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June 7, 2002
BW020054

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

Braidwood Station, Unit 1
Facility Operating License No. NPF-72
NRC Docket No. STN 50-456

Subject: Submittal of Licensee Event Report Number 2002-001-00, "Set Point Drift Causes Two of Three Pressurizer Safety Valve Lift Tests to Exceed Technical Specification Tolerance"

The enclosed Licensee Event Report (LER) is being submitted in accordance with 10 CFR 50.73, "Licensee event report system", paragraph (a)(2)(i)(B). 10 CFR 50.73(a) requires an LER to be submitted within 60 days after discovery of the event; therefore, this report is being submitted by June 7, 2002.

Should you have any questions concerning this letter, please contact Amy Ferko, Regulatory Assurance Manager, at (815) 417-2699.

Respectfully,


James D. von Suskil
Site Vice President
Braidwood Station

Enclosure: LER Number 2002-001-00

cc: Regional Administrator - Region III
 NRC Braidwood Senior Resident Inspector

JE22

bcc: Braidwood Station Project Manager - NRR
Nicholas Reynolds - Winston & Strawn
Regulatory Assurance Manager - Braidwood Station
Regulatory Assurance Manager - Byron Station
Vice President - Licensing and Regulatory Affairs
Director, Licensing - Midwest Regional Operating Group
Manager, Licensing - Braidwood and Byron Stations
Braidwood Nuclear Licensing Administrator
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Estimated burden per response to comply with this information collection request: 50.0 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjsl@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NOEB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose 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 Braidwood, Unit 1	2. DOCKET NUMBER STN 05000456	3. PAGE 1 of 3
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4. TITLE
Set Point Drift Causes Two of Three Pressurizer Safety Valve Lift Tests to Exceed Technical Specification Tolerance

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
04	08	2002		2002-001-00		6	7	2002	N/A	N/A
									N/A	N/A

9. OPERATING MODE	1	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more)								
10. POWER LEVEL	100	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)					
		<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(x)					
		<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 73.71(a)(4)					
		<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(5)					
		<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> OTHER Specify in Abstract below or in NRC Form 366A					
		<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(C)						
		<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(D)						
		<input type="checkbox"/> 20.2203(a)(2)(v)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(vii)						
		<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)						
		<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)(B)						

12. LICENSEE CONTACT FOR THIS LER

NAME Mike Smith, System Engineering Manager	TELEPHONE NUMBER (Include Area Code) (815) 417-2243
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13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
X	AB	SV	Crosby	N	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 EXPECTED SUBMISSION DATE).				x	NO			

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

On April 8, 2002, Braidwood Station discovered that two of three pressurizer safety valves (PSVs) removed during refueling outage A1R09 and subsequently tested at an offsite facility, did not meet the Technical Specification (TS) acceptance criteria. TS 3.4.10, "Pressurizer Safety Valves," requires three pressurizer safety valves to be operable with lift settings greater than or equal to 2460 psig and less than or equal to 2510 psig. The surveillance requirement requires each valve to be operable in accordance with the Inservice Testing (IST) Program and that following testing the lift setting shall be within +/- 1 percent of the TS setpoint. One valve had a lift setpoint 1.1 percent high, the other was 1.4 percent low.

There are no material condition issues with the PSVs that are contributing to the test failures. The PSVs are performing within their design capabilities. The test failures are mainly due to the close tolerance required by the current plant safety analysis and reflected in TSs and the inability of the valves to perform within that tolerance. Contributing to the valve test failures is lack of management responsiveness to reconcile continued PSV test failures. The corrective action is to investigate revising the safety analysis to support a relaxation of the 1 percent TS requirement for the PSV lift setpoint tolerance.

An engineering analysis on the effects of the PSVs lifting outside of the TS tolerance concluded that all acceptance criteria in the Updated Final Safety Analysis Report Chapter 15, "Accident Analyses," were still met.

This event is being reported pursuant to 10CFR50.73(a)(2)(i)(B).

