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

ComEd

March 30, 2000
BW000034

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Braidwood Station, Unit 1
Facility Operating License No. NPF-72
NRC Docket No. STN 50-456

Subject: Submittal of Licensee Event Report Number 2000-001-00

10 CFR 50.73(a) requires a Licensee Event Report (LER) to be submitted within 30 days after discovery of the event. The purpose of this letter is to provide the subject LER in accordance with 10 CFR 50.73(a)(2)(iv).

Should you have any questions concerning this letter, please contact Mr. T. W. Simpkin, at (815) 458-2801, extension 2980.

Respectfully,

T. J. Tulon
Site Vice President
Braidwood Station

Attachment

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Braidwood Station

IE22

NRC FORM 366 (4-95) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 04/30/98

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS 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 (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Braidwood, Unit 1	STN 05000456	1 of 5

TITLE (4) Manual Actuation of the Main Control Room Ventilation System (VC) due to Conservative Decision Making Based on Environmental Conditions

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
									Braidwood, Unit 2	STN 05000457
02	08	2000	2000	-- 001	-- 00	03	30	2000	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	MODE 1
POWER LEVEL (10)	99.9

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) **(11)**

☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(iii)	☐ 73.71(b)
☐ 20.2203(a)(1)	☐ 20.2203(a)(3)(ii)	☒ 50.73(a)(2)(iv)	☐ 73.71(c)
☐ 20.2203(a)(2)(i)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(v)	☐ OTHER
☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)	☐ 50.73(a)(2)(vii)	
☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(viii)(A)	(Specify in Abstract
☐ 20.2203(a)(2)(iv)	☐ 50.73(a)(2)(i)	☐ 50.73(a)(2)(viii)(B)	below and in Text,
☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(ii)	☐ 50.73(a)(2)(x)	NRC Form 366A)

LICENSEE CONTACT FOR THIS LER (12)

NAME (Include Position Title)	TELEPHONE NUMBER (Include Area Code)
Terrence W. Simpkin, Regulatory Assurance Manager	(815) 458-2801 x-2980

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

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)

On February 8, 2000, the Main Control Room (MCR) received "alert alarms" on two radiation monitors for the MCR Ventilation System outside air intake. The Unit 1 Unit Supervisor (US) directed the Unit 1 Nuclear Station Operator to place the MCR Ventilation System in the makeup mode with the charcoal absorbers in service per the appropriate Station procedure. The US believed a temperature inversion was occurring and made the decision to realign the ventilation system based on the meteorological tower indications and trends on the radiation monitors. During a temperature inversion, the concentration of naturally occurring radon will increase causing an increase in radiation levels and a resultant increase on radiation monitors. The US believed it was a conservative decision. Neither MCR radiation monitor reached the "high alarm" setpoint, which would have caused the ventilation system to automatically swap to the makeup mode. The US did not believe the actions taken constituted a valid actuation of an Engineered Safety Feature System. It was subsequently determined that the original evaluation was incorrect.

The root cause of the event was the conservative decision made by the US and his misunderstanding of the potential reportability.

The safety significance of the event was minimal since the system was placed in the mode to which it would have re-aligned upon receiving a high radiation signal.

Corrective actions taken include event and expected response communication to the licensed operators and annunciator response procedure revision.

This event is being reported pursuant to 10 CFR 50.73(a)(2)(iv).

A. Plant Conditions Prior to Event:

Unit: Unit 1 Event Date: 2/8/00 Event Time: 0806

MODE: MODE 1 Reactor Power: 99.9 percent

RCS [AB] Temperature: 579 degrees F.
RCS [AB] Pressure: 2236 psig

B. Description of Event:

Unit 1 and Unit 2 were at 99.9% power at the start of the event. There were no inoperable structures, systems, or components at the start of the event that contributed to the event.

At 0746 on February 8, 2000, the Main Control Room (MCR) received an "alert alarm" on the Unit 1 and Unit 2 RM-11s, Radiation Monitoring [IL] Panels, for the particulate channel on 0PR32J, Train A MCR Ventilation System (VC) [VI] outside air intake radiation monitor. The Unit 1 Nuclear Station Operator (NSO) notified the on duty Radiation Protection (RP) Supervisor of the process radiation monitor "alert alarm" and requested a sample to be taken. The Unit 1 Unit Supervisor (US) monitored the indications from the meteorological tower on MCR Panel 0PM01J. The 203 ft./34 ft. delta temperature indication was decreasing. The 34 ft. wind speed was negligible and the wind direction was erratic. The indications for a short period of time prior to 0746 showed the outside air delta T was high and stable. At 0801 on February 8, 2000, an "alert alarm" was received on the particulate channel for 0PR33J, Train B VC MCR outside air intake radiation monitor. At the same time, "alert alarms" were also received on the particulate channels for 0PR12J, Recycle Evaporator Cubicle radiation monitor and 0PR15J, Laundry Facility radiation monitor. The Unit 1 NSO notified the RP Supervisor and again requested samples to be performed. Based on the information provided by the meteorological tower indications, the increasing readings on the particulate channels of 0PR32J and 0PR33J, and discussions with the RP Supervisor, the US determined a temperature inversion was occurring. During a

temperature inversion, environmental conditions allow naturally occurring radon in the ground to rise, which will result in increased readings on radiation monitors.

