Clinton Power Station
8401 Power Road
Clinton, IL 61727

U-604231
June 29, 2015

10 CFR 50.73
SRRS 5A.108

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 2015-003-00

Enclosed is Licensee Event Report (LER) 2015-003-00: Condition Prohibited by Technical Specification 3.9.4 for Failing to Disarm Control Rod Drive prior to Fuel Moves in Mode 5 with One Control Rod Position Indication Channel Inoperable. 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. Jeffrey Cunningham, Regulatory Assurance Manager, at (217) 937-2800

Respectfully,

for

M. M. Newcomer
Site Vice President
Clinton Power Station

dra/cas

Enclosure: Licensee Event Report 2015-003-00

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Clinton Power Station
Office of Nuclear Facility Safety – IEMA Division of Nuclear Safety

IE22
NRR

NRC FORM 366 (02-2014) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 01/31/2017

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 internet 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.

LICENSEE EVENT REPORT (LER)

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

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4. TITLE

Condition Prohibited by Technical Specification 3.9.4 for Failing to Disarm Control Rod Drive prior to Fuel Moves in Mode 5 with One Control Rod Position Indication Channel Inoperable

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
										05000
04	30	2015	2015	- 003	- 00	06	29	2015	FACILITY NAME	DOCKET NUMBER 05000

9. OPERATING MODE	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: *(Check all that apply)*			
5	☐ 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)
10. POWER LEVEL	☐ 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)
000	☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
	☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(C)	☐ OTHER
	☐ 20.2203(a)(2)(vi)	☒ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

LICENSEE CONTACT	TELEPHONE NUMBER *(Include Area Code)*
Jeffrey E. Cunningham, Regulatory Assurance Manager	217-937-2800

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

14. SUPPLEMENTAL REPORT EXPECTED	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
☐ YES *(If yes, complete 15. EXPECTED SUBMISSION DATE)* ☒ NO				

ABSTRACT *(Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)*

On April 30, 2015, during Mode 5 (Refueling), Position Indication Probes (PIP) were installed for two control rods to simulate a "full-in" position in support of generic PIP replacements. Operations staff evaluated Technical Specifications (TS) prior to work package approval and tracked Limiting Condition for Operation (LCO) 3.9.4, [Control Rod Position Indication], Required Actions. At 1052, the Core Alterations Checklist was completed satisfactorily. Core Alterations commenced at 1103. The on-coming shift identified a potential discrepancy during log reviews and an operator was dispatched to verify requirements of LCO 3.9.4 Required Action A.2.2 were met for the two affected control rods. At 1837, the operator notified the Main Control Room that one of the two control rods was not hydraulically isolated. At 1842, actions were completed to hydraulically disarm the affected control rod. Required Action A.2.2, "Initiate action to disarm the control rod drive associated with the fully inserted Control Rod Drive" was not met during a seven hour and thirty-nine minute period. The cause of this event was that the Core Alterations Checklist did not reference LCO 3.9.4. This event is reportable under 10CFR50.73(a)(2)(i)(B) as a condition prohibited by Technical Specifications.

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

A. Plant Operating Conditions Before the Event

Unit: 1 Event Date: 4/30/2015 Event Time: 1103 Central Time
Mode: 5 Mode Name: Refueling Reactor Power: 00 percent

B. DESCRIPTION OF EVENT

On April 30, 2015, during Mode 5 (Refueling), Position Indication Probes (PIP) simulators were installed for two control rods, 32-37 and 28-33, to simulate a "full-in" position in support of generic PIP replacements. These PIP simulators were installed under a maintenance work order due to failed full-in position indication in the hours leading up to refuel shuffle one.

The Operations staff evaluated Technical Specification (TS) impact prior to work package approval. When TS Limiting Condition for Operation (LCO) 3.9.4, Control Rod Position Indication, Condition A is entered, then Required Action A.1 series or Action A.2 series are required to be met immediately.

At 0540 on April 30, 2015, the Operations staff tracked and entered the required LCO 3.9.4 Required Actions as follows:
- Required Action A.1.1, Suspend in - vessel fuel movement immediately, AND
- Required Action A.1.2, Suspend control rod withdrawal immediately, AND
- Required Action A.1.3, Initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies immediately.

These A.1 series Required Actions were met. Unit Supervisors chose to utilize the A.1 actions of LCO 3.9.4 at time of work authorization, in lieu of disarming the affected Control Rod Drives (CRDs) per A.2 actions, based on the assumption that the work order installing the PIP simulators was for troubleshooting and that the faulted full-in indication would be resolved prior to commencing fuel moves.

