



Commonwealth Edison
Byron Nuclear Station
4450 North German Church Road
Byron, Illinois 61010

April 5, 1991

Ltr: BYRON 91-0229

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

Dear Sir:

The enclosed Licensee Event Report from Byron Generating Station is being transmitted to you in accordance with the requirements of 10CFR50.73(a)(2)(i)(B).

This report is number 91-002; Docket No. 50-455.

Sincerely,

R. Pleniewicz for

R. Pleniewicz
Station Manager
Byron Nuclear Power Station

RP/DK/mw

Enclosure: Licensee Event Report No. 91-002

cc: A. Bert Davis, NRC Region III Administrator
W. Kropp, NRC Senior Resident Inspector
INPO Record Center
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LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) Byron, Unit 2 Docket Number (2) 0 | 5 | 0 | 0 | 0 | 4 | 5 | 5 Page (3) 1 | of 0 | 4
 Title (4) Containment Emergency Hatch Surveillances Missed 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 Names	Docket Number(s)
0 3	1 1	9 1	9 1	0 0 2	0 0	0 4	1 0	9 1	Byron Unit 1	0 5 0 0 0 4 5 4

OPERATING MODE (9) 1

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)	50.73(a)(2)(v)	73.71(c)
	20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	Other (Specify
	20.405(a)(1)(iii) X	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	in Abstract
	20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	below and in
	20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	Text)

LICENSEE CONTACT FOR THIS LER (12)

Name D. Nyman, Technical Staff, Ext. 2047 TELEPHONE NUMBER
 AREA CODE 8 | 1 | 5 | 2 | 3 | 4 | - | 5 | 4 | 4 | 1
 J. VanLaere, Asst. Technical Staff Supervisor, Ext. 2105

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)

On 03/11/91, it was found that a Technical Specification required Local Leak Rate Test on the Unit 2 Containment Emergency Hatch had not been performed within the allowed time period of 72 hours after an Operating Department test on the hatch. On 11/11/90, 2BVS 6.1.3.a-2, "Primary Containment Type B Local Leak Rate Tests of the Emergency Personnel Airlock Door Gasket Interspaces", was not performed within 72 hours following performance of 2BOS 6.1.3.c-1, "Primary Containment Equipment/Emergency Hatch Personnel Airlock Door Operability Test", as required by Technical Specifications. During the investigation of this event, records showed that there had been a similar occurrence on 10/25/88 on Unit 1.

The cause of both of these missed surveillance events were procedural deficiencies. Containment Emergency Hatch Leakage Rates were later verified to be acceptable on both Units. Therefore, the doors would have performed their design function in the event of a design basis accident. Procedure changes are being made to eliminate the procedural weaknesses that caused these events.

The event is reportable pursuant to 10CFR50.73(a)(2)(i)(B) any operation or condition prohibited by the plant's Technical Specification.

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

A. PLANT CONDITIONS PRIOR TO EVENT:

Event Date/Time 03/11/91 / 0900

Unit 1 MODE 1 - Power Operation Rx Power 100% RCS [AB] Temperature/Pressure Normal Operating

Unit 2 MODE 1 - Power Operation Rx Power 100% RCS [AB] Temperature/Pressure Normal Operating

B. DESCRIPTION OF EVENT:

On 03/11/91, Byron Station Technical Staff personnel were preparing to perform Technical Staff Surveillance 2BVS 6.1.3.b-2, "Primary Containment Type B Local Leak Rate Test of Emergency Personnel Airlock", a scheduled local leak rate test on the Unit 2 Containment Emergency Hatch. At this time Technical Staff was also coordinating with Operating Department Personnel to perform Operating Surveillance 2BOS 6.1.3.c-1, "Primary Containment Equipment/Emergency Hatch Personnel Airlock Door Operability Test". This operating procedure tests either the Equipment Hatch or the Emergency Hatch and in this case was to be performed on the Emergency Hatch. Technical Staff's intent was to put these two six month surveillance procedures in frequency with each other so that they could be rewritten into a single procedure for each hatch. Tech Staff felt that a single procedure would be easier to perform and would help ensure that 2BVS 6.1.3.a-2, "Primary Containment Type B Local Leak Rate Tests of the Emergency Personnel Airlock Door Gasket Interspaces", was always performed in conjunction with hatch door openings. Technical Specifications require that this surveillance on the door gaskets (2BVS 6.1.3.a-2) be performed within 72 hours after opening the door for any reason while in Modes 1-4.

While reviewing past executions of 2BOS 6.1.3.c-1 in the computerized surveillance records (GSRV), Tech Staff identified that the surveillance was last performed by Operating on 11/11/90 at the end of the B2R02 refueling outage, but had not been followed within 72 hours by execution of Technical Staff surveillance, 2BVS 6.1.3.a-2.

Records show that 2BOS 6.1.3.c-1 had been performed by Operations personnel on 10/27/90 as a scheduled surveillance at the end of the refueling outage. Even though this surveillance did not indicate that the Door Gasket Interspace Leak test needed to be performed within 72 hours, Tech Staff personnel, being aware of the completion of the BOS performed the Gasket Interspace surveillance on 10/29/90. Technical Staff also installed a tamper seal on the handwheel after completion of surveillance requirements. No procedure discussed installation of the tamper seal; however, Tech Staff and Operating have been using this seal to notify Tech Staff of when surveillance testing is required.

