

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



February 28, 1996  
BW/96-0028

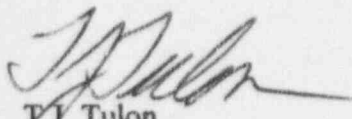
Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Gentlemen:

The enclosed Licensee Event Report from Braidwood Generating Station is being transmitted in accordance with the requirement of 10 CFR 73.71(a)(2)(ii), which requires a 30-day report.

This report is number 96-002-00, Docket No. 50-456.

Yours truly,

  
T.J. Tulon  
Station Manager  
Braidwood Nuclear Station

TJT/MO/ema  
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Encl: Licensee Event Report  
No. 456-96-002-00

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

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EXPIRES 04/30/98

## LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT

FACILITY NAME (1)

Braidwood Unit 1/2

DOCKET NUMBER (2)

05000456

PAGE (3)

1 OF 5

TITLE (4)

Loss of Operability of Both Trains of Control Room Ventilation due to a Personnel Error

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
01	29	96	96	-- 002 --	00	02	28	96	FACILITY NAME	DOCKET NUMBER
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more) (11)							
1			20.2201(b)			20.2203(a)(2)(v)			X 50.73(a)(2)(i)	50.73(a)(2)(viii)
POWER LEVEL (10)			100			20.2203(a)(1)			50.73(a)(2)(ii)	50.73(a)(2)(x)
			20.2203(a)(2)(i)			20.2203(a)(3)(ii)			50.73(a)(2)(iii)	73.71
			20.2203(a)(2)(ii)			20.2203(a)(4)			50.73(a)(2)(iv)	OTHER
			20.2203(a)(2)(iii)			50.36(c)(1)			50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 366A
			20.2203(a)(2)(iv)			50.36(c)(2)			50.73(a)(2)(vii)	

## LICENSEE CONTACT FOR THIS LER (12)

NAME

Clayton Schroeder, System Engineering

TELEPHONE NUMBER (Include Area Code)

(815) 458-2801 x 2684

## 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
A				N					

## SUPPLEMENTAL REPORT EXPECTED (14)

YES

(If yes, complete EXPECTED SUBMISSION DATE).

X

NO

EXPECTED SUBMISSION

MONTH

DAY

YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On Monday, January 29, 1996, the 'A' train of Control Room Ventilation (VC) was in LCOAR for chiller repair work. The 'B' train of VC was operating in the Normal Makeup Mode. At approximately 1434, the 'B' train VC dampers realigned to the Emergency Makeup and Absorb Mode of operation. The emergency makeup fan did not automatically start as designed, but was manually started by the Control Room Operators. An immediate investigation revealed that an individual from the Electrical Maintenance Department (EMD) was replacing the power available light socket at the local Control Room Ventilation control panel, OVC01JB. This was being performed under the new Minor Maintenance work program, but the EM technician had not reported the activity to the Control Room before starting the work. In the process of removing one of the wires, he temporarily grounded the breaker. This action caused the VC dampers to realign and also prevented the emergency makeup fan from automatically starting. To ensure the breaker had not tripped, Operations personnel cycled the breaker open and closed two (2) times. Technical Specification 3.0.3 was entered because the 'A' train of VC was already in LCOAR when power was lost to the 'B' train electrical control circuitry. Corrective actions for this event include individual counseling of the EMD technician involved and ensuring the Shift Engineer is informed of all Minor Maintenance repairs being performed.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 60.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT

FACILITY NAME (1)		DOCKET NUMBER (2)		LER NUMBER (6)			PAGE (3)
Braidwood Unit 1/2		05000456		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 5
				96	-- 002 --	00	

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

A. PLANT CONDITIONS PRIOR TO EVENT:

UNIT: Braidwood Unit 1                      EVENT DATE: 01/29/96  
EVENT TIME: 1434  
MODE: 1    RX POWER: 100%  
RCS [AB] TEMPERATURE/PRESSURE: NOT/NOP

UNIT: Braidwood Unit 2                      EVENT DATE: 01/29/96  
EVENT TIME: 1434  
MODE: 1    RX POWER: 100%  
RCS [AB] TEMPERATURE/PRESSURE: NOT/NOP

B. DESCRIPTION OF EVENT:

'A' train of Control Room Ventilation was inoperable at the time of this event and increased the severity of this event by rendering both trains of Control Room Ventilation inoperable at the time electrical power was lost to the 'B' train control circuitry. The 'A' train chiller had been repaired but was in standby mode awaiting performance of the monthly operating surveillance.

On Monday, January 29, 1996, the 'B' train of Control Room Ventilation (VC) was operating in the normal makeup mode. At 1434, the 'B' train VC dampers automatically realigned to the emergency makeup and absorb mode. It appeared to the Control Room Operators that the system responded as if it had received a Safety Injection (SI) or a high Radiation actuation signal except that the emergency makeup fan did not auto start as designed. The Nuclear Station Operator (NSO - RO Licensed) manually started the emergency makeup fan and it operated properly.

