



February 4, 2022

L-2022-019
10 CFR 50.73

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

Re: St. Lucie Unit 1
Docket No. 50-335
Reportable Event: 2021-001-00
Date of Event: December 10, 2021
Manual Reactor Trip Due to Insufficient Feed Flow to Steam Generators

The attached Licensee Event Report 2021-001 is being submitted pursuant to the requirements of 10 CFR 50.73 to provide notification of the subject event.

Respectfully,

A handwritten signature in black ink, reading 'Daniel DeBoer', is positioned above the typed name.

Daniel DeBoer
Site Vice President
St. Lucie Plant

DD/tf

Attachment

cc: St. Lucie NRC Senior Resident Inspector
St. Lucie NRC Program Manager



LICENSEE EVENT REPORT (LER)

(See Page 3 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, Library, and Information Collections Branch (T-6 A10M), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocoll.Resource@nrc.gov, and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk aid: oir_submission@omb.eop.gov. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

1. Facility Name

St. Lucie Unit 1

2. Docket Number

05000335

3. Page

1 of 3

4. Title

Manual Reactor Trip Due to Insufficient Feed Flow to Steam Generators

5. Event Date			6. LER Number			7. Report Date			8. Other Facilities Involved	
Month	Day	Year	Year	Sequential Number	Revision Number	Month	Day	Year	Facility Name	Docket Number
12	10	2021	2021	001	00	02	04	2022	n/a	05000
									Facility Name	Docket Number
									n/a	05000

9. Operating Mode				10. Power Level			
1				100			

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

<input type="checkbox"/> 10 CFR Part 20	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.36(c)(2)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)
<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	10 CFR Part 73
<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.69(g)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(4)
<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> 73.71(a)(5)
<input type="checkbox"/> 20.2203(a)(2)(i)	10 CFR Part 21	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	<input type="checkbox"/> 73.77(a)(1)
<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 21.2(c)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> 73.77(a)(2)(i)
<input type="checkbox"/> 20.2203(a)(2)(iii)	10 CFR Part 50	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	<input type="checkbox"/> 73.77(a)(2)(ii)
<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<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)(v)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)	
<input type="checkbox"/> OTHER (Specify here, in abstract or in NRC 366A)				

12. Licensee Contact for this LER

Licensee Contact	Telephone Number (Include area code)
Timothy Falkiewicz, Licensing Engineer	(772) 429-3756

13. Complete One Line for each Component Failure Described in this Report

Cause	System	Component	Manufacturer	Reportable To IRIS	Cause	System	Component	Manufacturer	Reportable To IRIS
A	SN	PDIS	I204	Y					

14. Supplemental Report Expected

☐ YES (If yes, complete 15. Expected Submission Date) ☒ NO

15. Expected Submission Date

Month	Day	Year

Abstract (Limit to 1560 spaces, i.e., approximately 15 single-spaced typewritten lines)

On December 10, 2021 at 1024 EST with Unit 1 in Mode 1 at 100% power, the reactor was manually tripped due to lowering level in the steam generators. The trip was uncomplicated with all systems responding normally post trip. Operators restored steam generator level utilizing main feedwater and stabilized the reactor in Mode 3.

The event occurred while replacing a feedwater heater control Pressure Differential Indicating Switch (PDIS). In the process of landing the wires from the new PDIS on the terminal strip, the technician made inadvertent contact with the enclosure housing resulting in a blown supply fuse which caused a loss of high pressure heater level control and a reduction of Steam Generator feedwater flow.

Due to the emergent nature of this work, some of the normal preplanned mitigation measures were not in place. Corrective actions include maintenance procedure revisions.

Manual reactor trips are analyzed events in the Updated Final Safety Analysis Report. The trip was uncomplicated. Therefore, this event had no impact on the health and safety of the public.

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

(See NUREG-1022, R.3 for instruction and guidance for completing this form
<http://www.nrc.gov/reading-m/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, Library, and Information Collections Branch (T-6 A10M), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollects.Resource@nrc.gov, and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk ail: oir_submission@omb.eop.gov. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

1. Facility Name St. Lucie Unit 1	2. Docket 05000335	6. LER Number		
		Year	Sequential Number	Rev No.
		2021	- 001	- 00

NarrativeDescription

On December 10, 2021 at 1024 EST with Unit 1 in Mode 1 at 100% power, the reactor was manually tripped in response to Steam Generator Water Level lowering less than 50% from a secondary transient initiated from the loss of the feedwater heater level control system [SN]. The trip was uncomplicated with all systems responding normally post trip. Operators restored steam generator level utilizing main feedwater [SJ] and stabilized the reactor in Mode 3.

The event occurred while replacing a feedwater heater control Pressure Differential Indicating Switch [SN:PDIS]. In the process of landing the wires from the new PDIS on the terminal strip, the technician made inadvertent contact with the enclosure housing resulting in a blown supply fuse [SN:FU] and a loss of Moisture Separator Heater [MSR] drain collector 1C level control which caused a reduction of Steam Generator feedwater flow.

Cause of the Event

Due to the emergent nature of this work, some of the normal preplanned mitigation measures were not in place.

A Maintenance team was replacing the Unit 1 PDIS-11-30D1, Pressure Differential Indicating Switch Between High Pressure Heater 5A and Moisture Separator Reheater 1D, due to a steam leak on the PDIS. At the time the 1D MSR drain collector level control valve was placed in manual control to maintain MSR reheater level. During electrical connection of the new instrument, the technician inadvertently touched the wire to the enclosure. This resulted in a blown power supply fuse and closure of the 1C MSR drain collector level control valve, which caused a reduction of Steam Generator feed flow. The reactor was tripped due to lowering and unrecoverable level in the Steam Generators.

Analysis of the Event

This licensee event report is being reported in accordance with 10 CFR 50.73(a)(2)(iv)(A) as "Any event or condition that resulted in manual or automatic actuation of any of the systems listed in paragraph (a)(2)(iv)(B)." This event included manual actuation of the Reactor Protection System (RPS). This event had no significant safety consequence since the RPS successfully performed its intended safety function.

Safety Significance

Reactor trip events are described in the UFSAR as anticipated operational occurrences.

There were no complications, and all safety related systems functioned as designed. There were no safety system actuations other than RPS as a result of the event. Given the response of the plant and the plant design that can accommodate this anticipated operational occurrence, the health and safety of the public were not affected by this event.

Corrective Actions

The corrective actions include revising maintenance control procedures to add Senior Reactor Operator reviews for certain emergent work.

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

(See NUREG-1022, R.3 for instruction and guidance for completing this form
<http://www.nrc.gov/reading-m/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, Library, and Information Collections Branch (T-6 A10M), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollects.Resource@nrc.gov, and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk ail: oir_submission@omb.eop.gov. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

1. Facility Name

St. Lucie Unit 1

2. Docket

05000335

6. LER Number

Year	Sequential Number	Rev No.
2021	- 001	- 00

NarrativeFailed Components Identified

1) PDIS-11-30D1

Description: PDIS between the HP heater 5A and the 1D MSR

Part Number: 288A (0-100 psig)

Manufacturer: ITT – Barton Instrument

Similar Events

None