



Commonwealth Edison
Braidwood Nuclear Power Station
Route #1, Box 84
Braceville, Illinois 60407
Telephone 815/458-2801

April 8, 1994
Bw/94-0056

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Dear Sir:

The enclosed Licensee Event Report from Braidwood Generating Station is being transmitted in accordance with the requirement of 10CFR50.73(a)(2)(i), which requires a 30-day written report.

This report is number 94-004-00, Docket No. 50-456.

K. L. Kofron
Station Manager
Braidwood Station

Encl: Licensee Event Report
No. 456/94-004-00

cc: NRC Region III Administrator
NRC Resident Inspector
INPO Record Center
CECo Distribution List

9404130108 940408
PDR ADDCK 05000456
S PDR

JEZ

LICENSEE EVENT REPORT (LER)

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

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Braidwood 1	DOCKET NUMBER (2) 05000456	PAGE (3) 1 OF 4
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TITLE (4) Main Steam Safety Valves Declared Due to Computational Inaccuracies With the Trevi-Test Method

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBERS
03	09	94	94	-- 004 --	00	04	08	94	Byron 1 & 2	05000454 05000455
									Braidwood Unit 2	DOCKET NUMBER 05000457

OPERATING MODE (9) 5	POWER LEVEL (10) 000	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)								
		<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)					
		<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)					
		<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> OTHER					
		<input type="checkbox"/> 20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	(Specify in Abstract below and in Text, NRC Form 366A)					
		<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)						
		<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(x)						

LICENSEE CONTACT FOR THIS LER (12)	
NAME D. Stroh, System Engineering	TELEPHONE NUMBER (Include Area Code) (815) 458-2801 x2770

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)									
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS
X				N					

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

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

At about 1730 on March 9, 1994, Braidwood Systems Engineering received a phone call from the Furmanite Company indicating that an improper value for mean seat area was used in the Trevitest calculation for the Main Steam Safety Valve (MSSV) setpoints for both Units. Technical Specifications state that with one or more MSSVs inoperable, operation in MODES 1, 2, and 3 may proceed provided the valve is restored to OPERABLE status or the Power Range High Flux trip setpoints are reduced within 4 hours. Notice of Enforcement Discretion was requested, approved and an emergency Technical Specification amendment was submitted to the NRC on March 21, 1994. The cause of the event was a programmatic deficiency on the part of the Furmanite Company. The methodology used by Furmanite was erroneous. All valves that fell outside of the required $\pm 1\%$ Technical Specification tolerance were declared inoperable and the NRC was contacted and appraised of the situation. Based upon unit operating schedules and Furmanite availability, the MSSVs for Braidwood Unit 2 will be reset on or before May 9, 1994. Braidwood Site engineering is reviewing all pertinent Trevitest data on our valves to determine what, if any, effect the higher setpoints may have had on system overpressurization. There has been no previous reportable occurrence of this type at Braidwood Station.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
Braidwood 1	05000456	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 4
		94	-- 004 --	00	

TEXT (if more space is required, use additional copies of NRC Form 366A) (17)

A. PLANT CONDITIONS PRIOR TO EVENT:

UNIT: Braidwood 1; EVENT DATE: March 9, 1994;
EVENT TIME: 1730;
MODE: 5; RX POWER: 0;
RCS [AB] TEMPERATURE/PRESSURE: 93 degrees F / 13 psig;

UNIT: Braidwood 2; EVENT DATE: March 9, 1994;
EVENT TIME: 1730;
MODE: 1; RX POWER: 100;
RCS [AB] TEMPERATURE/PRESSURE: NOT/NOP

B. DESCRIPTION OF EVENT:

At about 1730 on March 9, 1994, Braidwood Systems Engineering received a phone call from the Furmanite Company indicating that an improper value for mean seat area was used in the Trevitest calculation for the Main Steam Safety Valve (MSSV) setpoints for both Units. Calculations to determine the as-left condition of the MSSVs for each unit based on the revised (correct) mean seat area were completed at approximately 1500 hours on March 10, 1994. Results indicated that for each Braidwood unit, 17 valves fell outside of the Technical Specification requirement of $\pm 1\%$ (ie. 34 valves total between both units). All of the valves, however, fell within $\pm 3\%$ of the nominal ASME code setpoint.