An immediate investigation revealed that an Electrical Maintenance Department (EMD - Non-licensed) technician was replacing the power available indicating light socket at the local control panel, OVC01JB, as part of minor corrective maintenance. In the process of removing one of the wires, the EM noticed a spark. The wire was immediately retightened and the socket taped. After reviewing what happened on the 'B' train VC System, it was determined that the EM may have grounded a wire during this routine work. The return fan tripped and automatically restarted also.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT

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

**B. DESCRIPTION OF EVENT (continued)**

In an effort to verify that the circuit breaker that feeds the 'B' train VC circuit that was grounded was not tripped, Operating personnel cycled MCC 132x1 CKT. #17 On and Off two (2) times. Both the return fan and makeup fan tripped and automatically restarted. Technical Specification Limiting Condition for Operation 3.0.3 was entered for both units because the 'A' train VC chiller was not OPERABLE at this time. The 'A' train chiller had been repaired and was in standby but the monthly Operating Surveillance had not yet been performed.

After a detailed review of the electrical prints and the Sequence of Events Recorder, it was determined that the 120 VAC feed breaker had not tripped. The EM personnel accidentally grounded the breaker while removing the wire from the light socket which resulted in a voltage drop to the rest of the circuit. This voltage drop was significant enough to drop out some normally energized relays for 0.432 seconds. The relays were also de-energized when Operating cycled the breaker off and on.

The VC system responded to the transient as designed. While the light socket was grounded and when the breaker was cycled off, the voltage to everything powered by MCC 131X1 ckt. #17 was lost. One of the relays that de-energized was AR-VC52X. This relay is required to be energized in order for the emergency makeup fan to automatically start. The emergency makeup fan is required to start in order to make a train of VC Operable. Therefore, during the voltage drop and when the breaker was cycled off, the 'B' train of VC was inoperable. With 'A' train of VC already in LOCAR, Technical Specification 3.0.3 applied.

To ensure that no damage was done to the electrical control circuitry while the breaker was grounded, two surveillances were performed. 1BwOS 3.2.1-810 was performed to ensure that the VC system would align to the emergency makeup mode of operation upon receipt of a SI signal. OBWIS 3.3.1-31 was performed to ensure the VC system would respond to a high radiation signal as designed. Both surveillances were completed satisfactorily; the voltage drop had no affect on the electrical control circuitry.



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

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

## C. CAUSE OF EVENT:

The cause of this event was a personnel error due to a knowledge deficiency on the part of the Electrical Maintenance worker. This individual was working to a new Minor Maintenance program. He was walking down potential jobs and decided that changing the light bulb socket was a simple task and that it fell under the Minor Maintenance program. Instead of signing in with the Shift Supervisor, he immediately started working on the light socket.

According to the Minor Maintenance program, an Action Request is supposed to be reviewed by the Operating Department before work can be started. However, the EM person was not familiar with the rules of the Minor Maintenance program. It was his first day in the group and he had not received any formal training. He was working under the assumption that all of the Action Requests he was walking down had been previously reviewed to insure they were within the scope of the Minor Maintenance program. He was also under the assumption that he could start work on equipment under this program without first checking in with the Operations Shift Supervisor.

## D. SAFETY ANALYSIS:

If this event had occurred during a Safety Injection or High Radiation condition, the return fan and the emergency makeup fan would trip and immediately restart. There would be no noticeable loss of control room envelope pressure as the fans would continue to spin/coast down while power was lost, and would automatically restart when power was restored. The outside air dampers are closed during a SI or High Radiation condition and would remain closed during a loss of control power.

If this event had occurred coincident with a SI or High Radiation condition, the return fan would trip and it would delay the start of the emergency makeup fan between 0.432 and 20.5 seconds. These fans would automatically start as soon as control power was restored. This delay is not considered significant when compared to the time it requires the emergency makeup fan

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to start and get up to full flow conditions, approximately 50-70 seconds. The outside air dampers would begin to close, isolating the control room envelope from unfiltered air as soon as control power is lost and continue closing after power is restored because the SI or High Radiation condition would still be active.

The loss of power to the breaker is not considered significant when compared to the amount of time it requires the VC system to realign itself and get into the emergency mode of operation. The loss of power did not create any unfiltered leakage paths into the control room envelope, in fact, leakage paths began to isolate as soon as control power was lost.

## E. CORRECTIVE ACTIONS:

The EMD individual involved has been counseled as to the proper authorization to obtain prior to commencing work under the Minor Maintenance program.

The Minor Maintenance process will be revised to ensure that all new personnel assigned are adequately trained on the requirements to perform work under this program. This will be tracked to completion by NTS Action Item #456-180-96-00201.

## F. PREVIOUS OCCURRENCES:

There have been no previous occurrences of this type of event at Braidwood Station.

## G. COMPONENT FAILURE DATA:

<u>MANUFACTURER</u>	<u>NOMENCLATURE</u>	<u>MODEL</u>	<u>MFG PART NO.</u>
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(No components failed during or as a result of this event)