Exelon Generation Company, LLC
Braidwood Generating Station
35100 South Route 53, Suite 84
Braceville, IL 60407-9619

www.exeloncorp.com

April 17, 2014
BW140036

10 CFR 50.73

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

Braidwood Station, Units 1 and 2
Facility Operating License Nos. NPF-72 and NPF-77
NRC Docket Nos. STN 50-456 and STN 50-457

Subject: Licensee Event Report 2014-001-00 – Inadequate Procedural Guidance Results in Non-Compliance with Technical Specification 3.4.3 - RCS Pressure and Temperature (P/T) Limits

The enclosed Licensee Event Report (LER) is being submitted in accordance with 10 CFR 50.73, "Licensee Event Report System."

There are no regulatory commitments contained in this letter. Should you have any questions concerning this submittal, please contact Mr. Phil Raush, Regulatory Assurance Manager, at (815) 417-2800.

Respectfully,

Mark E. Kanavos
Site Vice President
Braidwood Station

Enclosure: LER 2014-001-00

cc: NRC Project Manager, NRR – Braidwood Station
Illinois Emergency Management Agency – Division of Nuclear Safety
US NRC Regional Administrator, Region III
US NRC Senior Resident Inspector (Braidwood Station)
Illinois Emergency Management Agency – Braidwood Representative

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)

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Braidwood Station, Unit 1	05000456	1 OF 3

4. TITLE

Inadequate Procedural Guidance Results in Non-Compliance with Technical Specification 3.4.3 - RCS Pressure and Temperature (P/T) Limits

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
02	19	2014	2014	001	00	04	17	2014	Braidwood Station, Unit 2	05000457
									FACILITY NAME: N/A	DOCKET NUMBER: N/A

9. OPERATING MODE	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: *(Check all that apply)*			
1	☐ 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)
100	☐ 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)*
Phil Raush – Manager, Braidwood Regulatory Assurance	(815) 417-2800

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
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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 February 19, 2014, it was determined that the Braidwood Generating Station has not complied with Technical Specifications (TS) 3.4.3, "RCS Pressure and Temperature (P/T) Limits," between March 2011 and October 2013, during start-up of the plant following plant refueling outages. Braidwood TS 3.4.3 Limiting Condition for Operation (LCO) states that "RCS pressure, RCS temperature, and RCS heatup and cooldown rates shall be maintained within the limits specified in the PTLR." During previous Reactor Coolant System (RCS) vacuum fill operations at Braidwood Station Unit 1 and Unit 2, RCS pressure exceeded the Pressure and Temperature Limits Report (PTLR) P/T curve lower bound in that the P/T curve does not indicate a limit below 0 psig. This TS non-compliance is reportable in accordance with 10 CFR 50.73(a)(2)(i)(B), "Any operation or condition prohibited by the plant's Technical Specifications".

The cause of operation outside of the P/T curve limits is the application of an inadequate operating procedure that allowed the P/T lower pressure bound to be exceeded during RCS fill operations.

RCS fill pressures below the P/T curve lower bound did not affect the integrity of the RCS system.

NARRATIVE

A. Plant Condition Prior to Event

Event Date/Time: February 19, 2014 / 1200 hours CST

Unit 1: Mode 1 - Power Operations, Reactor Power 100 percent
Unit 2: Mode 1 - Power Operations, Reactor Power 100 percent

Reactor Coolant System [AB]: Normal operating temperature and pressure.

B. Description of Event

On February 19, 2014, it was determined that the Braidwood Generating Station has not complied with Technical Specifications (TS) 3.4.3, "RCS Pressure and Temperature (P/T) Limits," between March 2011 and October 2013, during start-up of the plant following plant refueling outages. Braidwood TS 3.4.3 Limiting Condition for Operation (LCO) 3.4.3 states that "RCS pressure, RCS temperature, and RCS heatup and cooldown rates shall be maintained within the limits specified in the PTLR." The applicability is "At all times". At Braidwood Station, the Pressure and Temperature Limits Report (PTLR) is contained in the Technical Requirements Manual (TRM) and not in the TS.

During previous Reactor Coolant System (RCS) vacuum fill operations at Braidwood Station Unit 1 and Unit 2, RCS pressure exceeded the PTLR P/T curve lower bound in that the P/T curve does not indicate a limit below 0 psig. The Braidwood PTLR for both units contains P/T curves providing acceptable regions of reactor coolant system (RCS) operation. The lower pressure bound on the P/T curves is zero pounds per square inch gauge (psig) pressure. During RCS vacuum fill and vent operations, as allowed by Braidwood operating procedures, portions of the RCS have experienced vacuum conditions of up to negative 14 psig. This is outside the lower bound of the P/T curve and is not in compliance with the TS 3.4.3 requirement. This TS non-compliance is reportable in accordance with 10 CFR 50.73(a)(2)(i)(B), "Any operation or condition prohibited by the plant's Technical Specifications".

C. Cause of Event

The cause of operation outside of the P/T curve limits is the application of an inadequate operating procedure that allowed the P/T lower pressure bound to be exceeded during vacuum fill operations. Contributing to this was an inadequate 10 CFR 50.59 evaluation performed in support of a 1998 revision to the same operating procedure to allow vacuum refill of the RCS.

D. Safety Consequences

This condition had no actual safety consequences impacting plant or public safety.

Westinghouse Engineering analysis concluded that vacuum refill of the RCS in Mode 5 does not violate the 10 CFR 50, Appendix G pressure and temperature requirements for the Reactor Vessel (RV). Furthermore, the NRC-approved methodologies contained in Westinghouse WCAP-14040 do not preclude the P/T limits from being revised to include a pressure less than 0 psig. Therefore, the PTLR can be revised to change the lowest pressure value in the P/T limit curve figures and data tables from 0 psig to either 0 psia or -14.7 psig (without considering instrument uncertainties) due to vacuum refill of the RCS. Therefore, the safety significance of this issue is considered low.

LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
		YEAR	SEQUENTIAL NUMBER	REV NO.	
Braidwood Station, Unit 1	05000456	2014	- 001	- 00	3 OF 3

NARRATIVE

E. Corrective Actions

The Braidwood Unit 1 and Unit 2 PTLR documents will be revised and implemented in support of the Braidwood Unit 1 spring 2015 refueling outage and the Braidwood Unit 2 spring 2014 refueling outage.

F. Previous Occurrences

There have been no previous occurrences of this nature in the previous three years.