



Commonwealth Edison
Braidwood Nuclear Power Station
Route #1, Box 84
Braceville, Illinois 60407
Telephone 815/458-2801

BW/89-952

August 11, 1989

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 as a Supplemental Report to LER 89-003-00.

This report is number 89-003-01; Docket No. 50-457.

Very truly yours,

R. E. Querio
Station Manager
Braidwood Nuclear Station

REQ/PGH/jfe/
(8617z))

Enclosure: Licensee Event Report No. 89-003-01

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 2 Docket Number (2) 0 5 0 0 0 4 5 7 Page (3) 1 of 0 4

Title (4) Mispositioning of the 2B Centrifugal Charging Pump Manual Mini Flow Isolation Valve Due to 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 Names	Docket Number(s)
0 3	2 2	8 9	8 9	0 0 3	0 1	0 6	0 9	8 9	None	0 5 0 0 0 1 1
										0 5 0 0 0 1 1

OPERATING MODE (9) 5

POWER LEVEL (10) 0 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE 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 in Abstract below and in Text)
<input type="checkbox"/> 20.405(a)(1)(iii)	<input checked="" 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 Jerald D. Wagner, Regulatory Assurance TELEPHONE NUMBER 8 1 5 4 5 8 - 2 8 0 1

Ext. 2497 AREA CODE 8 1 5

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

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)

On March 22, 1989 the discharge from the RH pumps to the Chemical Volume and Control (CV) letdown header was realigned. This required unlocking and opening the 2RH8734A, and closing and locking the 2RH8734B. At 1730 the Equipment Attendant (EA) unlocked and opened the 2RH8734A. The EA saw another locked valve about 15 feet to his left, 2CV8479B, and misidentified it as 2RH8734B. The 2CV8479B valve was closed and relocked. At 0920 on March 23, 1989 a different EA observed that both the 2RH8734A and 2RH8734B were open. The EA closed and locked the 2RH8734B. On June 1, 1989 the 2B CV Pump was started. Recirculation flow observed to be reading zero. The 2CV8479B manual recirc isolation valve was immediately opened and re-locked. The recirc flow returned to normal. The root cause of this event was Personnel Error. Contributing causes were 1) Operating Procedures did not require Tracking or Independent Verification. 2) Rushing component identification. 3) Common Lock core for an entire train of components. The valve was immediately opened. The independent verification program will be revised. The locked equipment program will be revised to include a unique lock for each safety related component. There was a previous occurrence of a mispositioning of a locked safety related valve. Previous corrective actions were not applicable to this event.

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 3	- 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 2; Event Date: March 22, 1989
 Event Time: Approximately 1730;
 Mode: 5 - Cold Shutdown; Rx Power: 0%;
 RCS (AB) Temperature/Pressure: 190 degrees F 375 psig.

B. DESCRIPTION OF EVENT

There were no components inoperable at the beginning of this event that contributed to the severity of this event.

On March 22, 1989 the afternoon shift was to change operating Residual Heat Removal (RH) [BP] pumps from the 2B to the 2A pump. As part of this change, the discharge from the RH pumps to the Chemical Volume and Control (CV) [CB] letdown header would also be realigned. This required unlocking and opening the 2RH8734A, and closing and locking the 2RH8734B. These valves are the isolation valves from the RH system to the CV Letdown line from the 2A and 2B RH Pumps. The Nuclear Station Operator (NSO) (Licensed Operator) and the Equipment Attendant (EA) (Non-Licensed Operator) who performed the task conducted a pre-job discussion using the appropriate procedures, including the need to quickly close the 2RH8734B after the 2RH8734A was opened. The EA wrote the valve numbers of the valves to be positioned in his note pad.

At 1718 the 2A RH pump was started. The EA verified the pump was operating properly. He proceeded from the pump room to the Unit 2 curved wall area 364' elevation.

At approximately 1730 the EA unlocked and opened the 2RH8734A, a two-inch Kerotest globe valve. He saw another locked two-inch Kerotest globe valve about 15 feet to his left and proceeded to that valve. He glanced at the "High Visibility" tag for that valve. The tag was hung such that the end of the tag was at the top and the beginning was at the bottom. The bottom of the tag, the 2CV... portion, was obscured behind the pipe. The EA observed the similarity of numbers on that valve tag 2CV8479B, to the valve he was looking for and misidentified it as the 2RH8734B. He unlocked, closed and relocked the 2CV8479B valve.

