



Braidwood Nuclear Station
P.O. Box 100
Braidwood, IL 60407
Tel: 815-604-2801

October 18, 1991
BW/91-0813

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 requires a 30-day written report.

This report is number 91-010-00; Docket No. 50-456.

Very truly yours,

K. L. Kofron
Station Manager
Braidwood Nuclear Station

KLK/DN/clf
(226/ZD85G)

Enclosure: Licensee Event Report No. 91-010-00

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

9110250037 911010
PDR ADOCK 05000456
S PDR

Handwritten initials/signature in the bottom right corner.

LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) Braidwood 1 Docket Number (2) 0 | 5 | 0 | 0 | 0 | 4 | 5 | Page (3) 1 | of | 0 | 3

Title (4) Containment Ventilation Isolation Signal Due to Spurious Spike from IRE-AR012 as a Result of Component failure

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 9	2 9	9 1	9 1	0 1 0	0 0	1 0	1 0	5 1	None	0 5 0 0 0

OPERATING MODE (9) 1

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

POWER LEVEL (10) <u>0 9 5</u>	<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)(x)	

LICENSEE CONTACT FOR THIS LER (12)

Name M. Auer, Technical Staff Engineer Ext. 2770 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	I L	D E T *	5 6 3 7	No					

SUPPLEMENTAL REPORT EXPECTED (14)

Yes (If yes, complete EXPECTED SUBMISSION DATE) NO

Expected Submission Date (15) _____

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

At 1111 on September 29, 1991 the Containment Fuel Handling Incident Area Radiation Monitor IRT-AR012 momentarily went into high high alarm and interlock actuation, due to sudden spiking. This initiated a Train B Containment Ventilation Isolation signal. No components repositioned as all valves were secured in the closed position. On September 23, prior to this actuation, the monitor was identified as showing early signs of instrument drift. It was concluded that detector replacement was required. On October 1, 1991 the detector for IRT-AR012 was replaced. The cause of the event was component failure. The defective detector was generating spurious high radiation spikes which resulted in the monitor initiating a containment ventilation isolation signal. The detector for this monitor is normally 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 1991. This detector has been returned to the vendor for failure analysis.

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 1	0 5 0 0 0 4 5 6	9 1	-	0 1 0	-	0 0	0 2	OF	0 3	

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

A. PLANT CONDITIONS PRIOR TO EVENT:

Unit: Braidwood 1; Event Date: Sept 29, 1991; Event Time: 1111;
 Mode: 1 - Power Operation; Rx Power: 95%;
 RCS [AB] Temperature/Pressure: NOT/NOP

B. DESCRIPTION OF EVENT:

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

On September 23, 1991 a Technical Staff Engineer (TSE) (non-licensed) was evaluating radiation levels indicated by the Containment Fuel Handling Incident Radiation Monitors (AR) [IL] 1RT-AR011 and 1RT-AR012. The detectors for these monitors are located inside containment on opposite sides of the cavity wall surrounding the reactor vessel. The detector radiation levels indicated by 1RT-AR011 and 1RT-AR012 should be approximately equal. The TSE noted that the radiation level for 1RT-AR012 was higher than 1RT-AR011.

Previous experience indicated that 1RT-AR012 was showing early signs of instrument drift. A Nuclear Work Request was written for 1RT-AR012. The detector is located in a high neutron radiation field and extensive job planning was necessary. The Instrument Maintenance Department developed a work package to replace the detector. The Work Planning Department scheduled a containment entry for October 2, 1991 to replace the detector along with other planned maintenance work inside containment.

At 1111 on September 29, 1991, 1RT-AR012 spiked. This initiated a Train B Containment Ventilation VA Isolation Actuation Signal. No components repositioned as all valves were in their required closed position. After verification that radiation levels were normal, the Containment Isolation Signal was reset.

The appropriate NRC notification via the ENS phone system was made at 1141 pursuant to 10CFR50.72(b)(2)(ii).

At 0753 on September 30, 1991 1RT-AR012 was removed from service for detector replacement. To comply with Technical Specifications (TS), the appropriate TS action statements were entered.

At 0336 on October 1, 1991 after detector replacement and completion of post maintenance calibrations, the 1RT-AR012 monitor was declared operable.

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.

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

C. CAUSE OF EVENT:

The root cause of the event was component failure. The faulty detector was generating spurious high radiation spikes which caused the monitor to initiate a Train B 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 monitor, IRT-AR011, was operable and available to provide indication and Train A Containment Ventilation isolation.

Under the worst case condition of total monitor failure there would still be no effect. Upon failure of the monitor, the Radiation Monitoring system is designed such that the channel will go to a tripped condition and initiate the appropriate ESF actuation signal.

E. CORRECTIVE ACTIONS:

The detector was replaced. The monitor was calibrated and returned to service. Technical Staff personnel will continue to trend radiation monitors for early indication of detector failure.

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 1991. The detector has been returned to the vendor for failure analysis. This action will be tracked to completion by Action Item No. 457-200-90-03501.

F. PREVIOUS OCCURRENCES:

There have been previous occurrences of radiation monitor failure causing ESF actuations. Several detectors from previous events were analyzed by the vendor with inconclusive results. The failure rate is being tracked by Braidwood Station Adverse Trend 89-011.

G. COMPONENT FAILURE DATA:

Manufacturer	Nomenclature	Model Number	MFG Part Number
Sorrento Electronics (General Atomics)	Detector	RD-10	028107670-002