

# CP&L

Carolina Power & Light Company

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

November 30, 1990

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SERIAL: BSEP/90-0784

10CFR50.73

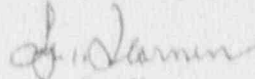
U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D. C. 20555

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2  
DOCKET NO. 50-324  
LICENSE NO. DPR-71  
SUPPLEMENTAL LICENSEE EVENT REPORT 2-90-011

Gentlemen:

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

Very truly yours,



J. L. Harness, General Manager  
Brunswick Nuclear Project

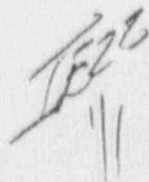
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Enclosure

cc: Mr. S. D. Ebnetter  
Mr. N. B. Le  
BSEP NRC Resident Office

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bcc: Mr. R. M. Coats                      Mr. L. I. Loflin                      Mr. L. V. Wagoner  
Mr. C. W. Crawford                      Mr. A. M. Lucas                      Ms. T. A. Ward  
Mr. A. B. Cutter                      Mr. L. H. Martin                      INPO  
Mr. W. J. Dorman                      Mr. M. R. Oates                      Onsite Licensing  
Ms. R. S. Gatewood                      Mr. H. A. Pollock                      SHEEC Training  
Mr. W. P. Guarino                      Mr. J. J. Sheppard                      Ref. Library  
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Mr. M. A. Jones                      Mr. R. B. Starkey, Jr.  
Mr. B. P. Leonard                      Mr. G. E. Vaughn

LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 600 HRS FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-630), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1): Brunswick Steam Electric Plant Unit 2 DOCKET NUMBER (2): 050000 PAGE (3): 1 OF 04

TITLE (4): RWCU Group III Isolation on System High Differential Flow Alarm

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
08	30	90	90	0113		08	30	90	
								DOCKET NUMBER(S):	
								050000	
								050000	

OPERATING MODE (8): 2

POWER LEVEL (10): 001

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5 (Check one or more of the following) (11)

<input type="checkbox"/> 20.402(b)	<input checked="" type="checkbox"/> 20.406(c)	<input type="checkbox"/> 60.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
<input type="checkbox"/> 20.406(a)(1)(i)	<input type="checkbox"/> 60.36(a)(1)	<input type="checkbox"/> 60.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)
<input type="checkbox"/> 20.406(a)(1)(ii)	<input type="checkbox"/> 60.36(a)(2)	<input type="checkbox"/> 60.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
<input type="checkbox"/> 20.406(a)(1)(iii)	<input type="checkbox"/> 60.73(a)(2)(i)	<input type="checkbox"/> 60.73(a)(2)(vii)(A)	
<input type="checkbox"/> 20.406(a)(1)(iv)	<input type="checkbox"/> 60.73(a)(2)(ii)	<input type="checkbox"/> 60.73(a)(2)(vii)(B)	
<input type="checkbox"/> 20.406(a)(1)(v)	<input type="checkbox"/> 60.73(a)(2)(iii)	<input type="checkbox"/> 60.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME: Michael R. Foss, Manager, Regulatory Programs TELEPHONE NUMBER: 919 457-1254

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)  NO

EXPECTED SUBMISSION DATE (15): MONTH    DAY    YEAR   

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

On 8/30/90 at 0204 the Reactor Water Cleanup (RWCU) system (G31) was manually isolated following the receipt of the "RWCU Leak Hi" and "RWCU Leak Hi Hi" annunciators. An automatic isolation signal was received following the operators action to close the G31-F001 and G31-F004 valves prior to the valves reaching the full closed position. After verifying that an actual leak had not occurred the RWCU system was placed in service. Small reject flow oscillations were observed with the RWCU leak differential flow instrumentation showing downscale. The RWCU differential flow instrumentation was then declared inoperable and the RWCU system isolated.

Subsequent maintenance included filling and venting the 3 delta flow instrument transmitters. Technicians identified air in the sensing lines of the 2-G31-FT-N012 instrument. The RWCU system was returned to service and the RWCU delta flow instrumentation was declared operable. The safety significance of this event was minimal.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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

TEXT (If more space is required, use additional NRC Form 306A's) (17)

Event:

Manual RWCU Group 3 isolation.

