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

ComEd

May 24, 1995
BW/95-0057

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

Gentlemen:

The enclosed Licensee Event Report from Braidwood Generating Station is being transmitted in accordance with the requirement of 10 CFR 50.73(a)(2)(i), which requires a 30-day written report.

This report is number 95-003-00, Docket No. 50-457.

Yours truly,

T. J. Tulon
Station Manager
Braidwood Nuclear Station

TJT/BJM/dla
o:\corresp\zcsteno\bwdletrs.doc

Encl: Licensee Event Report
No. 457-95-003-00

cc: NRC Region III Administrator
NRC Resident Inspector
INPO Record Center
CECo Distribution Center
I.D.N.S.
I.D.N.S. Resident Inspector

IE22
1/1

NRC FORM 366 (5-92) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 5/31/95

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. 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 (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Braidwood 2	05000457	1 OF 4

TITLE (4)
Unit Shutdown due to excessive Reactor Coolant System Leakage from stem leakoff due to improperly repacking valves

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
04	29	95	95	-- 003 --	00	5	19	95	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	1
POWER LEVEL (10)	100

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

	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
	20.405(a)(1)(iii)	X	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	(Specify in Abstract below and in Text, NRC Form 366A)
	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 (Include Area Code)
P. Lau, Regulatory Assurance	(815)458-2801 x2957

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 15 single-spaced typewritten lines) (16)

On April 29, 1995, Unit 2 was at 100% power and 1175 MWe. At 1519, the charging line flow high alarm annunciated with a concurrent decrease in pressurizer level. Abnormal procedure 2BwOA PRI-1 for Excessive Primary Plant Leakage was entered. Technical Specification LCOAR 4.6.2-1a was entered for estimated identified leakage in excess of 10 gpm. An Unusual Event was declared at 1724 for RCS identified leakage greater than 25 gpm when the investigation revealed that there was approximately 25-30 gpm leaking into the Pressurizer Relief Tank (PRT). Excessive valve packing leakage from the 2RC8003A and 2RC8003B, Reactor Coolant (RC) loop recirculation bypass valves, was identified as the source and the valves were placed on their open backseat. The Unusual Event was terminated at 0300, April 30 and the LCOAR was exited at 0750, with an identified leakrate of 0.25 gpm. The RCS was borated, and a cooldown was commenced in order to repack valves 2RC8003A and B. Additionally, 2RC8003C and D were repacked as well. The cause of the event was a less than adequate repack of valves 2RC8003A and B during the fall refueling outage.

NRC FORM 366A (5-92) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 5/31/95

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. 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 (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Braidwood 2	05000457	95	-- 003 --	00	2 OF 4

TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

A. PLANT CONDITIONS PRIOR TO EVENT:

Unit: Braidwood 2; Event Date: April 29, 1995;
Event Time: 1519;
Mode: 1 - Power Operation; Rx Power: 100%;
RCS [AB] Temperature/Pressure: NOT/NOP

B. DESCRIPTION OF EVENT:

There was no equipment inoperable at the beginning of this event that contributed to the severity of the event.

On April 29, 1995, Unit 2 was at 100% power and 1175 MWe. At 1519, the CV charging line flow high alarm annunciated with a concurrent decrease in pressurizer level. Abnormal procedure 2BwOA PRI-1 for Excessive Primary Plant Leakage was entered. Operators reduced and then secured letdown to recover pressurizer level. Technical Specification LCOAR 4.6.2-1a was entered for estimated identified leakage in excess of 10 gpm. There was no indication of new leakage into the containment floor or equipment drain sumps. An Unusual Event was declared at 1724 for RCS identified leakage greater than 25 gpm when the investigation revealed that there was approximately 25-30 gpm leaking into the Pressurizer Relief Tank (PRT). The appropriate ENS notification was made at 1814 CDST.

An orderly power reduction was begun at 1819 at 5 MW/min, with the Unit entering Mode 3 at 2238.

A containment entry was made to investigate the source of the leakage. Excessive valve packing leakage from the 2RC8003A and 2RC8003B, Reactor Coolant (RC) loop recirculation bypass valves, was identified as the source via their respective leakoff line sight glasses.