In early November, in support of the Mode Change checklist, Operations personnel were performing BGP 100-1T5, "Containment Integrity Checklist". On this form Operating personnel recorded that the Door Gasket Interspace Leak test had been performed on 10/29/90. Instead of recording the previous performance of 2BOS 6.1.3.c-1 on 10/27/90, the Operating surveillance was reperformed on 11/11/90 as a conservative action by operations to ensure that the procedure was performed. The Containment Integrity Checklist does not indicate that the Technical Staff surveillance should also be reperformed.

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

B. DESCRIPTION OF EVENT: (continued)

As an additional barrier to prevent inadequate testing of the Containment Emergency Hatch, tamper seals are installed by Tech Staff after completion of the Door Gasket Interspace Leak test. These tamper seals are made of an easily breakable tie-wrap material placed between the Emergency Hatch Handwheels located outside the hatch. This seal is verified to be in place on a daily basis by operators on rounds. If the tamper seals were found not to be in place, the Technical Staff would be notified by Operating so that the leak test would be performed within 72 hours. It is believed that during this event operation personnel reinstalled the tamper seals following completion of 2BOS 6.1.3.c-1 on 11/11/90. Normally, only Tech Staff installed these tamper seals after performing the leak test.

Because surveillance 2BVS 6.1.3.a-2 had been performed on 03/05/91 following a Radiation Protection survey of the Emergency Hatch on 03/04/91 and all acceptance criteria was met at that time, no further testing was required at the time of discovery to verify containment operability.

Records of past surveillances in GSRV show that all executions of 2BOS 6.1.3.c-1 for the last 2 years have had proper airlock door gasket tests performed within the required 72 hour period. However, records show a similar missed surveillance condition existed on Unit 1 following execution of 1BOS 6.1.3.c-1 on 10/25/88, with no execution of the Door Gasket Interspace Leak test until 03/30/89 when successful results were obtained. All details are not available due to the length of time since this event, but investigation indicates that the circumstances and causes of this event are similar.

The Station did not enter any limiting conditions of operation due to the discovery of these events, and remained in stable condition. No manual or automatic safety system actuations occurred.

This event is reportable under 10CRF50.73 (a)(2)(i)(B), any operation or condition prohibited by the plant's Technical Specifications.

C. CAUSE OF EVENT:

Three causes of the Unit 2 event have been identified. While only Unit 2 is specifically discussed, these concerns apply to procedures for both units.

- 1) The Operating Surveillance, 2BOS 6.1.3.c-1, did not state that Tech Staff Surveillance, 2BVS 6.1.3.a-2, needed to be performed afterwards.
- 2) The Operating Surveillance, 2BOS 6.1.3.c-1, also did not address reinstallation of the tamper seal that was broken during performance of the surveillance. The method of reinstallation was not included in the procedure, thereby leading the operator performing the surveillance to believe that he should reinstall the seal.
- 3) The Containment Integrity Checklist does not indicate the sequential relationship between 2BOS 6.1.3.c-1 and 2BVS 6.1.3.a-2, which allowed performance in the wrong order.

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

D. SAFETY ANALYSIS:

The airlock is required to be operable during plant operating modes 1 through 4. The Unit 2 airlock did pass the required testing on 03/05/91 and indicates that the doors would have performed their design function in the event of a design basis accident.

The Unit 1 airlock records indicate that a door manipulation per 1BOS 6.1.3.c-1 on 10/25/88 was not followed by an execution of 1BVS 6.1.3.a-2 until 03/30/89, at which time the airlock passed all requirements. The successful testing of the airlock doors on 03/30/89 indicates that the doors would have performed their design function in the event of a design basis accident. Therefore, there are no safety consequences caused by this event because Containment Integrity was always maintained, as required.

E. CORRECTIVE ACTIONS:

Procedures for both Units will be revised to give Technical Staff the responsibility for the surveillance testing which determines airlock operability by merging the Operability tests 1/2BOS 6.1.3.c-1 with Local Leak Rate Tests 1/2BVS 6.1.3.b-2. This change will reduce the operation frequency of the airlock doors and ensure performance of all required operability testing simultaneously by one department. The installation of the tamper seal will be required by Tech Staff procedures 1/2BVS 6.1.3.a-2 to ensure effective monitoring of airlock access. Action Item Record (AIR) 454-225-91-05400 will track the required changes to station procedures to merge Operating and Tech Staff surveillances, and proceduralize installation of the tamper seal.

A sign has been posted in the emergency airlock area to alert personnel to the requirement that the tamper seal is to be installed by Technical Staff personnel only in conjunction with their surveillance 1/2BVS 6.1.3.a-2.

An explanation of airlock testing requirements, procedural changes, and notification requirements associated with the emergency hatch has been delivered to all Operating personnel through the Shift Engineer Notes program. This information will be reviewed with Operations personnel to enhance knowledge of required testing.

1/2BGP 100-IT5 will be revised to reflect the deletion of 1/2BOS 6.1.3.c-1. AIR # 91-072 tracks this revision.

F. PREVIOUS OCCURRENCES:

A missed surveillance occurred previously on the Containment Equipment Airlock. The corrective actions previously put in place for the Equipment Hatch do not effect the corrective actions for the Emergency Hatch described here, and as such would not have been expected to have prevented this event.

DIR 6-2-87-083/LER 87-014 Inoperable Containment Airlock due to Missed Surveillance Resulting from Personnel Error.

G. COMPONENT FAILURE DATA:

Not Applicable.