



Commonwealth Edison Co.

Braidwood Station
RR 1, Box 81
Braceville, IL 60407
Telephone 815/458-2801

December 8, 1989
BW/89-3151

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)(i) & (v) which requires a 30-day written report.

This report is number 89-007-00; Docket No. 50-457.

Very truly yours,

R. E. Querio
Station Manager
Braidwood Nuclear Station

REQ/JDW/sjs
(7126z)

Enclosure: Licensee Event Report No. 89-007-00

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 1 Docket Number (2) 015000457 Page (3) 1 of 05
 Title (4) Dual Train Inoperability of Auxiliary Feedwater System For Six Minutes Due to Procedural Deficiency

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	08	08	007	00	11	2	08	NONE	015000457
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)							
POWER LEVEL (10)			20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)	
098			20.405(a)(1)(i)		50.36(c)(1)		X 50.73(e)(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)		X 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 Phil Law, HPES Coordinator Telephone Number 81545812801
 Ext. 2957

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
				N					

SUPPLEMENTAL REPORT EXPECTED (14)

Yes (If yes, complete EXPECTED SUBMISSION DATE) X NO
 Expected Submission Date (15)

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

On November 10, 1989 an Instrument Technician (IMT) was recalibrating instrument loops for 2A and 2B Auxiliary Feedwater Pumps (AF) in accordance with Setpoint/Scaling Change Requests (SSCR). The calibration is procedurally directed by an Instrument Surveillance that provides for the calibration of both loops. As a prerequisite the 2A pump control switch was placed in the 'pull out' position. At 1738 the IMT completed the A loop. At 1927 the pump control switch was returned to the 'after trip' position and the pump was declared operable. At 2049 the 2B pump control switch was placed in the 'pull out' position. The IMT went to the cabinet where he had been working earlier. At 2137 the IMT placed the A loop in the test. The Reactor Operator identified that the IMT was on the wrong loop. At 2143 the IMT returned the loop to normal. It was discovered during event investigation that by placing the A instrument loop in test the 2A AF pump would have received a trip signal after 2.5 seconds of operation. With the 2B AF pump control switch in 'pull out', automatic initiation of the AF system was unavailable for 6 minutes. The root cause was a procedural deficiency. A contributing cause was the failure of the IMT to verify the cabinet. Each AF loop will have a separate procedure. Surveillance cover sheets and cabinet keys will be color coded to match the cabinet doors. Previous corrective actions are not applicable.

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	0 5 0 0 0 4 5 7	8 9	- 0 0 7	- 0 0	0 2	OF	0 5	

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

A. PLANT CONDITIONS PRIOR TO EVENT:

Unit: Braidwood 2; Event Date: November 10, 1989; Event Time: 2137;
 Mode: 1 - Power Operation; Rx Power: 98%;
 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.

During the afternoon on November 10, 1989 an Instrument Maintenance Technician (IMT) (Non-Licensed instrument mechanic) was recalibrating the suction pressure transmitters for the 2A and 2B Auxiliary Feedwater Pumps (AF) [BA] to new values. The instrument loops were designated as 2PSL-AF051 for the 2A AF pump and 2PSL-AF055 for the 2B AF pump. This change was in accordance with Setpoint/Scaling Change Requests (SSCR) 89-239 and 89-240 respectively. The calibration of the AF pump suction pressure transmitters is procedurally directed by BwIS 3.2.1-204, an Instrument Surveillance that provides step by step direction for the calibration of both 2PSL-AF051 and 2PSL-AF055. The IMT was using this procedure.

As a prerequisite to performing this procedure the 2A AF pump was declared inoperable and the appropriate Technical Specification Action Statements were entered and complied with. The motor operated AF suction valves from the Essential Service Water (SX) [BI] System for the 2A AF pump were removed from service. This was to prevent inadvertent opening during the performance of the calibrations. The pump control switch was also placed in the 'pull out' position.