Initial Conditions:

Unit 2 was in Startup (Mode 2) at approximately 14 power. Emergency Core Cooling Systems (ECCS) were operable and RWCU was in service with the "A" filter device on line rejecting to the main condenser to aid in reactor water level control. Reactor pressure was approximately 70 lbs. and preparations were being made to establish condenser vacuum.

Event Description:

On 8/30/90 at 0203 the Unit 2 Control Operator (CO) noted RWCU reject flow oscillating and intermittent "RWCU Leak Hi" and "RWCU Leak Hi Hi" annunciators. After both annunciators sealed in the operator decreased RWCU reject flow in an attempt to clear the annunciators. Approximately 30 seconds after the annunciators had sealed in the Senior Control Operator (SCO) ordered the 2-G31-F001 and 2-G31-F004 valves closed. The CO manually initiated closure of the 2-G31-F001 and 2-G31-F004 valves (PCIS group 3) at 0204. Prior to the valves reaching the fully closed position a PCIS group 3 isolation signal was received. An RWCU leak detection system isolation signal is generated upon a Cleanup Leak Hi Hi following an approximate 40 second time delay. The CO then dispatched an Auxiliary Operator (AO) to investigate for leaks in the RWCU system. Following the RWCU isolation the CO had to insert control rods to reduce heat-up rate and stop the reactor water level increase. After verifying that no actual leak had occurred, the RWCU system was placed back in service. Small reject flow oscillations were observed with the RWCU leak differential flow instrumentation showing downscale. The RWCU leak differential flow instrumentation was then declared inoperable and the RWCU system isolated.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-630), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0106), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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

TEXT (if more space is required, use additional NRC Form 385A's) (17)

Event Investigation:

This event resulted from a loss of water from the instrument sensing lines of the RWCU reject flow transmitter 2-G31-FT-N012. FT-N012, along with the RWCU outlet flow (return to the reactor) transmitter 2-G31-FT-041 and the RWCU system inlet flow transmitter 2-G31-FT-N036, provide input to the RWCU system summing circuit which feeds differential flow switches which in turn generates appropriate alarms and isolations. Air in the instrument lines of the FT-N012 instrument sensing lines caused a false high RWCU differential flow indication. Instrument and Control (I&C) technicians filled and vented the above listed instruments under WR/JO 90-ANHP1.

Event Cause:

The erratic flow indications and intermittent leakage annunciators occurred when condenser vacuum was being established. The RWCU system was lined up with some reject flow going to the Main Condenser to aid in vessel level control. The RWCU reject flow control valve 2-G31-F033 was throttled to maintain some undetermined flow rate. With increasing condenser vacuum, flow increased a slight amount, enough to cause the 2-G31-N012 flow instrument to lose some water from its instrument lines. The resulting loss of water from the instrument lines caused the delta-flow leak detection system to generate a Hi-Hi delta flow condition which resulted in the Group III isolation signal.

Corrective Actions:

The RWCU differential flow instruments were filled and vented under WR/JO 90-ANHP1 and the RWCU system returned to service at 0615 on 8/30/90.

The RWCU system operating procedures will be revised to include a caution to alert the operator that condenser vacuum would have some effect on the reject flow rate and that extra attention to reject flow is needed while establishing condenser vacuum.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-630), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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

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

Event Assessment:

The safety significance of this event is considered minimal. The CO manually initiated closure of the RWCU isolation valves upon indication of a system leak. The isolation signal was generated by the malfunctioning of a RWCU flow transmitter, not from an actual break. A similar event was reported in LER 2-88-003.

EIIS CODES

SYSTEM/COMPONENT

CODE

RWCU  
RWCU INLET FLOW TRANSMITTER  
ECCS  
RWCU FILTER  
RWCU ISOLATION VALVES  
PRIMARY CONTAINMENT ISOLATION SYSTEM

CE  
CE/FT  
\*  
CE/FLT  
CE/ISV  
JM