At 1052 on April 30, 2015, Clinton Power Station (CPS) procedure 3007.01C003, Core Alterations Checklist, was completed and reviewed as satisfactory. The affected checklist addresses a number of LCO's relevant to Core Alterations; however, LCO 3.9.4 is not included in the checklist. The purpose of this checklist is to ensure compliance with LCO 3.0.4 which restricts changes in plant modes or other specified conditions in the Applicability. Thus, the checklist only addressed LCOs that would become applicable with commencing Core Alterations. LCO 3.9.4 was already applicable since the plant was in Mode 5.

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Core Alterations commenced at 1103 on April 30, 2015. All control rods were verified fully inserted into the core prior to commencing Core Alterations.

Since the LCO TS 3.9.4 A.1 series Required Actions were not met, the A.2 series Required Actions were required to be met as follows:
- Required Action A.2.1, Immediately initiate action to fully insert the control rod associated with the inoperable position indicator, AND
- Required Action A.2.2, Immediately initiate action to disarm the control rod drive associated with the fully inserted control rod.

LCO 3.9.4 Required Action A.2.2 was not verified met prior to commencing Core Alterations and was not prompted by the Core Alterations Checklist.

The on-coming Unit Supervisor identified a potential discrepancy during log reviews and an operator was immediately dispatched to verify the requirements of Required Action A.2.2 were met for the two affected control rods. Control rod 28-33 was verified to be hydraulically isolated. The operator notified the MCR at 1837 that control rod 32-37 was not hydraulically isolated.

LCO 3.9.4 Required Action A.2 requirements were immediately pursued to, "initiate action to disarm the control rod drive associated with the fully inserted CRD." At 1842 on April 30, 2015, actions were completed to hydraulically disarm control rod 32-37.

C. CAUSE OF EVENT

The cause of this event was that the Core Alterations Checklist did not reference LCO 3.9.4. Had 3007.01C003 referenced TS LCO 3.9.4, then the dayshift Unit Supervisor completing the checklist would have caught the restraint and not authorized fuel moves until alternate required actions had been met to disarm the affected hydraulic control unit [HCU].

Also, the nightshift Unit Supervisor utilized LCO 3.9.4 Required Action A.1 requirements and tracked the restraint to Core Alterations via the narrative log. Had the nightshift Unit Supervisor disarmed the affected HCU in accordance with the A.2 series actions of LCO 3.9.4 instead of relying on the A.1 series actions, this event would not have occurred.

Further, turnover barriers of Operations' logs review and face-to-face communications did not adequately convey current status of control rods 28-33 and 32-37. Had an accurate status been conveyed during turnover, this event would not have occurred.

D. SAFETY CONSEQUENCES

The full-in position indication channel for each control rod provides information necessary to the refueling interlocks to prevent inadvertent criticalities during refueling operations. During refueling, the refueling interlocks (LCO 3.9.1, "Refueling Equipment Interlocks" and LCO 3.9.2, "Refuel Position One-Rod-Out Interlock") use the full-in position indication channel to limit the operation of the refueling equipment and the movement of control rods.

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Not having control rod 32-37 hydraulically disarmed did not result in any offsite radiological releases or damage to safety-related equipment. During the time frame that fuel was moved in the reactor vessel without having required actions of LCO 3.9.4 satisfied, no movement of the control rod occurred. Also, source range monitors did not show any unexpected reactivity changes other than the as expected added reactivity when placing fuel in the reactor core. Based on this information, this reported condition has low safety significance.

This event involved a condition which was prohibited by Technical Specification 3.9.4 and is reportable under the requirements of 10CFR50.73(a)(2)(i)(B).

E. CORRECTIVE ACTIONS

The procedure checklist CPS 3007.01C003 was revised to specifically identify and require review of all applicable TS LCOs and associated action statements to be entered prior to authorizing Core Alterations.

Operations completed a stand-down with on-shift Senior Reactor Operators to reinforce expectations for notifications to the Shift Manager and documentation of Technical Specification restraints.

Learnings from this event is planned to be reviewed by Licensed Operator Requalification Training Curriculum Review Committee to determine if any further training solution exists.

F. PREVIOUS SIMILAR OCCURRENCES

None.

G. COMPONENT FAILURE DATA

Not applicable, no components failed during this event.