At 1738 the IMT completed the recalibration of instrument loop 2PSL-AF051. The IMT notified the Shift Control Room Engineer (SCRE) (SRO licensed supervisor) that the recalibration was completed. The SCRE initiated action to return the 2A AF pump to operable status. The SCRE was not familiar with the additional procedural requirements associated with an SSCR. As a result the SCRE handled the returning of the 2A AF pump to operable in the usual manner for a routine calibration.

At 1927, the return to service of the AF pump suction valves was completed and the pump control switch was returned to the 'after trip' position. The 2A AF pump was declared operable and the Technical Specification Action Statement was exited.

At 2049 the 2B AF pump was declared inoperable. The applicable Technical Specification action statements were entered and complied with. This was part of the preparation to perform the second half of the BwIS 3.2.1-204, the calibration of the 2PSL-AF055 instrument loop. The suction valves for the 2B AF pump were removed from service and the control switch was placed in the 'pull out' position.

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	0 5 0 0 0 4 5 7	8 9	-	0 0 7	-	0 0	0 3	OF	0 5			
TEXT Energy Industry Identification System (EIIS) codes are identified in the text as [XX]												

B. DESCRIPTION OF EVENT: (cont'd)

At 2134 the IMT continued with BwIS 3.2.1-204. He proceeded to the Unit 2 Auxiliary Electric Equipment Room and established direct communication with the Unit 2 Nuclear Station Operator (NSO) (RO licensed operator). The IMT went to the cabinet where he had been working earlier, the 2PA33J.

At 2137 the IMT placed the instrument loop he had been working on earlier, the 2PSL-AF051, in test. The NSO questioned the IMT to determine if he was on the correct loop. Indication had been lost for the 2A AF pump suction pressure instead of the 2B. The IMT recognized the error and informed the NSO that he was returning the instrument loop to normal.

At 2143 the 2PSL-AF051 instrument loop was returned to normal. The loop had been in test for six minutes. The event was screened for reportability. It was determined that a 10CFR50.72 ENS notification was not required. The IMT continued with the recalibration.

At 0854 on November 11, 1989 BwIS 3.2.1-204 was completed.

At 1535 a Shift Foreman (SF) (SRO licensed supervisor) was reviewing the status of SSCR 89-240 for the 2PSL-AF055 instrument loop. The SF discovered that SSCR 89-239 and its associated Nuclear Work request for 2PSL-AF051 did not have final completion signoff signatures. The 2A AF pump was conservatively declared inoperable. Limiting Condition for Operation (LCO) 3.0.3 was entered and complied with. The appropriate personnel to complete the review of SSCR 89-239 were notified.

At 1647 the review of SSCR 89-239 was completed and found to be satisfactory. The 2A AF pump was declared operable. LCO 3.0.3 was exited.

At 1716 the return to service of the AF pump suction valves for the 2B AF pump had been completed. The pump control switch had been returned to the 'after trip' position. The review of SSCR 89-240 for instrument loop 2PSL-AF055 was completed and found to be satisfactory. The 2B AF pump was declared operable, and the Technical Specification Action Statement was exited.

During the day shift on November 13, 1989 an investigation of this event was conducted by station personnel. Based on the results of this investigation the following was concluded:

1. Declaring the 2A AF pump operable prior to the completion review of SSCR 89-239 was a deviation from station policy. Based on the fact that the work for SSCR 89-239 was satisfactorily performed and completed the conservative declaration of inoperability of the 2A AF pump and entry into LCO 3.0.3 at 1535 on November 11, 1989 was unnecessary.
2. At 1406 it was discovered that by placing the 2PSL-AF051 instrument loop in the test position the 2A AF pump would have received a trip signal after 2.5 seconds of operation. As a result automatic initiation of the AF system was unavailable during the 6 minutes from 2137 to 2143 on November 10, 1989 when this loop was in test with the 2B AF pump control switch in the 'pull out' position. This was determined to be a reportable event pursuant to 10CFR50.72(b)(2)(iii).

