



**Commonwealth Edison**  
Braidwood Nuclear Power Station  
Route #1, Box 84  
Braceville, Illinois 60407  
Telephone 815/455-2801

October 30, 1992  
BW/92-0549

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 with the requirement of 10CFR50.73(a)(2)(i)(B) which requires a 30-day written report.

This report is number 92-009-01, Docket No. 50-456.

K. L. Kofron  
Station Manager  
Braidwood Nuclear Station

KLK/AJS/dla  
653:ZD85G

Encl: Licensee Event Report  
No. 92-009-01

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

030050

9211040217 921023  
PDR ADOCK 05000456  
S PDR

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LICENSEE EVENT REPORT (LER)

Facility Name (1) Braidwood 1 Docket Number (2) 0 5 0 0 0 4 5 6 1 Page (3) 1 of 0 4

Title (4)  
Untested Undervoltage Relay Contacts 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 Name	Docket Number(s)							
11	0	0	1992	0109	011	11	0	213	Braidwood 2	0	5	0	0	0	4	5	7

OPERATING MODE(9) 6 THIS REPORT IS SUBMITTED PURSUANT TO 1/4" REQUIREMENTS OF 10CFR (Check one or more of the following) (11)

<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input 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
<input type="checkbox"/> 20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 50.72(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	in Abstract
<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)	below and in
<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(x)	Text)

LICENSEE CONTACT FOR THIS LER (12)

Name M. Auer, Technical Staff Ext. 2485 TELEPHONE NUMBER  
 FA CODE B 1 1 5 4 5 8 1 2 8 0 1

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

CAUSE	SYSTEM	COMPONENT	MANUFAC-	REPORTABLE	CAUSE	SYSTEM	COMPONENT	MANUFAC-	REPORTABLE
			TURER	TO WPRDS				TURER	TO WPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

Expected Submission Date(15) Month    Day    Year     
 (Yes (if yes, complete EXPECTED SUBMISSION DATE)  NO

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

A Safety-Related Surveillance Review Project was being conducted by ABB Impell at the request of the Commonwealth Edison Company Nuclear Engineering Department. ABB Impell identified that the undervoltage contacts on breakers for the Common Component Cooling Pump (DCC01P), Auxiliary Building Supply Fans (DVA01CA-D) and Auxiliary Building Exhaust Fans (DVA02CA-D) were not being tested. On August 12, 1992, the appropriate equipment was declared inoperable and proper load shedding of the three breakers was verified using special test procedures. On October 12, it was identified that there was an untested portion of the actuation circuitry for the Auxiliary Feedwater (AF) Pump Suction Pressure-Low (Transfer to Essential Service Water). Special Procedures were written and satisfactorily performed to demonstrate the operability of the previously untested portion of the AF actuation circuitry. The root cause of these events are procedural deficiencies. The Technical Specification requirements to test the contacts were not implemented. There has been a previous occurrence of this type of event.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)						Page (3)		
		Year /// ///	Sequentia Number ///	/// ///	Revision Number ///					
Braidwood 1	0   5   0   0   0   4   5   6	9   2	-	0   0   9	-	0   1	0   2	OF	0   4	

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: August 12, 1992; Event Time: 1557  
 Mode: 6 - Refueling; Rx Power: 000%;  
 RCS (AB) Temperature/Pressure Ambient / 0 psig;

Unit: Braidwood 2; Event Date: August 12, 1992; Event Time: 1557  
 Mode: 1 - Power Operation; Rx Power: 099%;  
 RCS (AB) Temperature/Pressure NOT / NOP;

B. DESCRIPTION OF EVENT:

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

A Safety-Related Surveillance Review Project was being conducted by ABB Impell at the request of CECO Nuclear Engineering Department (NED). The purpose of this project is to verify that all contacts which are required to be tested by the Technical Specifications and/or the Updated Final Safety Analysis Report are being tested. During performance of this project, ABB Impell identified three breakers on each of the 4KV ESF Buses did not appear to be tested per Technical Specification Surveillance Requirement (TSSR) 4.8.1.1.2.f-4a. The three breakers were the Common Component Cooling Pump (DCC01P), Auxiliary Building Supply Fans (DVA01CA-D) and Auxiliary Building Exhaust Fans (DVA02CA-D) for their respective 4KV ESF Buses.

After notification of these preliminary results from ABB Impell, a review of associated surveillance procedures was conducted by Technical Staff, Regulatory Assurance, and NED. It was determined that the undervoltage contacts for the three breakers were not being tested per TSSR 4.8.1.1.2.f-4a. The purpose of TSSR 4.8.1.1.2.f-4a is to verify load shedding of the 4KV ESF Bus upon an undervoltage condition. This loading shedding is to ensure that when the associated Diesel Generator (DG) re-energizes the bus, there are no loads on the bus that could overload the DG when sequencing required loads onto the bus.

On August 12, 1992 a technical conference call was made with representatives from NED, Technical Staff, Operations, Regulatory Assurance and Nuclear Licensing to confirm the preliminary results. At this time it was decided that the DG's associated with the 4KV ESF Buses supplying power to the running Auxiliary Building Supply and Exhaust Fans must be declared inoperable. Since the Common Component Cooling Pump was not operating at this time, no operability concerns were noted.