At approximately 0920 on March 23, 1989 a different EA was in the area and observed that both the 2RH8734A and the 2RH8734B were unlocked and open. He called the NSO and was instructed to close and lock 2RH8734B.

At 0928 the EA closed and locked the 2RH8734B.

At 1130 on June 1, 1989 the 2B CV Pump was started and the recirculation flow local indicator was observed to be reading zero flow.

At 1145 the cause of the zero flow indication was discovered to be from the manual recirc isolation valve 2CV8479B being closed. The valve was immediately unlocked, opened, and re-locked. The recirc flow returned to normal.

This event was classified as a Potentially Significant Event on June 19, 1989.

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		Year	///	Sequential Number	///	Revision Number			
Braidwood 2	0 5 0 0 0 4 5 7	8 9	-	0 0 3	-	0 1	0 3	OF	0 4

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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 discussed at this presentation addressing both root and contributing causes formed the basis for the Station's response to NRC concerns about this event.

On July 11, 1989 an NRC Enforcement Conference was held concerning this event and two other non-related events. The corrective actions submitted to the NRC addressing both root and contributing causes of this event are detailed below.

On July 17, 1989 as a result of a discussion with the resident inspectors it was decided to reclassify this event. This event is being reported pursuant to 10CFR50.73(a)(2)(i)(B) - Any operation prohibited by the plant's Technical Specifications.

C. CAUSE OF EVENT:

The root cause of this event was Personnel Error. The failure of the EA to properly identify the correct component prior to manipulating that component caused the event.

Contributing causes:

1. Braidwood Operating Procedures (BwOP) did not require Tracking or Independent Verification of the restoration of locked safety related components.
2. The requirement to close the 2RH8734B quickly after opening the 2RH8734A caused the EA to rush his Component Identification activity.
3. The existing locked valve program had a common lock core for an entire safety related train of components. This did not provide protection for mis-identification of components within a train. This enabled the EA to have a key that unlocked both the component that was intended to be operated and the mis-identified component.

D. SAFETY EVALUATION:

This event had no effect on the safety of the plant or public. The redundant CV pump was operable and available at all times.

Under the worst case conditions of operating at 100% power, 589.2 degrees F, and 2250 psig in the RCS with a Design-basis LOCA there would be no impact on the safety of the plant or public as this event is enveloped by the FSAR.

The ECCS components are designed in order that a minimum of 3 accumulators, 1 CV pump, 1 SI pump, and 1 RH pump together with their associated valves and piping will ensure adequate core cooling in the event of a Design-basis LOCA. The redundant onsite emergency Diesel Generators ensure adequate emergency power to all electrically operated components in the event of a loss of offsite power occurs simultaneously with a LOCA.

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All four accumulators, both SI pumps, both RH pumps, and the 2A CV pump were operable throughout the event, including their associated Emergency Diesel Generators.

A review of the pump data collected from the 2B CV ASME pump surveillance performed after the conclusion of this event was conducted. Based on this review it has been concluded that the pump would have operated for the mitigation of all postulated accidents analyzed in section 15 of the Updated Final Safety Analysis Report without significant risk of damage from deadheading. Additionally, the Braidwood Emergency Procedures are structured to provide prompt recognition and corrective action for events where potential CV pump deadheading is a concern.

E. CORRECTIVE ACTIONS:

The 2B CV Pump manual mini-flow isolation valve, 2CVB479B, was immediately opened upon discovery that it was closed.

The corrective actions to prevent recurrence were developed as a result of the following:

1. Based on the initial information associated with this event, the personnel directly involved with this event participated in a "Braidwood Station Error Evaluation Presentation". Root and contributing causes were discussed at this presentation. The recommendation for corrective actions were the basis for the Stations response to the NRC concerns about this event.
2. On July 11, 1989 an NRC Enforcement Conference was held concerning this event and two other non-related events. Actions to prevent recurrence for this event were submitted to the NRC at this conference.

The following corrective actions will be taken.

The independent verification program will be revised to include locked safety related components within the scope of the BwOP's. this action will be tracked to completion by action item 457-200-89-05101.

The locked equipment program will be revised to include the following:

- 1) Each safety related component will have a unique lock.
- 2) Safety related components are not to be locked in an abnormal position unless specifically addressed by other programs or procedures.

This action will be tracked to completion by action item 457-200-89-05102.

F. PREVIOUS OCCURENCES

There was a previous occurrence of mispositioning a locked safety related valve. LER/DIR 457-88-001/20-2-88-050. 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.