



Commonwealth Edison
Braidwood Nuclear Power Station
Route #1, Box 94
Braceville, Illinois 60407
Telephone 815/458-2801

December 21, 1990
BW/90-1234

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 90-020-00; Docket No. 50-456.

Very truly yours,

A handwritten signature in cursive script, appearing to read 'K. L. Kofron'.

K. L. Kofron
Station Manager
Braidwood Nuclear Station

KLK/JDW/clf
(7126z)

Enclosure: Licensee Event Report No. 90-020-00

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

9101040219 901224
PDR ADOCK 05000456
S PDR

TE22

LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) Braidwood 1 Docket Number (2) 0 5 0 0 0 4 5 6 Page (3) 01 of 03
 Title (4) Spurious Start of the Auxillary Building Inaccessible Filter Plenum A Charcoal Booster Fan OB due to 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)
11	11	2199	09	09	00	11	22	1990	None	0 5 0 0 0 1 1

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>1 0 0</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"/> 50.35(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 Ray Owen Technical Staff Group Leader Telephone Number 8 1 5 4 5 8 - 2 8 0 1
 Ext. 2347

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	V	F	R L Y * W	1 2 0	Y				

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 1316 on November 29, 1990 the Auxiliary Building Inaccessible Filter Plenum A Charcoal Booster Fan OB, OVA03CB, spuriously auto started. The Nuclear Station Operator (NSO) examined the control switch position and identified that the switch was in the after trip position. This indicated that the fan had not been started from the Main Control Room. The NSO inspected the automatic actuation relays on both Unit 1 and Unit 2. The relays, which are latching style relays that actuate as a function of a Safety Injection, were found in the "unlatched" state. Additionally, no other components associated with the relays had operated on either unit. The cause of this event was component failure. An auxiliary relay associated with the starting circuitry, had arcing marks and a carbon buildup on contacts 2 and 3. These contacts provide a current path to start the fan when the relay is energized. The contacts had very little clearance when the relay was de-energized as a result of the carbon buildup. Any little disturbance such as closing the switch gear cabinet door might have been sufficient to cause the contacts to touch and the fan to start. The relay was replaced. The fan circuitry and breaker were checked. Relay tests were performed on both units and all components functioned as designed. A previous auto start of this fan occurred on August 28, 1990. The cause of that event was not determined.

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 0	- 0 2 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: November 29, 1990;
 Event Time: 1316;
 Mode: 1 - Power Operation; Rx Power: 100%;
 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.

At 1316 on November 29, 1990 the Auxilliary Building Inaccessible Filter Plenum A Charcoal Booster Fan OB (VA) [VF], 0VA03CB, spuriously auto started. The Nuclear Station Operator (NSO) (Licensed Reactor Operator) verified proper damper alignment. No other components actuated. The NSO examined the 0VA03CB control switch position and identified that the switch was in the after trip position. This indicated that the fan had not been started from the Main Control Room.

The NSO then inspected the automatic actuation relay K-602 in the OB train of the Solid State Protection System (SSPS) [JE] on both Unit 1 and Unit 2. The relays were latching style relays that actuate as a function of a Safety Injection Signal on the associated unit. The relays were found in the "unlatched" state. Additionally, none of the other components that actuate from a K-602 relay actuation, had operated on either unit. Based on this inspection it was concluded that the fan had not started as a function of the SSPS.

An investigation was initiated to determine the cause of the auto start.

The appropriate NRC notification via the ENS phone system was made at 1642 pursuant to 10CFR50.72(b)(2)(ii).

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.

B. CAUSE OF EVENT:

The root cause of this event was component failure. The investigation of the fan circuitry revealed that an auxiliary relay associated with the starting circuitry, VA03CBX, had arcing marks and a carbon buildup on contacts 2 and 3. These contacts provide a current path to start the fan when the relay is energized. The contacts had very little clearance when the relay was de-energized as a result of the carbon buildup between the contacts from the arcing. Any little disturbance such as closing the switch gear cabinet door might have been sufficient to cause the contacts to touch and the fan to start.

D. SAFETY ANALYSIS:

This event had no effect on the safety of the plant or the public. The fan start was neither desired or required and was inappropriate for existing plant conditions. There are no reasonable or credible alternate conditions that would have been more severe.

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 0	- 0 2 0	- 0 0	0 3	OF	0 3

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

E. CORRECTIVE ACTIONS:

The fan auxiliary relay, VA03CBX, was replaced.

The fan breaker and control circuitry were checked and found to be functioning properly. The Westinghouse 1457C model 83A04 relays were inspected for the other 5 Auxiliary Building Ventilation System fans. As a result of this inspection relay, contacts on VA03CCX1 were found burnt. This relay will be replaced under NWR A45422. This will be tracked to completion by action item no. 456-200-90-05301.

The SSPS slave relay tests for the OB Train K-602 relay were performed for both units. All components functioned as designed.

F. PREVIOUS OCCURRENCE:

There was a previous occurrences of an auto start of fan 0VA03CB that occurred on August 28, 1990.

50-456/ 90-016 Spurious Auto Start of the Auxiliary Building Inaccessible Filter Plenum A Charcoal Booster Fan OB due to Unknown Causes.

The cause of this event was undetermined. It is believed that the defective relay identified in this event was also the cause that event.

G. COMPONENT FAILURE DATA:

Manufacturer	Nomenclature	Hfg Part No./ Model
Westinghouse	Relay	1457C 83A04