

Commonwealth Edison Company
Braidwood Generating Station
Route #1, Box 84
Braceville, IL 60407-9619
Tel 815-458-2801



August 31, 1995
BW/95-0085

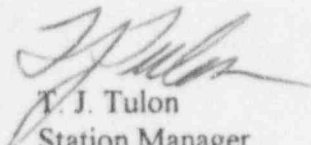
Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Gentlemen:

The enclosed Licensee Event Report from Braidwood Generating Station is being transmitted in accordance with the requirement of 10 CFR 50.73(a)(2)(i), which requires a 30-day written report.

This report is number 95-005-00, Docket No. 50-457.

Yours truly,


T. J. Tulon
Station Manager
Braidwood Nuclear Station

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Encl: Licensee Event Report
No. 457-95-005-00

cc: NRC Region III Administrator
NRC Resident Inspector
INPO Record Center
CECo Distribution Center
I.D.N.S.
I.D.N.S. Resident Inspector

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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 (MNBB 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 2	DOCKET NUMBER (2) 05000457	PAGE (3) 1 OF 4
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TITLE (4)
During performance of 2BwOS 1.3.1.2-1, shutdown bank E would not withdraw due to a set of relay contacts failing open.

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 NUMBER
08	04	95	95	-- 005 --	00	08	31	95	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)			
POWER LEVEL (10) 100	20.402(b)	20.405(c)	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
	20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	(Specify in Abstract below and in Text, NRC Form 366A)
	20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)		

LICENSEE CONTACT FOR THIS LER (12)	
NAME D.Turner, Root Cause Team	TELEPHONE NUMBER (Include Area Code) (815)458-2801 x2476

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	AA	RLY	C345	Yes					

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)

During the performance of 2BwOS 1.3.1.2-1, Unit Two Movable Control Assemblies Monthly Surveillance, Shutdown Bank 'E' was inserted to the 215 position, as indicated on the associated Group Step Counter. At approximately 0542, when attempting to withdraw the rods per procedure, the rods would not withdraw. The surveillance was stopped, LCOARs 0.3-2a, 1.3.1-1a, and 1.3.5-1a were entered and troubleshooting of the system commenced. The troubleshooting and a review of the Instrument and Control training prints indicated the withdraw socket relay was potentially the problem. Instrument Maintenance took voltage readings on the suspect relay and confirmed it to be defective. The defective relay was swapped with the relay from the insert socket and shutdown bank 'E' was withdrawn to the 231 position as indicated on the associated Group Step Counter. With all rods fully withdrawn, LCOARs 0.3-2a and 1.3.5-1a were exited. Subsequently the insert relay was swapped back to the insert socket and the withdraw relay was replaced with a new relay. The surveillance 2BwOS 1.3.1.2-1 was started and successfully completed at 0758. LCOAR 1.3.1-1a was exited at 0954. There were no previous occurrences found at Braidwood Station.

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TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	
Braidwood 2	05000457	95	-- 005 --	00

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

A. PLANT CONDITIONS PRIOR TO EVENT:

Unit: Braidwood 2; Event Date: August 04, 1995
 Event Time: 0542
 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 that contributed to the severity of the event.

At approximately 0540 on August 4, 1995 the Unit 2 Nuclear Station Operator(NSO)(Licensed Reactor Operator) started the Unit 2 Movable Control Assemblies Monthly Surveillance, 2BwOS 1.3.1.2-1. Per step F.2.4.a the Rod Bank Select Switch was taken to the SBE(shutdown bank 'E') position. Group Step Counter and Digital Rod Position Indicator(DRPI) initial readings were recorded per procedure. Using the Rod Motion Control Switch, the shutdown bank 'E' was then inserted to the 216 position as indicated on the associated Group Step Counter. The Group Step Counter and DRPI readings were again recorded for the selected shutdown bank. Each rod in the selected shutdown bank was verified to have moved greater than or equal to 10 steps. The next procedure step, F.2.4.f was to withdraw the selected shutdown bank to 231 steps as indicated on the associated Group Step Counter. The Unit 2 NSO moved the Rod Motion Control Switch to the withdraw position. This action produced no movement. The switch was released and three subsequent attempts were made to withdraw shutdown bank 'E' with no success. The Unit 2 NSO then moved the Rod Motion Control Switch to the insert position and the rods stepped in to the 215 position. The NSO tried to withdraw the rods two more times but was unable to. At approximately 0542 the surveillance was stopped and LCOARs 0.3-2a, 1.3.1-1a, and 1.3.5-1a were entered for shutdown bank 'E' not fully withdrawn. A Field Supervisor(FS)(Licensed Senior Reactor Operator) and Equipment Operator(EO)(Non-Licensed) were dispatched to the Miscellaneous Electrical Equipment Room to check for blown fuses in the shutdown bank C, D, and E, power(SCDE) and logic cabinets. The FS and EO performed a visual check of the fuses and noted no abnormalities. The FS then requested the Unit 2 NSO take the Rod Bank Select Switch to the SBD(shutdown bank 'D') position to verify proper light indication when in this position. With the Rod Bank Select Switch in the SBD position, the anticipated light indication was received. The FS then asked the Unit 2 NSO to take the Rod Bank Select Switch to the SBC position to verify its light indication. This also worked acceptably. The FS and EO then returned to the

