



March 4, 2022

L-2022-024  
10 CFR 50.73

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

Re: St. Lucie Unit 2  
Docket No. 50-389  
Reportable Event: 2022-001-00  
Date of Event: January 6, 2022  
Reactor Shutdown Required by Technical Specifications due to a Misaligned  
Control Element Assembly

The attached Licensee Event Report 2022-001 is being submitted pursuant to the requirements of 10 CFR 50.73 to provide notification of the subject event.

Respectfully,

A handwritten signature in blue ink, appearing to read "Daniel DeBoer", is written over a horizontal line.

Daniel DeBoer  
Site Vice President  
St. Lucie Plant

DD/rcs

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 [InfoCollects.Resource@nrc.gov](mailto:InfoCollects.Resource@nrc.gov), and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk alt: [ira\\_submission@omb.eop.gov](mailto:ira_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.

<b>1. Facility Name</b> St. Lucie Unit 2	<b>2. Docket Number</b> 05000389	<b>3. Page</b> 1 of 3
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**4. Title**  
Reactor Shutdown Required by Technical Specifications due to a Misaligned Control Element Assembly

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
01	06	2022	2022	001	00	03	04	2022	n/a	05000
									Facility Name	Docket Number
									n/a	05000

**9. Operating Mode** 1      **10. Power Level** 68%

**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 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)	<b>10 CFR Part 73</b>
<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 checked="" 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)	<b>10 CFR Part 21</b>	<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)	<b>10 CFR Part 50</b>	<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)	

OTHER (Specify here, in abstract or in NRC 366A)

**12. Licensee Contact for this LER**

Licensee Contact Richard Sciscente, Licensing Engineer	Telephone Number (Include area code) (772) 467-7156
-----------------------------------------------------------	--------------------------------------------------------

**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
X	AA	MO	W120	Y					

**14. Supplemental Report Expected**      **15. Expected Submission Date**

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

Month	Day	Year

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

On January 6, 2022 at 1937 EST with Unit 2 in Mode 1 at 68% power, the reactor was manually shutdown as required by Technical Specification Action Statement 3.1.3.1.e, due to Control Element Assembly (CEA) #27 misaligned from its CEA Group and unable to be realigned with its group within prescribed time limits.

Initial troubleshooting determined that the direct cause was a malfunction of the CEA #27 Control Element Drive Mechanism (CEDM) motor. The #27 CEDM motor was replaced while Unit 2 was in Mode 5.

Reactor shutdowns are analyzed events in the Updated Final Safety Analysis Report. The shutdown was uncomplicated. Therefore, this event had no impact on the health and safety of the public.



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

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<p><b>1. Facility Name</b>  St. Lucie Unit 2</p>	<p><b>2. Docket</b>  05000389</p>	<p><b>6. LER Number</b></p> <table border="1"> <tr> <th data-bbox="1071 283 1226 325">Year</th> <th data-bbox="1226 283 1404 325">Sequential Number</th> <th data-bbox="1404 283 1526 325">Rev No.</th> </tr> <tr> <td data-bbox="1071 325 1226 363">2022</td> <td data-bbox="1226 325 1404 363">- 001</td> <td data-bbox="1404 325 1526 363">- 00</td> </tr> </table>			Year	Sequential Number	Rev No.	2022	- 001	- 00
Year	Sequential Number	Rev No.								
2022	- 001	- 00								

**Narrative**

Description

On January 6, 2022 at 1937 EST with Unit 2 in Mode 1 at 68% power, the reactor was manually shutdown as required by Technical Specification Action Statement 3.1.3.1.e, due to Control Element Assembly (CEA) #27 [AA:ROD] misaligned from its CEA Group and unable to be realigned with its group within prescribed time limits.

On January 6, 2022 at 0824, CEA #27 slipped from 133 inches to 120 inches withdrawn while being exercised for surveillance testing. The condition resulted in a position deviation of greater than 15 inches and entry into Technical Specification Action Statement (TSAS) 3.1.3.1.e. Attempts to withdraw CEA #27 were not successful and Unit 2 was downpowered to 70% in accordance with TSAS 3.1.3.1.e. Subsequent attempts to realign the CEA while at 70% power and within time limitations of TSAS 3.1.3.1.e were unsuccessful, and Unit 2 was shutdown to Mode 3 to exit TSAS 3.1.3.1.e.

Cause of the Event

Initial troubleshooting determined that the direct cause was a malfunction of the CEA #27 Control Element Drive Mechanism (CEDM) motor [AA:MO]. The #27 CEDM motor was replaced while Unit 2 was in Mode 5.

Upon removal, the CEA #27 CEDM motor was inspected onsite to document initial findings. This inspection identified a cylindrical metallic object found between the upper gripper's movable latch magnet and the top of the pull-down magnet. The CEDM motor was packaged and shipped to an offsite facility for confirmatory inspection, disassembly and analysis.

Analysis of the Event

This licensee event report is being submitted in accordance with 10 CFR 50.73(a)(2)(i)(A) as "The completion of any nuclear plant shutdown required by the plant's Technical Specifications." During this event, the reactor was operated within the limits of TSAS 3.1.3.1.e; therefore, this event had no significant safety consequence.

Safety Significance

Reactor shutdowns 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 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

Operability of CEA #27 was restored by the initial corrective action to replace the #27 CEDM motor.

If the additional forensic evaluation described above identifies significant additional information, this LER will be supplemented.



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		2022	- 001	- 00

**Narrative**

Failed Components Identified

1) CEDM #27 motor

Description: CEDM magnetic jack assembly

Part Number: E-13172-163-001-1

Description: CEDM motor assembly

Part Number: SCEDM-163-202

Serial Number: N4720 S/N 158

Manufacturer: Westinghouse

Similar Events

None