



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

July 15, 1991  
BW/91-0211

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

Dear Sir:

The enclosed Supplemental Licensee Event Report from Braidwood Generating Station is being transmitted to you in accordance with the requirements of 10CFR50.73(a)(2)(iv).

This report is number 88-001-00; Docket No. 50-456.

Very truly yours,



K. L. Kotron  
Station Manager  
Braidwood Nuclear Station

KL K/JDW/clf  
(226/ZD85G)

Enclosure: Licensee Event Report No. 88-001-00

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

9107300161 910225  
PDR ADDCK 05000456  
S PDR

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11

SUPPLEMENT TO DWR

APPROVED  
JUL 23 1986

DWR NO.      STA      UNIT      YEAR      NO.  
D - 20      -      1      -      88      -      005

BRAIDWELL  
ON-SITE REVIEW

PART 1 TITLE OF EVENT

OCCURRED

Train A Control Room Radiation  
Monitoring Inoperable Due to Noisy  
Pressure Switches

01/08/88      0950  
DATE      TIME

REASON FOR SUPPLEMENTAL REPORT

To update the cause and Corrective Action taken for the failure of  
Damper DVC43Y to close.

PART 2

ACCEPTANCE BY STATION REVIEW

DATE

SUPPLEMENTAL REPORT APPROVED  
AND AUTHORIZED FOR  
DISTRIBUTION

Jack E. Nalanga      submit  
7-12-91      7-12-91

H. C. Kofler  
STATION MANAGER

7/18/91  
Date

# LICENSEE EVENT REPORT (LER)

Facility Name (1) <div style="text-align: center;">Braidwood, Unit 1</div>										Docket Number (2) <div style="text-align: center;">0   5   0   0   0   4   5   6</div>				Page (3) <div style="text-align: center;">1   of   0   4</div>							
Title (4) Train A Control Room Radiation Monitoring Inoperable Due to Noisy Pressure Switches																					
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 Names				Docket Number(s)								
0   1	0   8	8   8	8   8	0   0   1	0   1	0   2	2   5	9   1	NONE				0   5   0   0   0   1   1								
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)																		
POWER LEVEL (10) <div style="text-align: center;">0   0   0</div>			20.402(b)			20.405(c)			<input checked="" type="checkbox"/> 50.73(a)(2)(iv)			73.71(b)									
			20.405(a)(1)(i)			50.36(c)(1)			50.73(a)(2)(v)			73.71(c)									
			20.405(a)(1)(ii)			50.36(c)(2)			50.73(a)(2)(vii)			Other (Specify									
			20.405(a)(1)(iii)			50.73(a)(2)(i)			50.73(a)(2)(viii)(A)			in Abstract									
			20.405(a)(1)(iv)			50.73(a)(2)(ii)			50.73(a)(2)(viii)(B)			below and in									
20.405(a)(1)(v)			50.73(a)(2)(iii)			50.73(a)(2)(x)			Text)												
LICENSEE CONTACT FOR THIS LER (12)																					
Name Ralph Richard, Technical Staff Engineer										Ext. 2294											
										TELEPHONE NUMBER											
										AREA CODE 8   1   5											
										4   5   8   -   2   8   0   1											
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																					
CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS											
X	V   I	*   *   *	1   2   0   4																		
SUPPLEMENTAL REPORT EXPECTED (14)														Expected Submission Date (15)				Month   Day   Year			
[Yes (If yes, complete EXPECTED SUBMISSION DATE)]														X   NO							
ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)																					

At 0950 on January 8, 1988, and at 1024 on January 12, 1988, spurious spikes were received on Train A Control Room Radiation Monitor OPR32J, which caused an automatic actuation of the control room ventilation system which shifted the ventilation system to its emergency makeup mode.

At 1230 on January 11, 1988, a spurious spike was received on Train A Control Room Radiation Monitor OPR31J, causing an automatic actuation of the control room ventilation system to shift to its emergency wakeup mode.

In all three occurrences, charcoal adsorber bypass damper OVC43Y failed to close.

After the occurrences on January 8, and January 11, it was determined that the actuations were spurious, and the monitors were immediately returned to service. After the occurrence on January 12, Train A of control room ventilation was maintained in its emergency makeup mode.

The failure of damper OVC43Y was determined to be the result of mechanical interference within the damper actuation. Additionally, noise attenuating filters are being installed, as necessary, to the pressure switch circuitry to eliminate any future spiking problems.

There have been no previous occurrences.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)										Page (3)		
		Year	///	Sequential	///	Revision								
				Number		Number								
Braidwood, Unit 1	0   5   0   0   0   4   5   6	8   8	-	0   0   1	-	0   1	0   2	OF	0   4					
TEXT      Energy Industry Identification System (EIIS) codes are identified in the text as [xx]														

A. PLANT CONDITIONS PRIOR TO EVENT:

OCCURRENCE 1

Unit: Braidwood 1; Event Date: January 8, 1988; Event Time: 0950

MODE: 5 - Cold Shutdown; Rx Power: 0%; RCS [AB] Temperature/Pressure: 107°F/0 psig

OCCURRENCE 2

Unit: Braidwood 1; Event Date: January 11, 1988; Event Time: 1230

MODE: 5 - Cold Shutdown; Rx Power: 0%; RCS [AB] Temperature/Pressure: 103°F/0 psig

OCCURRENCE 3

Unit: Braidwood 1; Event Date: January 12, 1988; Event Time: 1024

MODE: 5 - Cold Shutdown; Rx Power: 0%; RCS [AB] Temperature/Pressure: 101°F/31 psig

B. DESCRIPTION OF EVENT:

The Control Room Ventilation System [VI] was declared inoperable at 2130 on January 1, 1988 for unrelated scheduled work activities. There were no other systems or components inoperable at the beginning of the event which contributed to the severity of any of the occurrences listed below.

