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

March 13, 1992
BW/92-0163

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) and 10CFR50.73(a)(2)(v), which require a 30-day written report.

This report is number 92-002-00, Docket No. 50-456.

K. L. Kofron
Station Manager
Braidwood Nuclear Station

KLK/AS/dla
(525/ZD85G)

Encl: Licensee Event Report No. 92-002-00

cc: NRC Region III Administrator
NRC Resident Inspector
INPO Record Center
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LICENSEE EVENT REPORT (LER)

Form Rev 2.0

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

Title (4)

Technical Specification 3.0.3 Entry Due to Both Hydrogen Recombiners Being Inoperable

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 2	1 3	9 2	9 2	0 0 2	0 0	0 3	1 1	9 2	Braidwood 2	0 5 0 0 0 4 5 7 0 5 0 0 0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)					
POWER LEVEL (10)	1 0 0	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)		
		20.405(a)(1)(i)	50.36(c)(1)	X 50.73(a)(2)(v)	73.71(c)		
		20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	Other (Specify in Abstract below and in Text)		
		20.405(a)(1)(iii)	X 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)			
		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	TELEPHONE NUMBER
	AREA CODE
P. Zolan, Regulatory Assurance Ext. 2364	8 1 5 4 5 8 - 2 8 0 1

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)		Expected Submission Date (15)	Month	Day	Year
Yes (If yes, complete EXPECTED SUBMISSION DATE)	X No				

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

Prior to the event, the DA Hydrogen Recombiner had been declared inoperable when it was taken Out-of-Service (OOS) for maintenance. The work involved coordination between the Electrical Maintenance (EMD) and Mechanical Maintenance Departments (MMD). At 0810, on February 13, 1992, MMD commenced work on the wrong (OB) Hydrogen Recombiner. At 1047, Shift Supervision was informed of the situation, and declared the OB Recombiner inoperable. Technical Specification 3.0.3 was immediately entered for both units. The cause was that procedures governing equipment tag usage, OOS verification, personnel protection card usage, and self checking were not used by personnel involved in the event. Also, the work package was unclear in the coordination between EMD and MMD departments. The policies identified as causing the event will be reviewed. Work packages that involve multiple departments will also be reviewed. A self checking program will be established. There have been no previous reportable occurences.

A PLANT CONDITIONS PRIOR TO EVENT:

Unit: Braidwood 1; Event Date: February 13, 1992; Event Time: 1047
Mode: 1 - Power Operation; Rx Power: 100%
RCS [AB] Temperature/Pressure: NOT/NOP

Unit: Braidwood 2; Event Date: February 13, 1992; Event Time: 1047
Mode: 1 - Power Operation; Rx Power: 100%
RCS Temperature/Pressure: NOT/NOP

B. DESCRIPTION OF EVENT:

On September 28, 1990 Nuclear Work Request (NWR) A44335 was written to replace the elastomer seals on the blower motor of the 0A Hydrogen Recombiner (0G) [WE]. The elastomer seal replacement was required for preventative maintenance in accordance with the Environmental Qualification (EQ) program.

On September 10, 1991 the NWR work package was prepared by the Electrical Maintenance Department (EMD). The work also required the assistance of the Mechanical Maintenance Department (MMD). The work package instructions were separated to designate which department was responsible for each step of the Hydrogen Recumbiner maintenance procedure (BwMP 4006-036).

On February 10, 1992 the 0A Hydrogen Recombiner was taken Out-of-Service (OOS) for maintenance. The applicable Technical Specification action statement was entered at 0100 and a 30-day restoration time clock started. Limiting Condition for Operation Action Requirement (LCOAR) 1BwOS 6.4.2-1a was initiated to track the time clock. In accordance with maintenance work practices involving multiple department responsibility, separate OOS's were placed for EMD and MMD at approximately 0520.

Later that morning, a MMD Senior Mechanic "A" (MMD-A) (non-licensed) was notified that MMD support would be required for NWR A44335. The MMD-A was told that EMD had the package and to find out the scope of the work. After contacting EMD, the MMD-A was informed that the NWR package needed to be revised and that no support from MMD would be required until the next day.

