



Clinton Power Station  
8401 Power Road  
Clinton, IL 61727

U-604288  
June 10, 2016

10CFR50.73  
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 2016-006-00

Enclosed is Licensee Event Report (LER) 2016-006-00: Missed Surveillance Results in a 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,

A handwritten signature in black ink, appearing to read "T. Stoner", written over a horizontal line.

Theodore R. Stoner  
Site Vice President  
Clinton Power Station

KP/cac

Attachment: Licensee Event Report 2016-006-00

cc:

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

IE22  
NRR



**LICENSEE EVENT REPORT (LER)**  
(See Page 2 for required number of digits/characters for each block)

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](mailto:Infocollects.Resource@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOF-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.

<b>1. FACILITY NAME</b> Clinton Power Station, Unit 1	<b>2. DOCKET NUMBER</b> 05000461	<b>3. PAGE</b> 1 OF 4
--	-------------------------------------	--------------------------

**4. TITLE**  
Missed Surveillance Results in a Condition Prohibited by Technical Specifications

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
04	21	2016	2016	- 006	- 00	06	10	2016	FACILITY NAME	DOCKET NUMBER
										05000
										05000

<b>9. OPERATING MODE</b>	<b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)</b>			
1	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)
10. POWER LEVEL  085	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> 73.77(a)(1)
	<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	<input type="checkbox"/> 73.77(a)(2)(i)
	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> 73.77(a)(2)(ii)
		<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> OTHER	Specify in Abstract below or in NRC Form 366A

**12. LICENSEE CONTACT FOR THIS LER**

LICENSEE CONTACT Dale A. Shelton, Regulatory Assurance Manager	TELEPHONE NUMBER (Include Area Code) 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
A									

<b>14. SUPPLEMENTAL REPORT EXPECTED</b> <input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO	<b>15. EXPECTED SUBMISSION DATE</b>	MONTH	DAY	YEAR

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

On April 21, 2016, in preparation to reduce power in order to restore the 'B' turbine driven reactor feed pump (TDRFP) Operations detected that Technical Specification (TS) Surveillance Requirement (SR) 3.3.2.1.2 had not been performed eight days earlier. On April 13, 2016 Operations lowered reactor power below the Control Rod Withdrawal Limiter (RWL) High Power Setpoint (HPSP) to remove 'B' TDRFP from service due to high vibrations. TS SR 3.3.2.1.2 requires a functional test of the 4-Notch Control Rod Withdraw Limit of the RWL within one hour of resetting the HPSP during a power reduction; if it has not been completed within the previous 92 days. The SR was last performed on April 26th, 2015 and was required to be performed on April 13, 2016. TS 3.3.2.1 Required Action A.1 requires with one or more RWL channels inoperable, to immediately suspend control rod withdrawal. Contrary to this requirement, control rods were withdrawn to restore power above the HPSP following restoration of the 'B' TDRFP to service. The cause of the event was that the SRO responsible for the down power on April 13, 2016 did not validate, by preventative maintenance identifier (PMID), that the required surveillance was current. Corrective actions included applying Management Associated Results Company, Inc. (MARC) principles to the individuals involved.



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

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](mailto: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.

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE	
		YEAR	SEQUENTIAL NUMBER	REV NO.		
Clinton Power Station, Unit 1	05000461	2016	- 006	- 00	2	OF 4

**NARRATIVE**

**PLANT AND SYSTEM IDENTIFICATION**

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

**EVENT IDENTIFICATION**

Missed Surveillance Results in a Condition Prohibited by Technical Specifications

**A. Plant Operating Conditions before the Event**

Unit: 1                      Event Date: 04/21/16                      Event Time: 1709  
Mode: 1                      Mode Name: Power Operation                      Reactor Power: 85 percent

**B. DESCRIPTION OF EVENT**

At 1709 hours (CDT) on April 21, 2016, in preparation to reduce power in order to restore the 'B' turbine driven reactor feed pump (TDRFP) to service, Operations discovered that Technical Specification (TS) Surveillance Requirement (SR) 3.3.2.1.2 had not been performed eight days earlier. On April 13, 2016 Operations lowered reactor power below the Control Rod Withdrawal Limiter (RWL) High Power Setpoint (HPSP) (approximately 66% rated thermal power) to remove 'B' TDRFP from service due to high vibrations. TS SR 3.3.2.1.2 requires a functional test of the 4-Notch Control Rod Withdraw Limit of the RWL within one hour of resetting the HPSP during a power reduction; if it has not been completed within the previous 92 days. The SR was last performed on April 26<sup>th</sup>, 2015 and, therefore, was required to be performed. TS 3.3.2.1 Required Action A.1 requires with one or more RWL channels inoperable, to immediately suspend control rod withdrawal. Contrary to this requirement, control rods were withdrawn to restore reactor power above the HPSP following restoration of the 'B' TDRFP to service.