OCCURRENCE #1

At 0950 on January 8, 1988 it was observed via the Radiation Monitoring System Control Console (RM-11) [IL] that the Train A Control Room Air Intake Radiation Monitor OPR32J [IL] spuriously spiked into high radiation alarm, causing an automatic actuation of the Train A Control Room Ventilation System [VI] to its emergency makeup mode of operation. During the occurrence, the Charcoal Absorber Bypass Damper OVC43Y failed to close. It was determined that the actuation was spurious, and the monitor was immediately returned to service. A Nuclear Work Request was written to investigate the damper failure.

The appropriate NRC notification via the ENS phone system was made at 1116 on January 8, 1988, pursuant to 10CFR50(b)(2)(ii).

This occurrence is being reported pursuant to 10CFR50.73(a)(2)(iv) - Any event or condition that resulted in manual or automatic actuation of any Engineered Safety Feature, including the Reactor Protection System.

OCCURRENCE #2

At 1230 on January 11, 1988, it was observed via Control Room Annunciation that the Train A Control Room Air Intake Radiation Monitor OPR31J [IL] generated a noise spike, sending its measured radiation level into high alarm. This caused an automatic actuation of the Train A Control Room Ventilation System to its emergency makeup mode of operation. During the occurrence, Charcoal Absorber Bypass Damper OVC43Y again failed to close. Monitor was returned to service at 1338 on January 16, 1988.

The appropriate NRC notification via the ENS phone system was made at 1309 on January 11, 1988, pursuant to 10CFR50(b)(2)(ii).

This occurrence is being reported pursuant to 10CFR50.73(a)(2)(iv) - Any event or condition that resulted in manual or automatic actuation of any Engineered Safety Feature, including the Reactor Protection System.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)						Page (3)		
		Year	///	Sequential	///	Revision				
				Number		Number				
Braidwood, Unit 1	0   5   0   0   0   4   5   6	8   8	-	0   0   1	-	0   1	0   3	OF	0   4	
TEXT Energy Industry Identification System (EIS) codes are identified in the text as [xx]										

OCCURRENCE #3

At 1024 on January 12, 1988 the OPR32J monitor sent another spike which propagated an Engineered Safety Feature actuation signal to cause the Train A Control Room Ventilation System to shift to its emergency makeup mode of operation. Again, damper OVC43Y failed to close. Following this occurrence, Train A of control room ventilation was maintained in its emergency makeup mode.

The appropriate NRC notification via the ENS phone system was made at 1321 on January 12, 1988, pursuant to 10CFR50.72(b)(2)(ii).

This occurrence is being reported pursuant to 10CFR50.73(a)(2)(iv) - Any event or condition that resulted in manual or automatic actuation of any Engineered Safety Feature, including the Reactor Protection System.

Operator action neither increased nor decreased the severity of the event. Plant conditions remained stable throughout the event.

C. CAUSE OF EVENT:

The cause of the radiation monitor failures was due to an intermittent problem with the monitors' pressure switches. During modulation of the monitors' flow control valves, the switches emit electrical noise spikes which ultimately are interpreted as radiation propagated current pulses by the monitors' preamp circuitry.

The failure of damper OVC43Y is attributed to mechanical interference within the damper actuator. Disassembly of the actuator revealed shaft and bushing scoring due to misalignment of the actuator to the damper.

D. SAFETY ANALYSIS:

There was no impact on plant or public safety as there was no actual radioactivity present during the duration of the event. Control room ventilation had been inoperable for scheduled maintenance on the chillers since January 1, 1988 and the associated technical specification action requirements have been complied with at all times. Had this event occurred under worst case conditions of actual radioactivity present with the unit in power operations, Train B of control room ventilation was available to be manually aligned to perform control room isolation, therefore mitigating the consequences of this type of event, and not compromising the safety of the plant or public.

E. CORRECTIVE ACTIONS:

The immediate corrective action was to determine that the source of the actuation was spurious in nature and not due to actual radioactivity.

Action to prevent recurrence includes adding noise attenuating filters to the pressure switch circuitry to eliminate the false trips. These filters will be used as necessary to eliminate any further spiking problems which may occur.

The Charcoal Adsorber Damper OVC43Y actuator was repaired during the 1988 Unit 1 surveillance outage. The actuator to damper coupling for OVC43Y has been replaced with a flexible ball and socket type joint to reduce the possibility of any future actuator damage due to misalignment.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)												Page (3)			
		Year		///		Sequential		///		Revision							
		Number		Number		Number											
Braidwood, Unit 1	0   5   0   0   0   4   5   6	8   8	-	0   0   1	-	0   1	0   4	Of	0   4								

TEXT      Energy Industry Identification System (EIIS) codes are identified in the text as [xx]

F. PREVIOUS OCCURRENCES:

None

G. COMPONENT FAILURE DATA:

<u>MANUFACTURER</u>	<u>NOMENCLATURE</u>	<u>MODEL NUMBER</u>	<u>MFG PART NUMBER</u>
General Atomics	Pressure Switch		
ITT General Controls	Actuator	NH95	NH95G2602P103