Clinton Power Station
8401 Power Road
Clinton, IL 61727

U-604661

10 CFR 50.73

December 1, 2021

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

Clinton Power Station, Unit 1
Facility Operating License No. NPF-62
NRC Docket No. 50-461

Subject: Licensee Event Report 2021-002-00

Enclosed is Licensee Event Report (LER) 2021-002-00: Core Alterations With Source Range Monitor Inoperable Results in Condition Prohibited by Technical Specifications. This report is being submitted in accordance with the requirements of 10 CFR 50.73.

There are no regulatory commitments contained in this report.

Should you have any questions concerning this report, please contact Mr. Dale Shelton, Regulatory Assurance Manager, at (217) 937-2800.

Respectfully,

Thomas D. Chalmers
Site Vice President
Clinton Power Station

Attachment: Licensee Event Report 2021-002-00

cc:

Regional Administrator - Region III
NRC Senior Resident Inspector - Clinton Power Station
Office of Nuclear Facility Safety - Illinois Emergency Management Agency

NRC FORM 366 (08-2020) | U.S. NUCLEAR REGULATORY COMMISSION | APPROVED BY OMB: NO. 3150-0104 | EXPIRES: 08/31/2023

LICENSEE EVENT REPORT (LER)

(See Page 3 for required number of digits/characters for each block)
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1. Facility Name	2. Docket Number	3. Page
Clinton Power Station, Unit 1	05000461	1 OF 3

4. Title

Core Alterations With Source Range Monitor Inoperable Results in Condition Prohibited by Technical Specifications

5. Event Date			6. LER Number			7. Report Date			8. Other Facilities Involved	
Month	Day	Year	Year	Sequential Number	Revision No.	Month	Day	Year	Facility Name	Docket Number
10	03	2021	2021	- 002 -	00	12	01	2021		05000
									Facility Name	Docket Number
										05000

9. Operating Mode	10. Power Level
5	000

11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: *(Check all that apply)*

10 CFR Part 20	☐ 20.2203(a)(2)(vi)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(A)	**10 CFR Part 73**
☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.69(g)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(4)
☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(C)	☐ 73.71(a)(5)
☐ 20.2203(a)(2)(i)	**10 CFR Part 21**	☒ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(v)(D)	☐ 73.77(a)(1)(i)
☐ 20.2203(a)(2)(ii)	☐ 21.2(c)	☐ 50.73(a)(2)(i)(C)	☐ 50.73(a)(2)(vii)	☐ 73.77(a)(2)(i)
☐ 20.2203(a)(2)(iii)	**10 CFR Part 50**	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)	☐ 73.77(a)(2)(ii)
☐ 20.2203(a)(2)(iv)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)	
☐ 20.2203(a)(2)(v)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)	

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

12. Licensee Contact for this LER

Licensee Contact	Phone Number (Include area code)
Dale Shelton, Regulatory Assurance Manager	(217) 937-2800

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

14. Supplemental Report Expected		15. Expected Submission Date	Month	Day	Year
☐ No	☒ Yes (If yes, complete 15. Expected Submission Date)		01	31	2022

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

On 10/3/21, with Clinton Power Station (CPS) in Mode 5 (refueling) with core alterations in progress, it was determined CPS had operated in a condition prohibited by Technical Specifications (TS). At 0950 CDT it was identified that a fuel bundle had been placed in the North-West quadrant of the core while Source Range Monitor (SRM) 'A' was inoperable, contrary to TS 3.3.1.2, Instrumentation – SRM Instrumentation. Additionally, at time of discovery, a second fuel bundle move within the quadrant was in progress with the fuel bundle seated, but not released from the fuel handling machine grapple. Operators verified the following actions were met: TS 3.3.1.2 Action E.1 - Immediately Suspend Core Alterations except control rod insertion and TS 3.3.1.2 Action E.2 - Immediately initiate Action to fully insert all insertable control rods in cells containing one or more fuel assemblies. The fuel bundle moves were determined to be part of the planned and analyzed sequence for the refuel shuffle. Therefore, there was no impact to the health and safety of the public or plant personnel from this condition. The cause of this event is under investigation. The causal factors that resulted in this condition and the associated corrective actions will be provided in a revision to this LER. The condition described in this LER is reportable under 10 CFR 50.73(a)(2)(i)(B), any operation or condition which was prohibited by the plant's TS.

1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
		YEAR	SEQUENTIAL NUMBER	REV NO.
Clinton Power Station, Unit 1	05000461	2021	- 002	- 00

NARRATIVE

PLANT AND SYSTEM IDENTIFICATION

General Electric -- Boiling Water Reactor, 3473 Megawatts Thermal Rated Core Power
Energy Industry Identification System (EIIS) codes are identified in text as [XX].

EVENT IDENTIFICATION

Core Alterations With Source Range Monitor Inoperable Results in Condition Prohibited by Technical Specifications

A. Plant Operating Conditions Before the Event

Unit: 1 Event Date: October 3, 2021 Event Time: 0950 CDT
Mode: 5 Mode Name: Refueling Reactor Power: 000

B. Description of Event

Clinton Power Station (CPS) Technical Specification (TS) 3.3.1.2, Instrumentation – Source Range Monitor (SRM) Instrumentation, requires an SRM [RIT] in the reactor core quadrant and an adjacent quadrant be operable during core alterations within the quadrant. The North-West core quadrant is monitored by SRM 'A.'

On October 3, 2021, CPS was in Mode 5 with core alterations in progress. At approximately 0950 CDT it was identified that a fuel bundle had been placed at position 07-44 in the North-West quadrant of the core while SRM 'A' was inoperable, contrary to TS 3.3.1.2. Additionally, at time of discovery, a second fuel bundle move within the quadrant was in progress with the fuel bundle seated, but not released from the fuel handling machine [CF/FHM] grapple at position 21-36.

TS 3.3.1.2 Action E.1 - Immediately Suspend Core Alterations except control rod [JD] insertion was verified to be met. TS 3.3.1.2 Action E.2 - Immediately initiate Action to fully insert all insertable control rods in cells containing one or more fuel assemblies was also verified to be met.

C. Cause of the Event

The cause of this event is under investigation. The causal factors that resulted in this condition and the associated corrective actions will be provided in a revision to this Licensee Event Report (LER).

D. Safety Consequences

The condition described in this LER is reportable under 10 CFR 50.73(a)(2)(i)(B), any operation or condition which was prohibited by the plant's TS. The core alterations were evaluated for Shutdown Margin in accordance with CPS Procedure 9811.01, Shutdown Margin Determination. The fuel bundle moves were determined to be part of the planned and analyzed sequence for the

NARRATIVE

refuel shuffle within the North-West core quadrant. As a result, there was no impact to the health and safety of the public or plant personnel from this condition. In addition, this event does not meet the criteria for a Safety System Functional Failure.

E. Corrective Actions

As noted above, the core alterations were evaluated for Shutdown Margin in accordance with CPS Procedure 9811.01, Shutdown Margin Determination and were determined to be part of the planned and analyzed sequence for the refuel shuffle within the North-West core quadrant. Additional corrective actions will be provided in a supplemental LER, as appropriate.

F. Previous Similar Occurrences

A review of previous LERs did not identify any events that were similar to the condition described in this LER.

G. Component Failure Data

Not applicable to this event.