The RP Supervisor notified the RP technician responsible for the radiation monitor skids of the "alert alarm" conditions. The technician was in the MCR at the time discussing the alarms with the US. At 0806, the US directed the Unit 1 NSO to place VC in the makeup mode with the charcoal absorbers in service per Braidwood normal operating procedure BwOP VC-5, "Placing the Control Room HVAC System Makeup Filter Train and Recirculation Charcoal Absorber in Operation." The US based this decision on the projection that the indicated radiation level trends on 0PR32J and 0PR33J would soon cause an automatic MCR Ventilation System re-alignment.

After discussions with the RP Supervisor and a review of the applicable Braidwood annunciator response procedures, BwAR 2-0PR32J and BwAR 2-0PR33J, the US decided to continue monitoring the meteorological tower data and radiation monitor indications to determine if an increasing trend of airborne radioactivity levels was occurring. The BwARs were used as a reference because entry into the annunciator response procedures was not required until a "high alarm" was received. After a short period of time, the US noted the readings on the radiation monitors were decreasing. Based on this information, the US decided not to have the RP technician change the filters on 0PR32J and 0PR33J and not perform an isotopic analysis of the filters. The US decided to continue monitoring the readings on the radiation monitors and to notify the RP Supervisor if any increasing trends occurred. None of the MCR radiation monitors or other radiation monitors reached the "high alarm" setpoint. If any MCR radiation monitor reached the "high alarm" setpoint, an automatic realignment of VC to the makeup mode would have occurred.

The radiation readings on 0PR32J and 0PR33J continued to decrease. At 0855, the US directed the Unit 1 NSO to restore VC to the normal configuration using Braidwood normal operating procedure BwOP VC-6, "Removing the Control Room HVAC System Makeup Air Filter Unit and Recirculation Charcoal Absorber From Service."

The US again referenced the BwARs for 0PR32J and 0PR33J. Step E.2 of the "Subsequent Operator Actions" section of the BwARs states:

> "CONSULT Tech Spec 3.3.3.1 (I.T.S 3.3.7), and EVALUATE for ENS notification (ENS notification is not required for Temperature Inversion induced alarms)."

The US evaluated the sequence of events for reportability. The following factors were the bases for his decision:

- The US believed the "alert alarms" were caused by a temperature inversion as indicated by the indications discussed above.
- The US believed the actions taken did not constitute a valid actuation of an Engineered Safety Features Actuation System (ESF) [JE].
- The information presented in the BwARs for 0PR32J and 0PR33J.
- No radiation monitor reached the "high alarm" setpoint.

Based on the above data, the US determined the event was not reportable.

On February 10, 2000, the NRC Senior Resident Inspector questioned the reportability decision for the events that occurred on February 8, 2000. The Inspector's position was that a manual ESF actuation of VC was reportable to the NRC. After further review of the event, Station management's interpretation was that the event was not reportable. Discussions regarding the sequence of events continued between Station management, the NRC and NRR. On March 6, 2000, the Station agreed to report the event as a Licensee Event Report. Based on the late classification of the event, Braidwood Station did not notify the NRC within 4 hours, as required by 10 CFR 50.72(b)(2)(ii). Braidwood Station also did not submit a LER within 30 days of the event as required by 10 CFR 50.73(a)(2)(iv). This LER is being submitted within 30 days of the date the event was classified as a LER.

C. Cause of Event:

The US did not believe that a manual realignment of the MCR Ventilation System constituted a valid ESF actuation. The US made a conservative decision based on the environmental conditions being experienced. A contributing factor was the guidance provided in the annunciator response procedures for 0PR32J and 0PR33J not to make an ENS notification for temperature inversion induced alarms. This reinforced the US's thought process to justify the actions that were taken.

D. Assessment of Safety Consequences:

The safety consequences associated with this event are minimal. The actions taken by the Operations crew placed the VC system in the mode to which it would have automatically aligned if a "high alarm" was received on any MCR radiation monitor. The actions taken in realigning VC were done in accordance with approved

Station procedures. Operating the VC system in the makeup mode with the charcoal absorber in service is an acceptable mode of operation for the system and posed no concerns for personnel in the MCR.

E. Corrective Actions:

The following corrective actions have been taken based on this event:

- The BwARs for the MCR radiation monitors have been revised to remove the statement about the reportability of temperature inversions.
- The event and expected response have been communicated with all of the licensed operators.
- A Nuclear Operations Notification (NON) describing the event was distributed to the other Commonwealth Edison Stations.
- A tailgate concerning the reportability aspects of the ventilation systems and valid/invalid actuation signals was conducted with Regulatory Assurance and Event Screening Committee personnel.

Corrective actions to be taken include:

- Revise BwOP VC-5 to provide guidance concerning the potential reportability of manual realignment of the MCR Ventilation System.
- This event and the lessons learned when determining event reportability will be incorporated into the Licensed Operator Requal Training Program and Initial Licensed Operator Training Programs.
- An effectiveness review will be performed to review the effectiveness of the corrective actions.

F. Previous Occurrences:

There have been no LERs for similar occurrences in the past two years.

G Component Failure Data:

None