

Clinton Power Station  
8401 Power Road  
Clinton, IL 61727

U-604051  
January 26, 2012

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

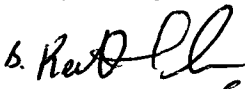
Subject: Licensee Event Report 2011-006-00

Enclosed is Licensee Event Report (LER) No. 2011-006-00: Condition Prohibited by Technical Specifications Due to Failed Missed Surveillance. 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 A. Khanifar, at (217)-937-3800.

Respectfully,

  
William G. Noll *for William Noll*  
Site Vice President  
Clinton Power Station

JLP/blf

Enclosure: Licensee Event Report 2011-006-00

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

*JE02  
NRR*

**LICENSEE EVENT REPORT (LER)**(See reverse 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 Section (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**

Clinton Power Station, Unit 1

**2. DOCKET NUMBER**

05000461

**3. PAGE**

1 OF 3

**4. TITLE**

Condition Prohibited by Technical Specifications Due to Failed Missed Surveillance

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
12	07	2011	2011	- 006 -	00	01	26	2012	NA	05000
9. OPERATING MODE  5			11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)							
			<input type="checkbox"/> 20.2201(b) <input type="checkbox"/> 20.2201(d) <input type="checkbox"/> 20.2203(a)(1) <input type="checkbox"/> 20.2203(a)(2)(i) <input type="checkbox"/> 20.2203(a)(2)(ii) <input type="checkbox"/> 20.2203(a)(2)(iii) <input type="checkbox"/> 20.2203(a)(2)(iv) <input type="checkbox"/> 20.2203(a)(2)(v) <input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 20.2203(a)(3)(i) <input type="checkbox"/> 20.2203(a)(3)(ii) <input type="checkbox"/> 20.2203(a)(4) <input type="checkbox"/> 50.36(c)(1)(i)(A) <input type="checkbox"/> 50.36(c)(1)(ii)(A) <input type="checkbox"/> 50.36(c)(2) <input type="checkbox"/> 50.46(a)(3)(ii) <input type="checkbox"/> 50.73(a)(2)(i)(A) <input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(i)(C) <input type="checkbox"/> 50.73(a)(2)(ii)(A) <input type="checkbox"/> 50.73(a)(2)(ii)(B) <input type="checkbox"/> 50.73(a)(2)(iii) <input type="checkbox"/> 50.73(a)(2)(iv)(A) <input type="checkbox"/> 50.73(a)(2)(v)(A) <input type="checkbox"/> 50.73(a)(2)(v)(B) <input type="checkbox"/> 50.73(a)(2)(v)(C) <input type="checkbox"/> 50.73(a)(2)(v)(D)	<input type="checkbox"/> 50.73(a)(2)(vii) <input type="checkbox"/> 50.73(a)(2)(viii)(A) <input type="checkbox"/> 50.73(a)(2)(viii)(B) <input type="checkbox"/> 50.73(a)(2)(ix)(A) <input type="checkbox"/> 50.73(a)(2)(x) <input type="checkbox"/> 73.71(a)(4) <input type="checkbox"/> 73.71(a)(5) <input type="checkbox"/> OTHER Specify in Abstract below or in NRC Form 366A				
10. POWER LEVEL  000										

**12. LICENSEE CONTACT FOR THIS LER**

FACILITY NAME

A. Khanifar, Site Engineering Director

TELEPHONE NUMBER (Include Area Code)

(217) 937-3800

**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
X	BO	ISV	A391	N					

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

MONTH	DAY	YEAR

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

On December 7, 2011, Clinton Power Station (CPS) was in Mode 5 (Refueling) for refueling outage C1R13. During leakage testing of Reactor Coolant System Pressure Isolation Valve (PIV), 1E12-F042C, Low Pressure Coolant Injection from Residual Heat Removal C Shutoff Valve, was performed in accordance with Technical Specification (TS) Surveillance Requirement (SR) 3.4.6.1. This test was performed in accordance with SR 3.0.3 to address a missed surveillance that was discovered on April 7, 2011. During the test, the valve would not pressurize due to the amount of water passing through the seat at low pressure. The test pressure for the surveillance test is 1000 to 1025 pounds per square inch gauge. Since the valve would not pressurize, the leakage was determined to be in excess of the specified leakage criteria of five gallons per minute and was declared an as-found failure.

The valve repair team identified wear on the guide ribs and excessive disc to rib clearances, which appeared to be original dimensional tolerances rather than recent wear. Engineering determined the cause of the as-found failure was that the disc became cocked during closing causing the valve to not fully seat. Corrective actions included repairing the valve and retesting the valve with satisfactory results.