Shortly after identifying the excessive packing leakage on 2RC8003A and B as the problem, the valves were opened and placed on the open backseat to stop the leakage. The Unusual Event was terminated at 0300, April 30, based on charging, letdown, Volume Control Tank (VCT) and PRT parameters indicating identified leakage was well below 25 gpm. LCOAR 4.6.2-1a was exited at 0750, with an identified leakrate of 0.25 gpm (0.10 gpm unidentified).

The RCS was borated to the cold Xenon-free condition, and a cooldown to 350°F/360 psig was commenced in order to repack valves 2RC8003A and B. Subsequent root cause investigations led to performing repacks of 2RC8003C and 2RC8003D as well.

NRC FORM 366A (5-92) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 5/31/95

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. 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 (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Braidwood 2	05000457	95	- 003 -	00	3 OF 4

TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

This event is being reported pursuant to 10CFR50.73(a)(2)(i)(A), which requires the reporting of the completion of any nuclear plant shutdown required by the plant's Technical Specifications.

C. CAUSE OF THE EVENT:

The cause of the event was improper installation of a carbon spacer in the stuffing box of valves 2RC8003A and B.

The "as found" configuration of the stuffing box for valves 2RC8003A and B revealed that the lantern ring was positioned above the leakoff line. It appears that the stuffing box leakoff line location was obtained by measuring the location of the line outside of the stuffing box. Since the leakoff line penetrates the stuffing box at an angle this measurement did not reflect the leakoff line location inside of the stuffing box. This resulted in an incorrect sizing of the carbon spacer that was installed below the packing which resulted in the lantern ring being positioned incorrectly in RC valves 2RC8003A, B and D. Since the carbon spacer was too tall, only approximately 1-1/4 inches of the 2 inch packing material was providing sealing on the valve shafts below the leakoff line. This resulted in the premature packing failure causing excessive leakage.

RC valve 2RC8003C had a packing failure on 05/26/94. As corrective maintenance valve 2RC8003C was repacked and did not include a carbon spacer. As a preventative maintenance function RC valves 2RC8003A, B and D were scheduled for repack during the fall 1994 refueling outage A2R04 and were repacked using a carbon spacer in each one.

D. SAFETY ANALYSIS:

This event had no significant effect on plant or public safety as the leakage from the Reactor Coolant System remained less than the capability of the operating charging water pump (nominal 120 gpm flow) from 1519 on April 29 to 0300 on April 30 when the valves were placed on their backseats. The leakage was reduced to well less than 25 gpm. Additionally, the opposite train normal charging pump was also available. At 0750 the identified leak rate was calculated to be 0.25 gpm.

NRC FORM 366A (5-92) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 5/31/95

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. 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 (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Braidwood 2	05000457	95	-- 003 --	00	4 of 4

TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

E. CORRECTIVE ACTIONS:

All four 2RC8003 valves were repacked prior to placing Unit 2 back on-line. A review of maintenance history and valve drawings of primary plant valves with leakoff lines was conducted, looking for valves with angled leakoffs and carbon spacers installed in their valve packing. The review indicated that there are no other primary plant valves with angled leakoff lines. Maintenance history is not detailed enough to indicate exact geometry of packing installation. However, the packing installation on 2RC8003A, B and D would have been correct if the valve leakoff lines had not been angled. Since no more primary valves have angled leakoffs, there is reasonable assurance that the remainder of the Unit 2 primary valves that have been repacked would not exhibit this same packing installation problem. Maintenance history indicates that the associated Unit 1 RC8003A thru D valves do not have carbon spacers installed in the valve packing.

The need to review all applicable information (eg. vendor drawings, P&ID's, previous packages, etc.) prior to the finish of the preparation of a work package for a new or different piece of equipment will be discussed with all Mechanical Maintenance Work Analysts. This corrective action will be tracked to completion by NTS Action Item 457-180-95-00301.

A review of this event and its ramifications on plant operation will be provided to all Mechanical Maintenance personnel. This corrective action will be tracked to completion by NTS Action Item 457-180-95-00302.

A review to determine if carbon spacers can be used on the RC8003 valves will be performed. This corrective action will be tracked to completion by NTS Action Item 457-180-95-00303.

F. PREVIOUS OCCURRENCES:

A review was made of the Braidwood Database and no LER's involving excessive reactor coolant leakage or problems associated with repacking of primary valves were identified.

G. COMPONENT FAILURE DATA:

No components associated with the event failed. The improper packing of the valve is not considered a component failure.