The RWL provides protection from control rod withdrawal errors above the Low Power Setpoint (LPSP) (29.2% rated thermal power). Above the LPSP and below the HPSP, the RWL initiates a control rod withdrawal block every 4 notches. Above the HPSP, the RWL initiates a control rod withdrawal block every 2 notches. TS SR 3.3.2.1.2 requires a functional test every 92 days of the 4-Notch Control Rod Withdraw Limit when operating above the LPSP but below the HPSP, and TS SR 3.3.2.1.1 requires a functional test of the 2-Notch Control Rod Withdraw Limit every 92 days when operating above the HPSP.

Both of the RWL Functional tests are performed by Clinton Power Station (CPS) surveillance procedure CPS 9014.01, RPC System Withdrawal Limitation Test. However each SR has a unique Preventative Maintenance Identification Number (PMID) which is listed in the integrated operating procedures to support determining whether the SR had been performed within the last 92 days when reactor power is lowered below the HPSP.

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

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE		
Clinton Power Station, Unit 1	05000461	YEAR	SEQUENTIAL NUMBER	REV NO.	3	OF	4
		2016	- 006	- 00			

**NARRATIVE**

A review of this event determined that a Senior Reactor Operator (SRO) erroneously identified on April 13, 2016 that the previous performance of TS 3.3.2.1.2 surveillance test procedure CPS 9014.01 was satisfactorily executed on March 4, 2016 based on a review of the operating logs rather than a review of the Passport PMID. However, as identified above, this procedure tests both the 2-Notch Rod Withdraw Limit (i.e., SR 3.3.2.1.1) and the 4-Notch Control Rod Withdraw Limit (i.e., SR 3.3.2.1.2). The March 4, 2016 performance of CPS 9104.01 only tested the 2-Notch Control Rod Withdraw Limit. As part of the shift turnover, the SRO communicated the work order which documented the last performance of CPS 9014.01 on March 4, 2016 to the incoming SRO responsible for directing the power reduction. However, the work order identified by the SRO tested only the 2-Notch surveillance test (SR 3.3.2.1.1) and not the required 4-Notch surveillance test (SR 3.3.2.1.2).

When the power reduction process commenced following shift turnover, the responsible SRO only verified that the above work order was complete. He did not verify, by PMID, that results for the required 4-Notch surveillance test (SR 3.3.2.1.2) were current. The failure to verify by PMID that the required surveillance was current was identified as the apparent cause of this event.

**C. CAUSE OF EVENT**

The SRO responsible for the down power on April 13, 2016 did not validate, by PMID, that the required surveillance (i.e., SR 3.3.2.1.2) was current. This personnel error resulted in the missed surveillance and subsequent violation of TS 3.3.2.1 Required Action A.1. A performance analysis (PA) was conducted to determine if there was a possible training contributor to this event. This PA concluded that there was no knowledge issue and no training actions were required.

**D. SAFETY ANALYSIS**

There were no safety consequences involved with the condition described in this report.

TS SR 3.3.2.1.2 required that the channel functional test be performed within 1 hour of thermal power less than HPSP. The 4-Notch Control Rod Withdraw Limit Test surveillance (SR 3.3.2.1.2) was not performed on April 13, 2016 due to a human performance error. This condition did not adversely impact the function of plant systems, structures, or components or the capability to safely shut the reactor down the reactor. Subsequent performance of this test on April 21, 2016 confirmed that the 4-notch limiter was operable throughout this event.

The reactor protection system (RPS) is designed to initiate a rapid, automatic shutdown of the reactor. It acts in time to prevent fuel cladding damage and any nuclear system process barrier damage following abnormal operational transients. The RPS overrides all operator actions and process controls and is based on a fail-safe design philosophy that allows appropriate protective action even if a single failure occurs.

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

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE	
Clinton Power Station, Unit 1	05000461	YEAR	SEQUENTIAL NUMBER	REV NO.	4	OF 4
		2016	- 006	- 00		

**NARRATIVE**

There are no known single malfunctions that can cause the unplanned withdrawal of even a single control rod. However, if multiple malfunctions are postulated, studies show that an unplanned control rod withdrawal can occur at withdrawal speeds that vary with the combination of malfunctions postulated. In all cases the subsequent withdrawal speeds are less than that assumed in the control rod drop accident analysis as discussed in USAR Chapter 15, "Accident Analyses". Therefore, the physical and radiological consequences of such control rod withdrawals are less than those analyzed in the control rod drop accident.

It is concluded that there was no reduction to the health and safety of the public resulting from the condition described in this report.

**E. CORRECTIVE ACTIONS**

Management Associated Results Company, Inc. (MARC) principles were applied to the individuals involved.

**F. PREVIOUS SIMILAR OCCURENCES**

There are no previous occurrences involving a missed TS SR 3.3.2.1.2 (4-Notch surveillance test) for the Control Rod Withdrawal Limiter.

**G. COMPONENT FAILURE DATA**

There was no component failure associated with this event.