



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

June 29, 1990
BW/90-0670

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)(ii) which requires a 30-day written report.

This report is number 90-009-00; Docket No. 50-457.

Very truly yours,

R. E. Querio
Station Manager
Braidwood Nuclear Station

REQ/JDW/sjs
(7126z)

Enclosure: Licensee Event Report No. 90-009-00

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)

Docket Number (2)

Page (3)

Braidwood 2

0150004571 of 03

Title (4)

Main Steamline Isolation Valve Inoperable due to a Failed Four Way Hydraulic Valve

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)
016	014	910	910	01019	010	017	012	910	NONE	0150004571

OPERATING
MODE (9)

4

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR
(Check one or more of the following) (11)POWER
LEVEL
(10)

000

20.402(b)

20.405(a)(1)(i)

20.405(a)(1)(ii)

20.405(a)(1)(iii)

20.405(a)(1)(iv)

20.405(a)(1)(v)

20.405(c)

50.36(c)(1)

50.36(c)(2)

50.73(a)(2)(i)

50.73(a)(2)(ii)

50.73(a)(2)(iii)

50.73(a)(2)(iv)

50.73(a)(2)(v)

50.73(a)(2)(vii)

50.73(a)(2)(viii)(A)

50.73(a)(2)(viii)(B)

50.73(a)(2)(x)

73.71(b)

73.71(c)

Other (Specify

in Abstract

below and in

Text)

LICENSEE CONTACT FOR THIS LER (12)

Name

Dan Stroh, Tech Staff Eng.

Ext. 2477

TELEPHONE NUMBER

AREA CODE

81154581-2801

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPD	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPD
X	S	FICV	A391	Yes					

SUPPLEMENTAL REPORT EXPECTED (14)

Expected
Submission
Date (15)

Yes (If yes, complete EXPECTED SUBMISSION DATE)

X NO

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

At 0830 on June 4, 1990, with unit 2 in mode 4, during a routine inspection of the 2A Main Steamline Isolation Valve (MSIV) it was identified that the pressures for the active and standby accumulators were 3200 psig and 4600 psig respectively. This was below the 4800 psig required for operability. The MSIVs are not required to be operable in mode 4. At Approximately 0910 it was identified that the cause of the low accumulator pressure was the "N" four way hydraulic valve. The N valve had an internal leak which allowed hydraulic fluid to be ported to the reservoir. An evaluation was conducted to determine how the valve would have performed in its as found condition. It was concluded that the valve would have been incapable of closure from the active accumulator. There was adequate hydraulic fluid and pressure in the standby accumulator to ensure 95% of stroke travel in the closed direction but it could not be assured that 100% closure would be achieved. Additionally, with the hydraulic leak on the N valve the air driven hydraulic pump discharge would have been directed back to the reservoir instead of assisting with the final 5% of valve closure. The cause of the event was component failure. The four way valve and the hydraulic oil filter for the 2A MSIV were replaced. Since replacement, the 2 A MSIV has performed satisfactorily. Previous corrective actions are not applicable.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

Form Rev 2.0

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)						Page (3)		
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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: June 4, 1990; Event Time: 0830;
 Mode: 4 - Hot Shutdown; Rx Power: 0%;
 RCS [AB] Temperature / Pressure: 330 DEGREES F / 350 psig

Description of Event:

There were no systems or components inoperable at the beginning of the event which contributed to the severity of the event.

At 0830 on June 4, 1990 during a routine inspection of the 2A Main Steamline Isolation Valve (MSIV) [SB] it was identified that the pressures for the active and standby accumulators were 3400 psig and 4600 psig respectively. This was below the 4800 psig required for operability. The MSIVs are not required to be operable in mode 4. The valve was classified as degraded equipment as a means for tracking and restoring to operable prior to entry into a mode where operability was required. Trouble shooting activities were immediately initiated.

At approximately 0910 it was identified that the cause of the low accumulator pressure was the "N" four way hydraulic valve. The N valve had an internal leak which allowed hydraulic fluid to be ported to the reservoir. The System Test Engineer (STE) was requested to evaluate how the valve would have performed in this as found condition. Based on the results of this evaluation it was concluded that the valve would have been incapable of closure from the active accumulator which indicated 3400 psig. The STE concluded that there was adequate hydraulic fluid and pressure in the standby accumulator to ensure 95% of stroke travel in the closed direction, but it could not be assured that 100% closure would be achieved. Additionally, with the hydraulic leak on the N valve the air driven hydraulic pump discharge would have been directed back to the reservoir instead of assisting with the final 5% of valve closure.

This event was conservatively classified as an event found while the reactor was shut down, that, had it been found while the reactor was in operation, would have resulted in the Nuclear Power plant, including its principal safety barriers, being seriously degraded. The appropriate NRC notification via the ENS phone system was made at 1150 pursuant to 10CFR50.72(b)(2)(i).

This event is being reported pursuant to 10CFR50.73(a)(2)(ii) - any event or condition that resulted in the condition of the nuclear power plant, including its principal safety barriers, being seriously degraded.

C. Cause of Event:

The root cause of this event was component failure. The defective four way valve was removed and placed on a test stand. During test operations leakage was evident and traced to poor sealing between the metal spool piece and it's mating thimble. This was a metal to metal seal with a ground finish. Any small imperfection or dirt buildup on the faces would cause leakage. The hydraulic fluid was analyzed and indicated a very low particulate count. This would tend to indicate that the event was isolated.

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

D. Safety Analysis:

This event had no effect on the safety of the plant or the public. The MSIV was not required to be operable in mode 4. The MSIVs for the three remaining steamlines were operable and available had isolation been required.

Under the worst case of this event occurring with a Unit at power and an actual MSIV isolation being required there would still be no effect. The analysis of the postulated accidents which require steamline isolation assume the failure of one MSIV to close. The conclusions of the analyses indicates that for all cases the integrity of structures and components required to mitigate this accident will be maintained, no Departure from Nucleate Boiling will occur, and that any potential radiological consequences would be within the guidelines of 10 CFR 100. This is enveloped in section 15 of the Updated Final Safety Analysis Report.

E. Corrective Actions:

The four way valve was replaced. The hydraulic oil filter for the 2A MSIV was also replaced. Since replacement of the filter and the valve, the hydraulic system of the 2 A MSIV has performed satisfactorily.

F. Previous Occurrences:

There was a previous occurrences of an inoperable MSIV due to a failed four way solenoid valve.

<u>LER NO.</u>	<u>DVR No.</u>	<u>Title</u>
50-456/ 88-024	20-1-88-255	Inoperable MSIV due to failure of M1 Four Way Solenoid Valve.

The corrective actions were implemented addressing both root and contributing causes. Previous corrective actions are not applicable to this event.

G. Component Failure Data:

<u>Manufacturer</u>	<u>Nomenclature</u>	<u>Mfg. Part No.</u>
Anchor Darling Valve Co.	Four Way Hydraulic Valve	W19595
(Teledyne Republic)		(23304-7001-2852)