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Braidwood, Unit 1	STN 05000456	2002	- 001	- 00	2 of 3

A. Plant Operating Conditions Before The Event:

Unit: 1 Event Date: 4/8/2002 Event Time: 0900

MODE: 1 Reactor Power: 100 percent

Reactor Coolant System [AB] Temperature: 580 degrees F, Pressure: 2235 psig

B. Description of Event:

There were no systems or components inoperable at the beginning of this event that contributed to the severity of the event.

As part of refueling outage A1R09 activities (A1R09 occurred between September 22, 2001 and October 12, 2001), the three PSVs (i.e., 1RY8010A, 1RY8010B and 1RY8010C) were removed in accordance with the IST program and replaced with three spare valves which had been previously verified to be within the TS required tolerance of +/- 1 percent.

The three PSVs that were removed were sent to the NWS Technologies facility for as-found lift setpoint testing and refurbishment. The PSVs acceptance criteria for the as-found lift setpoint is 2485 psig +/- 1 percent, as required by TS 3.4.10. Two of the three PSVs exceeded this criterion. One valve lifted at 2513 psig (i.e., 1.1 percent high), and the other lifted at 2449 psig (i.e., 1.4 percent low). The third valve was within tolerance. Although outside of the TS required tolerance, the valve lift setpoints were within the American Society of Mechanical Engineers, Section XI, "Rules For Inservice Inspection of Nuclear Power Plant Components," part OM-1 acceptance criteria of +/- 3 percent. Also, the valves were subjected to subsequent bench tests where the valves tested within the +/- 1 percent of the TS acceptance criteria without any repairs being made to the valves.

Since both of the valves that failed the as-found lift setpoint testing had been replaced with operable valves during A1R09, no TS action applied at the time the valve test failures were discovered. However, the condition of multiple pressurizer safety valves being outside of their required lift setting tolerance band 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 safety valves were inspected by the vendor and no material condition issues were found that may have contributed to the out of tolerance condition.

An Electric Power Research Institute (EPRI) evaluation concerning safety and relief valve testing indicates that the PSVs at Braidwood are performing within their design capabilities. The test failures are mainly due to the close tolerance required by the current plant safety analysis and reflected in TSS and the inability of the valves to perform within those tolerances.

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The offsite test facility, NWS Technologies, indicated that based on industry experience, the PSVs performed as expected. They stated that in the industry, the number of valves exceeding the 1 percent tolerance band is significant. They also stated that most valves tested do not exceed the 2 percent level, and it is rare for valves to exceed the 3 percent range. Based on this response and a review of Braidwood Station's historical data, the Braidwood Station PSV test results are typical of those in the industry.

Contributing to the valve test failures is lack of management responsiveness to reconcile continued PSV test failures.

D. Safety Consequences:

The pressurizer safety valves in conjunction with the Reactor Protection System, provide overpressure protection for the Reactor Coolant (RC) [AB] System. The safety valves are designed to prevent system pressure from exceeding the RC System safety limit of 2735 psig.

An engineering analysis on the effects of the PSVs lifting outside of the TS tolerance concluded that all acceptance criteria in the Updated Final Safety Analysis Report Chapter 15 analyses were still met.

The event did not result in a Safety System Functional Failure.

E. Corrective Actions:

Revision of the safety analysis to support relaxation of the TS lift tolerance for pressurizer safety valves is being investigated as the corrective action to prevent future PSV lift test failures.

F. Previous Occurrences:

Test data from the last five refueling outages at Braidwood Station show that out of 15 valves tested, eight were out of tolerance. Five of those eight were out of tolerance low, three were high. Only one of the valves exceeded 2 percent; none exceeded 3 percent.

There have been no previous corrective actions applied to PSV lift test failures. Until the valve failures from refueling outage A1R09 were determined to be outside of the TS limits, station management interpreted the TS as being met if the as-found condition of the valve was within 3 percent, as required by the IST program, and the as-left setpoint was within 1 percent as required by the TS.

G. Component Failure Data:

<u>Manufacturer</u>	<u>Nomenclature</u>	<u>Model</u>	<u>Mfg. Part Number</u>
Crosby	Pressurizer Safety Valve	HB-BP-86	N/A