On February 11, 1992 the MMD-A was notified by a MMD Supervisor (MMD-S) (non-licensed) that the package had been revised and to contact EMD. The MMD-A determined that the package was out in the field. At this time, the MMD-S was notified by EMD that the area around the Hydrogen Recombiner was crowded and that the work support from MMD was not required. The MMD-S then assigned other work to the MMD-A.

On February 13, 1992 the MMD-S sent the MMD-A to EMD to get the work package. The MMD-A obtained the work package and brought it back to the MMD shop. The MMD-S then started to review the scope of the work with the MMD-A. The first step in the procedure, applicable to MMD, was to coordinate the OOS with EMD. Since MMD was a support group to EMD, the package contained a copy of the OOS for EMD but no copy for MMD. As a result, the MMD-S did not think a separate OOS for MMD was required and initialed the step as being satisfactorily completed.

At 0810 the MMD-A and two MMD Mechanics (MMD-B) (non-licensed) entered the Auxiliary Building and proceeded to the OB Hydrogen Recombiner on the Unit 2 side. The MMD-A recalled the location from memory because of previous involvement with this Recombiner. The MMD-A believed that there is only one Recombiner in the plant. The location was considered correct because of the blue color stripes on the wall matched the color of the MWR package folder. The MMD crew was also influenced by the presence of tool storage containers that gave the appearance of work activity in the general area of the Recombiner. The MMD crew then started to loosen flange bolts in preparation for disassembly. An OOS card, located on the discharge valve in the vicinity of the blower motor, was observed by the MMD-A. However, this OOS card had been previously placed and was not associated with the maintenance activity. The details on the OOS card were not reviewed for applicability by the MMD-A, but the presence of the card increased the confidence of the MMD-A that the crew was in the correct location.

Since the work involved the opening of piping that could be contaminated, the crew stopped working to wait for a Radiation Protection Department Technician. At 0914, the crew exited the Auxiliary Building for a mid-morning break.

At 0950, the MMD-A talked with the Radiation Protection Department about the availability of a technician. The MMD-A was told that someone would be available shortly and was asked the location of the Recombiner. The MMD-A replied that the Recombiner was "by the scaffolding area" and that the technician should meet him at the Auxiliary Building entrance.

At 1009, the Technician and MMD-A entered the auxiliary building and proceeded to the OB Recombiner. The Technician then left the area to obtain survey equipment. At this time the MMD-B's returned to the work location to resume working on the Recombiner. At 1026, the MMD-S entered the Auxiliary Building to check the progress of the job. The MMD-S proceeded to the OB Recombiner. The MMD-S and MMD-A started to discuss details of the package because the MMD-A was concerned about conflicting information in the procedure. During this discussion, the Technician returned, surveyed the Recombiner, and found no contamination. The Technician informed the crew and then left the area. Due to several technical problems with the package, the MMD-S halted work by the MMD crew and sent the MMD-B's back to the MMD shop. To resolve the technical problem, the MMD-S then tried to contact EMD.

At this time, EMD was concerned that MMD had not shown up at the OA Recombiner. After exiting the Auxiliary Building, the MMD-S was contacted by EMD and was told to meet at the Recombiner to discuss the package problems. The MMD-S and MMD-A then returned to the OB Recombiner on the Unit 2 side and noted that EMD was not present. The MMD-S started to suspect that the crew was working on the wrong component. The MMD-S and MMD-A then went to the OA Recombiner on the Unit 1 side and saw the EMD crew. The MMD-S and MMD-A then recognized that the MMD crew had been working on the wrong Recombiner. The MMD-A immediately called the Shift Engineer (SE) (licensed-SRO) at 1047.

The SE declared the OB Hydrogen Recombiner inoperable and Technical Specification 3.0.3 was entered for both units. Compliance with this specification required that both units be in MODE 3 (Hot Standby) by 1747. The SE directed the MMD-A to immediately begin reassembly of the OB Recombiner. At 1157, the OB Recombiner reassembly was completed and the system was lined up for an operability run. At 1202, the OB Recombiner was declared operable and Technical Specification 3.0.3 was exited.

The appropriate NRC notification via the ENS phone system was made at 1251 pursuant to 10CFR50.72(b)(2)(iii).

This event is being reported pursuant to:

10CFR50.73(a)(2)(i)(B) - any operation prohibited by the plant's Technical Specifications.