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

Control Room, approximately 0600. The problem was discussed with a Nuclear System Engineer, who was present in the Control Room, and he was directed to inform the first Electrical Engineer on site to report to the Control Room. A call was also placed to the Instrument Maintenance Department requesting an Instrument Maintenance (IM) (Non-Licensed) technician to report to the control room as soon as possible. In the Control Room the FS reviewed a set of Westinghouse Instrument and Control Training Prints. Through this review and the troubleshooting efforts at the SCDE power cabinet, the FS determined the relay in the K-18 (withdraw) socket was the problem. At approximately 0610 a System Engineer reported to the Control Room. The IM techs arrived in the Control Room at approximately 0615. The Operating FS reviewed the troubleshooting and prints with the System Engineer and IM techs, and what had been determined. System Engineering wanted voltage readings of the suspect relay taken to confirm it was defective. An IM tech took the voltage readings which confirmed the relay was defective. All personnel involved then discussed the feasibility of removing the defective withdraw relay (K-18) and swapping it with the insert relay (K-17). It was agreed that this swap could be performed. The IM tech removed the relay from the K-18 socket, then removed the relay from the K-17 socket. The technician took Ohm meter readings on relay taken from the K-17 socket to ensure the relay had no defects. When the relay was verified to be good it was placed in the K-18 socket. The Unit 2 NSO attempted to withdraw shutdown bank 'E' with no success. System Engineering then realized without a relay in the K-17 socket an interlock was not being satisfied, which prevented the rods from being withdrawn. The defective relay (removed from the K-18 socket) was checked with an Ohm meter and found to be acceptable to satisfy the interlock if placed in the K-17 position. The defective relay was placed in the K-17 position, and the NSO moved the Rod Motion Control Switch in the withdraw direction stepping rods out to the 231 position as indicated on the associated Group Step Counter. With shutdown bank 'E' withdrawn to the 231 position, LCOARs 0.3-2a, and 1.3.5-1a were exited. At approximately 0740 a replacement relay was acquired by IMD personnel under Work Request 950067605. The defective relay was removed from the K-17 socket, the relay currently in the K-18 socket was swapped back to its original K-17 socket, and the new relay was placed in the K-18 socket. The NSO re-performed 2BwOS 1.3.2-1, Unit 2 Movable Control Assemblies Surveillance. The surveillance was completed successfully at 0758. LCOAR 1.3.1-1a was exited at 0954.

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

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

C. CAUSE OF THE EVENT:

The cause of the event was determined to be a set of relay contacts failing open. The effect of the failed relay is the Shutdown Banks C, D, and E were not capable of being withdrawn.

D. SAFETY ANALYSIS:

During this event, Shutdown Bank E rods were partially inserted but not capable of being withdrawn. This event had no reactor or public safety significance. Upon the initiation of a reactor trip signal, all rods would have fallen to the bottom of the core as designed throughout this event.

E. CORRECTIVE ACTIONS:

The defective relay was replaced and the surveillance, 2BwOS 1.3.1.2-1 was re-performed successfully.

F. PREVIOUS OCCURRENCES:

A review of the Stairs Database RABR found no similar occurrences.

G. COMPONENT FAILURE DATA:

<u>MANUFACTURER</u>	<u>NOMENCLATURE</u>	<u>MODEL</u>	<u>MFG PART NO.</u>
C.P. Clare & Co.	Mercury Wetted Contact Relay	None	HG3A1003