performed following the event and no change to the shutdown safety assessment (SSA) occurred. Given there was no impact on the SSA, there is no added risk due to this event.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
St. Lucie Unit 2	05000389	2012	- 003	- 00	Page 3 of 3

NARRATIVE

Corrective Actions

The corrective actions listed have been entered into the site corrective action program (CAP). Any changes to the actions below will be processed in accordance with the CAP.

1. Perform system checks and restore power to the 2B3 4.16kV essential bus.
2. Perform a needs analysis and incorporate recommended changes to training based on lessons learned from this event.

Repeat Events

A search of the corrective action database for inadvertent emergency diesel starts due to human performance for the past two years identified no repeat events for St Lucie Units 1 and 2.

The review did identify two similar industry events that have occurred due to human performance issues. The first event involved Next Era's Seabrook Station where a 4.16kV essential bus was lost as a result of less than adequate peer checking and questioning attitude. The second event involved Saint Lucie Unit 1 during replacement a relay in a 480V safety related switchgear compartment. Electrical maintenance personnel accidentally made contact with an auxiliary under voltage (UV) relay resulting in the initiation of a load shedding sequence for the 1B3 4.16kV essential bus and the emergency start of the 1B EDG. The root cause was inadequate work practices and human performance behaviors.

Failed Components

None