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## 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

Condition Prohibited by Technical Specifications Due to Failed Missed Surveillance

## A. Plant Operating Conditions Before the Event

Unit: 1                      Event Date: 12/7/11                      Event Time: 2000 hours CST  
Mode: 5                      Mode Name: Refueling                      Reactor Power: 0 percent

## B. DESCRIPTION OF EVENT

On December 7, 2011, Clinton Power Station (CPS) was in Mode 5 (Refueling) for refueling outage C1R13. During leakage testing of Reactor Coolant System (RCS) Pressure Isolation Valve (PIV) [ISV], 1E12-F042C, Low Pressure Coolant Injection [BO] from Residual Heat Removal (RHR) C Shutoff Valve, was performed in accordance with Technical Specification (TS) Surveillance Requirement (SR) 3.4.6.1. This test was performed in accordance with SR 3.0.3 to address a missed surveillance that was discovered on April 7, 2011. During the test, the valve would not pressurize due to the amount of water passing through the seat at low pressure. The test pressure for the surveillance test is 1000 to 1025 pounds per square inch gauge (psig). Since the valve would not pressurize, the leakage was determined to be in excess of the specified leakage criteria of five gallons per minute (gpm) and was declared an as-found failure.

During the operating cycle following refueling outage C1R12 completed in February 2010, it was discovered on April 7, 2011, that valve 1E12-F042C was tested at a higher pressure than the range specified in SR 3.4.6.1. SR 3.0.3 was entered for a Surveillance not performed within its specified frequency, which allows a delay period for declaring the Limiting Condition for Operation (LCO) not met. Since SR 3.4.6.1 failed in C1R13 during the delay period, LCO 3.4.6 was not met for the entire cycle for valve 1E12-F042C.

There were no structures, systems, or components that were inoperable at the start of the event that contributed to this event.

This event is being reported in accordance with 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by TS LCO 3.4.6, RCS PIV Leakage. TS LCO 3.4.6 requires RCS PIV leakage to be within the specified limits during plant operation in Modes 1 (Power Operation) and 2 (Startup).

## C. CAUSE OF EVENT

The valve repair team identified wear on the guide ribs and excessive disc to rib clearances. Based upon the valve repair team personnel input, the excessive clearances appeared to be original dimensional tolerances rather than recent wear. Engineering determined the cause of the C1R13 as-found failure was that the disc became cocked when closing, was not fully seated, and subsequently failed the as-found leak rate test.

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## NARRATIVE

## D. SAFETY CONSEQUENCES

There were no actual safety consequences for this event.

For the RCS PIV function, 1E12-F042C is one of two redundant pressure isolation valves in the RHR C injection line. The redundant isolation valve is the inboard check valve, 1E12-F041C. To lose the required function of isolating the RHR system (low pressure) piping from the reactor pressure, both the 1E12-F041C and the 1E12-F042C would have to fail leakage testing with seat leakage in excess of the allowable TS SR 3.4.6.1 requirements. Valve 1E12-F041C passed surveillance testing in C1R12 and passed surveillance testing with 0.5 gpm measured leakage in C1R13. Therefore, valve 1E12-F041C maintained the RCS PIV function of providing overpressure protection of the low pressure RHR C piping for the C1R12 to C1R13 operating cycle.

Valve 1E12-F042C is also the first of two redundant primary containment isolation barriers to prevent loss of containment integrity. The second barrier is the RHR C Closed Loop Outside Containment (CLOC). This barrier provides a water seal beyond 1E12-F042C and is historically extremely reliable. The RHR C CLOC was tested in C1R13 and passed leakage rate testing with a measured leakage rate of 0.25 gpm as compared to an acceptance criteria of five gpm. Therefore, there is reasonable assurance that primary containment integrity was maintained for containment penetration 1MC-017.

## E. CORRECTIVE ACTIONS

The valve was repaired by performing weld build-up of the internal guide ribs, which tightened the valve internal tolerances. Following repairs, the valve was restored to an operable status by satisfactorily testing the valve within allowable limits.

## F. PREVIOUS OCCURRENCES

In C1R12, 1E12-F042C (plus four other RCS PIVs) were tested at a pressure slightly higher than the pressure specified in SR 3.4.6.1. This condition was identified on April 7, 2011 which resulted in missed surveillances per SR 3.0.3 for these valves. The other four RCS PIVs passed their leakage tests in C1R13. No other occurrences of leakage test failures were identified for these RCS PIVs.

## G. COMPONENT FAILURE DATA

## Component Description:

Manufacturer

Anchor Darling Valve Co.

Nomenclature

12-inch motor-operated gate valve

Model

93-14775