The MSSVs are currently required to be set within a lift setting tolerance of $\pm 1\%$. Technical Specification 3.7.1.1 Action Statement "a" states that with one or more MSSVs inoperable, operation in MODES 1, 2, and 3 may proceed provided the valve is restored to OPERABLE status or the Power Range High Flux trip setpoints are reduced within 4 hours. If these requirements are not met, the plant is required to be in HOT STANDBY in 6 hours and COLD SHUTDOWN in the next 30 hours.

Notice of Enforcement Discretion was requested, approved and an emergency Technical Specification amendment was submitted to the NRC on March 21, 1994. This allowed the current as-left setpoints for Braidwood Unit 2, and Byron Units 1 and 2 to be acceptable until they can be reset. It also allowed Braidwood Unit 1, currently in refueling outage, to reach MODE 3 to reset the valves.

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TEXT (if more space is required, use additional copies of NRC Form 366A) (17)

This event is being reported pursuant to 10CFR50.73(a)(2)(i)(B) - any operation or condition prohibited by the plant's Technical Specifications.

C. CAUSE OF THE EVENT

The cause of the event was a programmatic deficiency on the part of the Furmanite Company. The methodology used by Furmanite was erroneous. Mathematical calculation of the mean seat area, rather than a derived value based on experimental data, was used to arrive at the mean seat area value.

There were no inappropriate actions by Braidwood personnel.

D. SAFETY ANALYSIS

The MSSVs limit secondary pressure to within 110% of design pressure of 1200 psia during the most severe anticipated operating transient (Turbine Trip at 102% Rated Thermal Power with no steam dumps available.)

The as-left setpoints of the MSSVs being greater than the allowed maximum of $\pm 1\%$ but within $\pm 3\%$ do not impact the safety margin. The MSSVs are analyzed for as-found setpoints of $\pm 3\%$, which Commonwealth Edison Company will apply for in an upcoming Technical Specification amendment request.

The effects of increasing the as-found lift setpoint tolerance on the MSSVs have been examined, and it has been determined that, with the exception of the Loss of Load/Turbine Trip, the current accident analyses as presented in the UFSAR remain valid. The Loss of Load/Turbine Trip event was analyzed in order to quantify the impact of the setpoint tolerance relaxation. All applicable acceptance criteria for this event remain satisfied and the conclusion presented in the UFSAR remains valid.

The conclusions presented in the Overpressure Protection Report remain valid.

No operating conditions or modes will be changed as a result of this evaluation. No new failure modes have been determined to exist as a result of this new analysis. The MSSVs will continue to relieve any unlikely system overpressure during all applicable operating modes. The increased as-found setpoint tolerance has no significant negative impact on any system, operating mode, or accident analysis.

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

E. CORRECTIVE ACTIONS

All valves that fell outside of the required $\pm 1\%$ Technical Specification tolerance were declared inoperable and the NRC was contacted and appraised of the situation.

Based upon unit operating schedules and Furmanite availability, the MSSVs for Braidwood Unit 2 will be reset on or before May 9, 1994. This action will be tracked to completion by action item 456-180-94-00401. The valves for Braidwood Unit 1 will be reset prior to reaching MODE 2 following the current refueling outage. This action will be tracked to completion by action item 456-180-94-00402.

Braidwood Site engineering is reviewing all pertinent Trevitest data on our valves to determine what, if any, effect the higher setpoints may have had on system overpressurization. The new mean seat area determined by Furmanite will also be reviewed for correctness. This action will be tracked to completion by action item 456-180-94-00403.

F. PREVIOUS OCCURRENCES

There has been no previous reportable occurrence of this type at Braidwood Station. Previous failures of the Main Steam Safety Valves using the Trevi-test method were reported under 50-456/89-009, Failure of Main Steamline Safety Valve To Reset Due To a Valve Design Deficiency. However, the failure documented in that event was due to an unrelated cause. The previous event is not applicable to this event.

G. COMPONENT FAILURE DATA

This event was not the result of component failure, nor did any components fail as a result of this event.