CP&L

Carolina Power & Light Company

Brunswick Nuclear Project
P. O. Box 10429
Southport, NC 28461-0429

October 5, 1989

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

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
DOCKET NO. 50-324
LICENSE NO. DPR-62
LICENSEE EVENT REPORT 2-89-014

Gentlemen:

In accordance with Title 10 to the Code of Federal Regulations, the enclosed Licensee Event Report is submitted. This report fulfills the requirement for a written report within thirty (30) days of a reportable occurrence and is in accordance with the format set forth in NUREG-1022, September 1983.

Very truly yours,

J. L. Harness

J. L. Harness, General Manager
Brunswick Nuclear Project

MJP/mcg

Enclosure

cc: Mr. S. D. Ebneter
Mr. E. G. Tourigny
BSEP NRC Resident Office

IE22
1/1

NRC Form 366 (9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Brunswick Steam Electric Plant Unit 2	0 5 0 0 0 3 2 4	1 OF 0 4

TITLE (4) Failures of Drywell Head Outer Seal, Main Steam Isolation Valves B21-F028C, F028D, and Main Steam Drain Isolation Valve(s) B21-F016 and/or F019 During Local Leak Rate Testing

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 9	1 0	8 9	8 9	— 0 1 4 —	0 0	1 0	0 5	8 9		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9): 4
POWER LEVEL (10): 0 0 0

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

[ ] 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, NRC Form 366A)
[ ] 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)
M. J. Pastva Jr., Regulatory Compliance Specialist	9 1 9 4 5 7 - 2 3 1 5

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
X	J M	S E A L	M 4 2 1	Y	X	S B	I S V	R 3 4 4	Y
X	S J	I S V	A 3 9 1	Y	X	S B	I S V	R 3 4 4	Y

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
[X] YES (If yes, complete EXPECTED SUBMISSION DATE)	[ ] NO		0 3	3 0	9 0

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

During the Unit 2 1989-1990 refuel/maintenance outage, primary containment (PC) local leak rate testing (LLRT), including Types B and C testing, and main steam isolation valve testing revealed leakage which degraded the PC safety barrier. Identified failures, with dates include: the outer seal of the drywell head flange double O-ring seal on 9/10/89, main steam drain line (inboard and/or outboard valve) on 9/11/89, main steam lines "C" (outboard valve) and "D" (outboard valve) on 9/12 and 9/13/89, and the "A" and "B" feedwater lines (inboard valves) on 9/20 and 9/23/89. Based upon the maximum pathway analysis method for analyzing containment leakage, a calculated PC leakage rate of <0.60La, reference Technical Specification (T/S) 3.6.1.2b, could not be achieved. In addition, a leakage rate of </ = 11.5 standard cubic feet per hour, reference T/S 3.6.1.2c, could not be achieved. The subject LLRT-identified problems are under investigation for root cause determination and corrective action. LLRT is continuing with a supplement to this report appropriately addressing these problems and any other LLRT-reportable problems to be submitted by 3/30/90. Prior LLRT-identified failures have been reported in LERs 1-85-016, 1-87-005, 1-88-025, 2-84-001, 2-86-005, and 2-88-002.

NRC Form 366B
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER) FAILURE CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6) YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	PAGE (3)
Brunswick Steam Electric Plant Unit 2	0 5 0 0 0 3 2 4	8 9	— 0 1 4 —	0 0	0 2 OF 0 4

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	
X	SJ	ISV	A395	Y							
X	SJ	ISV	A395	Y							
X	SB	ISV	A395	Y							

NRC FORM 366B
(9-83)

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6) YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	PAGE (3)
Brunswick Steam Electric Plant Unit 2	0 5 0 0 0 3 2 4	8 9	— 0 1 4	— 0 0	0 3 OF 0 4

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

Event

Degradation of Unit 2 Primary Containment (PC) safety barrier revealed through local leak rate testing, including Types B and C testing, and main steam isolation valve (MSIV) testing.

Initial Conditions

Unit 2 was in hot shutdown, while making preparations to enter cold shutdown to commence the scheduled unit 1989-1990 refueling/maintenance outage. Local leak rate testing (LLRT) of the unit primary containment (PC) was in progress, in accordance with Periodic Test (PT)-20.3.

Event Description

On September 10, 1989, LLRT of the drywell head seal (EIIS/BD//SEAL), which is of double O-ring construction, revealed leakage of the outer seal beyond the measurement capacity of the test equipment. As such, a PC leakage rate of <0.60La, as referenced by Technical Specification (T/S) 3.6.1.2b, could not be achieved, based upon the maximum pathway analysis method for containment leakage.

Subsequent LLRT has revealed additional failures of primary containment isolation valves (PCIVs) where the observed leakage rates were beyond the measurement capability of the test equipment:

September 11, 1989 - main steam (B21) line drain isolation valve B21-F016 (inboard) (EIIS/SB/ISV) and/or B21-F019 (outboard) (EIIS/SB/ISV)*

September 12, 1989 - MSIV B21-F028C (outboard) (EIIS/SB/ISV) (leakage rate of </= 11.5 standard cubic feet per hour referenced by T/S 3.6.1.2c was not met)

September 13, 1989 - MSIV B21-F028D (outboard) (EIIS/SB/ISV) (leakage rate of </=11.5 standard cubic feet per hour referenced by T/S 3.6.1.2c was not met)

September 20, 1989 - Reactor Feedwater (B21) line "A" check valve B21-F010A (inboard) (EIIS/SJ/ISV)

September 23, 1989 - Reactor Feedwater line "B" check valve B21-F010B (inboard) (EIIS/SJ/ISV)

*Based upon results of preliminary testing. Results of additional testing to identify actual failure(s) will be reflected within supplement to this report.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6) YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	PAGE (3)
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

Corrective Action

LLRT is continuing. The subject problems along with any other LLRT-reportable problems, identified during the current unit refueling/maintenance outage, will be investigated for root cause determination and appropriate corrective action. A supplement to this report addressing problems identified during the subject LLRT testing will be submitted by March 30, 1989.

Event Assessment

An assessment of the safety consequences and implications of the subject problems and any other LLRT-reportable problems, identified during the current unit outage, will be provided within the supplement to this report.

Prior LLRT-identified failures have been reported in LERs 1-85-016, 1-87-005, 1-88-025, 2-84-001, 2-86-005, and 2-88-002.

* U.S. GPO 1986-0-624-538/455