10CFR50.73(a)(2)(v)(D) - any event that alone could have prevented the fulfillment of the safety function of a system needed to mitigate the consequences of an accident.

C. CAUSE OF EVENT:

The primary cause of the event was cognitive personnel error by the MMD-A. The MMD-A, due to previous maintenance work on the 0B Recombiner, was not aware that there was another Recombiner on the Unit 1 side of the Auxiliary Building. The MMD-A failed to match the Component Equipment Identification (EID) listed in the package for the 0A Recombiner with the EID label in the field associated with the Recombiner. Additionally, the MMD-A failed to walk down the OOS, since he only considered his participation in the job to be one of support and felt that the OOS walkdown previously performed by the EMD was sufficient. He also observed an OOS tag hanging on a valve close to the piece of equipment he was preparing to work on, and assumed that it was for the equipment he was supposed to be working on.

An additional contributor to the event was personnel error by the the MMD-S. The crew duties and tasks were not made clear to the workers. Additionally, the job turnover from EMD to MMD was conducted at the worker level, whereas it should have taken place at the supervisor level. Consequently, an inadequate pre-job briefing was conducted between the MMD-S and the MMD-A, and no pre-job briefing was conducted with the other MMD crew members.

A contributing cause of the event was a management deficiency, in that station policies and procedures concerning out-of-service card verification, personnel protection card usage, and self checking were not adequately understood by the personnel involved in the event. Consequently, the actual practices employed by the workers for this job did not meet management's expectations.

Another contributing cause was a management deficiency in the work organization and planning process. The work package contained unclear wording in the step that required the MMD-S to sign for coordinating the OOS with the Electrical Maintenance Department. Also, information that was relevant to identifying the proper location of the equipment was not clearly presented within the MMD section of the work package. This factor had been previously identified and corrected on September 25, 1991 via Maintenance Memo 200-16, but the improvements were consciously not made for work packages that had been prepared prior to the improvements.

D. SAFETY ANALYSIS:

This event had no effect on the safety of the plant or the public. The immediate operation of the Hydrogen Recombiners following a large-break Loss-of-Coolant Accident (LOCA) is not required. After a LOCA, the containment Hydrogen concentration will remain below an explosive level if the Recombiner operation is started within approximately 20 hours. The 0B Recombiner was capable of being reassembled within this time frame.

E. CORRECTIVE ACTIONS:

After realizing that the MMD crew had disabled the OB Recombiner, the SE immediately directed the MMD-A to begin reassembly. Technical Specification 3.0.3 was entered for both units and preliminary preparations were made to shut down both reactors. The OB Recombiner was promptly reassembled, started, and checked for leakage. No deficiencies were found and the OB Recombiner was declared operable. Technical Specification 3.0.3 was exited prior to commencing a reactor shutdown.

A review of the procedure involving out-of-service verification, and personnel protection card usage will be performed. Revisions will be made to the procedure, as necessary, to reflect the proper station practice. Appropriate training will then be conducted for each of the changes made to the procedure. This will be tracked to completion by Action Item 456-180-92-00201A, B, and C.

For the work packages that were prepared prior to the issuance of Maintenance Memo 200-16, the maintenance supervisors will be instructed that a pre-job briefing similar to that conducted for newer packages needs to be performed. This will be tracked to completion by Action Item 456-180-92-00202A, B, and C for the Mechanical, Electrical, and Instrument Maintenance Departments respectively.

The station will finalize its efforts in establishing a self check program. This program will include responsibility for each worker to verify that the proper equipment is being worked on. Appropriate training will also be provided after the program is developed. This will be tracked under Action Item 457-200-92-01703.4.

The station will evaluate potential team work enhancements, such as requiring work package turnover between departments to be held at the supervisory level, expanding pre-job briefings beyond the lead worker level, and by including other involved departments in the pre-job briefings. This will be tracked to completion by Action Item 456-180-92-00203.

F. PREVIOUS OCCURRENCES:

A search of previous LERs identified no previous occurrences of wrong train events. However, several similar (non-reportable) events relating to wrong unit/wrong train events were identified. Corrective actions are currently in progress to address similarities between these occurrences.

G. COMPONENT FAILURE DATA:

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