



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

Decmeber 18, 1990
BW/90-1224

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 to you in accordance with the requirements of 10CFR50.73(a)(2)(iv) which require a 30-day written report.

This report is number 90-012-00; Docket No. 50-457.

Very truly yours,

K. L. Kofron
Station Manager
Braidwood Nuclear Station

KLK/JDW/clf
(7126z)

Enclosure: Licensee Event Report No. 90-012-00

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

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LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) **Braidwood 2** Docket Number (2) **0150100457** Page (3) **1 of 03**

Title (4) **Containment Ventilation Isolation Signal due to a Failed Radiation Detector.**

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)
11	1	20	910	0112	010	11	18	910	NONE	0150100457

OPERATING MODE (9) **1**

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)

<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input checked="" 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 (Specify in Abstract below and in Text)
<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	
<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)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

Name **Mike Auer - Technical Staff Engineer** Ext **2770**

TELEPHONE NUMBER
 AREA CODE **815** **458-1280**

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS
X	1	1	DEIT	NO					

SUPPLEMENTAL REPORT EXPECTED (14)

Expected Submission Date (15) **X** **NO**

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

At 2315 on November 20, 1990 the Containment Fuel Handling Incident Area Radiation Monitor (AR) 2RT-AR011 momentarily went into high alarm and interlock actuation, due to sudden spiking. This initiated a Train A Containment Ventilation Isolation signal. No components repositioned as all valves were secured in the closed position. Investigation into the event did not reveal any specific problems. It was concluded that detector replacement was required. On November 22, 1990 the detector for 2RT-AR011 was replaced. The cause of this event was component failure. The faulty detector created a spurious high radiation spike which resulted in the monitor initiating the ventilation isolation signal. The detectors are replaced on an 18 month frequency. The failed detector in this event had been in service since April of 1990. As part of a previous corrective action, a similar failed detector from an August 8, 1990 event, and the detector from this event have been forwarded to the vendor for analysis. The results of this analysis have not been received by the station. This failure rate is considered unacceptable and will be evaluated for adverse trend consideration in accordance with the Stations Adverse trend program.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

Form Rev 2.0

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			Page (3)		
		Year	Sequential Number	Revision Number			
Braidwood 2	500045790	-	0112	-	010	02	OF 03
TEXT Energy Industry Identification System (EIDS) codes are identified in the text as [XX]							

A. PLANT CONDITIONS PRIOR TO EVENT:

Unit: Braidwood 2; Event Date: November 20, 1990; Event Time: 2315;
 Mode: 1 - Power Operation; Rx Power: 100%;
 RCS AB Temperature / Pressure: NOT/NOP;

B. DESCRIPTION OF EVENT:

At 2315 on November 20, 1990 the Containment - Fuel Handling Incident Area Radiation Monitor (AR) IL 2RT-AR011 momentarily went into high alarm and interlock actuation, due to sudden spiking. This initiated a Train A Containment Ventilation (VA) Isolation signal. No components repositioned as all valves were secured in the closed position. After verifying that a High Radiation condition did not exist by observing other redundant Containment Radiation Monitors, the Nuclear Station Operator (NSO) (Licensed Reactor Operator) reset the Containment Ventilation Isolation Signal.

The appropriate NRC notification via the ENS phone system was made at 0035 on November 21, 1990 pursuant to 10CFR50.72(b)(2)(ff).

Investigation into the event did not reveal any specific problems. It was concluded that detector replacement was required. Due to the physical and radiological difficulties in accessing the detector the replacement required extensive job planning.

At 1720 on November 21, 1990 2RE-AR011 was removed from service for detector replacement. The appropriate Technical Specification Action Statements were entered and complied with.

At 0700 on November 22, 1990 after detector replacement and completion of post maintenance calibrations, the 2RT-AR011 was declared operable and the action statement was exited.

This event 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.

C. CAUSE OF THE EVENT:

The root cause of this event was component failure. The faulty detector created a spurious high radiation spike which resulted in the monitor initiating a Train A Containment Ventilation Isolation Signal.

D. SAFETY ANALYSIS:

This event had no effect on the safety of the plant or the public. All systems operated as designed. The redundant AR monitor 2RT-AR012 was operable and available to provide indication and Train B Containment Ventilation isolation.

Under the worst case condition of total monitor failure there would still be no effect. The Radiation Monitoring system is designed such that the monitor reverts to the tripped condition and the appropriate ESF actuation occurs upon failure of the monitor or the detector as was the case in this event.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			Page (3)		
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Braidwood 2	0 5 0 0 0 4 5 7	9 0	- 0 1 2	- 0 0	0 3	OF	0 3

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

E. CORRECTIVE ACTIONS:

The detector was replaced. The Monitor was re-calibrated and returned to service. The Containment Fuel Handling Incident Radiation Monitor detectors are replaced on an 18 month frequency in accordance with the environmental qualification program. The failed detector in this event had been in service since April of 1990. The redundant Unit 2 detector, 2RT-AR012, which was also replaced during April 1990 failed on August 8, 1990 and was replaced shortly thereafter (reference LER 50-457/ 90-011). This failure rate is considered unacceptable and will be evaluated for adverse trend consideration in accordance with the Stations Adverse trend program. The failed detector from the August 8 event, and this event have been forwarded to the vendor for analysis. The results of this analysis have not been received by the station. This action will be tracked to completion by action item 457-200-90-03501.

F. PREVIOUS OCCURRENCES:

There have been previous occurrences of radiation detector failures resulting in ESF actuations.

50-456/ 87-003 Containment Vent Isolation Due to Loss of Pulses from 1RE-AR012

50-456/ 88-003 Loss of Pulses to Fuel Handling Incident Monitor 0RT-AR056 for Unknown Reasons

50-457/ 90-011 Containment Ventilation Isolation due to Spurious Spiking from 2RF-AR012

50-456/ 89-017 Control Room Ventilation Actuation due to Failed Radiation Detector

Braidwood Station Adverse Trend 89-011, "Process Radiation Monitor Events", was established to address the Station's concerns in this area.

G. COMPONENT FAILURE:

MANUFACTURER	NOMENCLATURE	MODEL NUMBER	MFG PART NUMBER
SORRENTO ELECTRONICS (GENERAL ATOMICS)	DETECTOR	RD-10	02810760-002