On August 12, 1992 at 1557 hours the 1A and 2A DG's were declared inoperable due to the DVA01CA and DVA02CC Fans currently operating off 4KV ESF Bus 141 and 241 respectively. Limiting Condition For Operation Action Requirement (LCOAR) 8.1.1-1a was entered for each unit. At 1610 hours DVA01CA and DVA02CC were shut down and both LCOAR's were exited. The Auxiliary Building Supply and Exhaust Fans DVA01CB and DVA02CB were started, both powered from Bus 142. The 1B DG was declared inoperable at this time and LCOAR 8.1.1-1a was entered.

On October 1, 1992, as a result of the Safety-Related Surveillance Review Project being conducted by ABB Impell for Byron and Braidwood Stations it was identified that there was an untested portion of the actuation circuitry for the Auxiliary Feedwater Pump Suction Pressure-Low (Transfer to Essential Service Water). Further review by both the Byron and Braidwood Station Technical Staff personnel confirmed that this identified portion of the actuation circuitry is untested. It appeared that the Technical Specification Surveillance Requirements (TSSRs) of Technical Specification 4.3.2.1, Table 4.3-2, Functional Unit 6.g were not satisfied.

The Nuclear Engineering and Nuclear Licensing Departments were asked to evaluate whether or not the untested portion of the actuation circuitry was required to be tested to satisfy the TSSRs of Technical Specification 4.3.2.1, Table 4.3-2, Functional Unit 6.g. Preliminary information from those departments indicates that the TSSRs of Technical Specification 4.3.2.1, Table 4.3-2, Functional Unit 6.g are satisfied with the currently approved surveillance procedures without testing the previously untested portion of the circuitry. However, these currently approved surveillance procedures do not satisfy the intent of the testing program committed to in the Updated Final Safety Analysis Report and do not demonstrate operability of the entire actuation circuit.

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		Year /// ///	Sequential Number ///	Revision /// Number	
Braidwood 1	0   5   0   0   0   4   5   6	9   2	-   0   0   9	-   0   1	0   3   OF   0   4
TEXT Energy Industry Identification System (EIS) codes are identified in the text as [XX]					

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

C. CAUSE OF EVENT:

The root cause of the event is a procedural deficiency. The Technical Specification requirement to test the undervoltage relay contacts was not implemented. The intent of the testing program committed to in the FSAR was not implemented for the Auxiliary Feedwater actuation circuit.

D. SAFETY ANALYSIS:

This event had no effect on plant or public safety. The untested undervoltage trip contacts for the three breakers performed their load shed function as designed during execution of the special test procedures. If an undervoltage would have occurred prior to performance of the special test procedures, the load shed function would have taken place for the associated breakers.

The worst case condition is a loss of offsite power from 100% in conjunction with a loss of coolant accident. If the undervoltage condition would have occurred and the loads did not shed, the potential would exist to overload the diesel generator.

This event had no effect on the safety of the plant or the public. The actuation circuitry for the Auxiliary Feedwater Pump Suction Pressure-Low Transfer to Essential Service Water was found to be operable upon subsequent testing.

Under the worst case condition, had a design basis event occurred, manual controls are provided in the main control room for both the start and stop of the auxiliary feedwater pumps, and the transfer to Essential Service Water. Prompt operator recognition and response would provide for isolation using these alternate components and methods thus ensuring that the assumptions of the UFSAR were met.

E. CORRECTIVE ACTIONS:

Immediate corrective actions included writing and performing Special Test Procedures (SPP's) #92-047, 048, 049 and 050. These SPP's verified proper load shedding of the three breakers on the ESF Buses during an Undervoltage Condition per TSSR 4.B.1.1.2.f-4a.

Long Term corrective actions will incorporate testing the three breakers Undervoltage contacts in existing Surveillances. This will be tracked to completion by action item 456-180-92-00901.

The review by ABB Impell is still ongoing. Any other problems identified as a result of this review will be reported as a supplement to this LER.

Special Procedures were written and satisfactorily performed to demonstrate the operability of the previously untested portion of the actuation circuitry.

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

F. PREVIOUS OCCURRENCES:

There has been a previous occurrence of untested undervoltage relay contacts resulting in violation of Technical Specification surveillance requirements.

LER TITLE

91-013 Untested Relay Contacts Cause Diesel Generator Inoperability

This event is a previous occurrence, but this was discovered after an Electrical Distribution System Functional Inspection at another CEDo station. The breakers involved were the ESF to NON-ESF crosstie breaker and the normal or alternate ESF bus feed breakers. At the time of LER 91-013, the Safety Related Surveillance Review Project by ABB Impell was already in progress. This review project was to include a review of similar breakers and relay contacts. This LER (92-009) documents the initial results of that review. As noted in the Corrective Actions section, any other problems identified as a result of this review will be reported as a supplement to this LER.

G. COMPONENT FAILURE DATA:

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