The appropriate NRC notification via the ENS phone system was made at 1652 pursuant to 10CFR50.72(b)(2)(iii).

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	0 5 0 0 0 4 5 7	8 9	- 0 0 7	- 0 0	0 4	OF 0 5	

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

B. DESCRIPTION OF EVENT: (cont'd)

This event is being reported pursuant to:

10CFR50.73(a)(2)(i) - any operation or condition prohibited by the plants Technical Specifications.

10CFR50.72(a)(2)(v) - any event or condition that alone could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident.

Based on the initial information associated with this event a "Braidwood Station Error Evaluation Presentation" was held to review this event with the personnel directly involved and their supervisor. The corrective actions addressing both root and contributing causes are detailed below.

C. CAUSE OF EVENT:

The root cause of this event was a procedural deficiency. The calibration of the pressure loops for both trains of AF is performed within the body of one procedure. Being in the same procedure for the performance of the calibration of 2PSL-AF055 loop created a mind set for the IMT. This mind set caused the IMT to focus on returning to the panel he had been in for the first half of the procedure. As a result the IMT returned to the cabinet he had worked in earlier. This deficiency created the error.

A contributing cause to this event was the failure of the IMT to verify that he was in the correct cabinet.

The cause for the SCRE declaring the 2A AF pump operable prior to the completion review of SSCR 89-239 was a Training deficiency. The SCRE was not familiar with the SSCR program as it related to making setpoint changes during regularly scheduled calibrations.

D. SAFETY ANALYSIS:

This event had no effect on the safety of the plant or the public. Manual initiation of the 2B AF pump was available throughout the event as well as the normal feedwater system [5J].

Under the worst case condition of extended AF system unavailability during an accident scenario, the emergency procedures provide for either the establishment of feed to the Steam Generators [AB] from the normal feedwater system or cooldown and depressurization of the RCS to a point where the Residual Heat Removal [BP] System can be placed in service using redundant ECCS components, all of which were operable and available for this event.

E. CORRECTIVE ACTIONS:

The 2PSL-AF051 was immediately returned to operable status upon discovery of the error.

Based on the initial information associated with this event the personnel directly involved with this event participated in a "Braidwood Station Error Evaluation Presentation" to identify the root and contributing causes of this event. Based on the conclusions of this presentation the following actions will be taken:

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 3	0 5 0 0 0 4 5 7	8 9	- 0 0 7	- 0 0	0 5	OF	0 5
TEXT Energy Industry Identification System (EIIS) codes are identified in the text as [XX]							

E. CORRECTIVE ACTIONS: (cont'd)

BwIS 3.2.1-204 will be rewritten as two separate procedures. This action will be tracked to completion by action item 457-200-89-09101.

The Instrument Surveillance Data Package cover sheets will be color coded to match the color of the cabinet doors in the Auxiliary Electric Equipment Room which are already color coded. This will help ensure that IMT personnel enter the correct cabinets. This action will be tracked to completion by action item 457-200-89-09102.

The keys of the cabinets will also be color coded to match the color of the cabinet doors in the Auxiliary Electric Equipment Room which are already color coded. This action will be tracked to completion by action item 457-200-89-09103.

A training tailgate session will be conducted for appropriate Operating Department personnel detailing the requirements of the SSCR program. This action will be tracked to completion by action item 457-200-89-09104.

F. PREVIOUS OCCURRENCES:

There was a previous occurrence of performing actions on the opposite train.

DVR No.	LER No.	Title
20-1-88-019	456/88-002	Reactor Trip and Safety Injection Due to Cognitive Personnel Error

The corrective actions were implemented addressing both root and contributing causes. Previous corrective actions are not applicable to this event.

G. COMPONENT FAILURE DATA:

This event was not the result of component failure, nor did any components fail as a result of this event.