

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Brunswick Steam Electric Plant Unit No. 1 DOCKET NUMBER (2) 0 5 0 0 0 3 2 5 1 OF 0 2

TITLE (4) Loss of Residual Heat Removal Service Water Cooling System

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	1	1	9	8	4	8	4	0	0	1	0	0	0	0	0	0
0	1	1	9	8	4	8	4	0	0	1	0	0	0	0	0	0

OPERATING MODE (9)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more of the following) (11)									
POWER LEVEL (10)	20.402(b)	20.406(c)	50.73(a)(2)(iv)	73.71(b)						
	20.406(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)						
	20.406(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 386A)						
	20.406(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)							
	20.406(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)							
20.406(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(ix)								

LICENSEE CONTACT FOR THIS LER (12)
NAME M. J. Pastva, Jr., Regulatory Technician
TELEPHONE NUMBER 9 1 9 4 5 7 - 9 5 2 1
AREA CODE

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)									
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC
X	B	I	P	S	B	0	6	9	Yes

SUPPLEMENTAL REPORT EXPECTED (14)
YES (If yes, complete EXPECTED SUBMISSION DATE) NO
EXPECTED SUBMISSION DATE (15) 0 4 1 3 8 4
MONTH DAY YEAR

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

During Unit No. 1 power operation at 100 percent, an attempt to initiate suppression pool cooling using the A loop of the Residual Heat Removal Service Water (RHRSW) System revealed that both loop pumps, A and C, when started, ran for approximately five seconds and tripped on low suction pressure lockout. At the time, the redundant RHRSW loop (B) was out of service for maintenance and unavailable. The inoperability of both RHRSW loops renders reactor shutdown cooling and suppression pool cooling inoperable. It is believed that air in the loop suction header prevented the header suction pressure switch from sensing actual, normal pressure. Also, it is believed that the air resulted from the loop suction piping draining through the loop residual heat removal (RHR) heat exchanger outlet valve, E11-F002A, which leaks by while the loop is in wet lay-up. The air was vented by establishing conventional Service Water System header flow through the A loop piping for approximately five minutes. The loop pumps were started and returned to service within 15 minutes of the event. An evaluation is in progress to determine a method of keeping the loop suction piping full of water at all times. A supplement to this report reflecting corrective actions will be submitted by April 13, 1984. This event did not affect the health and safety of the public.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/85

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
Brunswick Steam Electric Plant Unit No. 1	050032584	—	001	00	0	2	OF 02

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

During the ongoing performance of an operability test of the Uni No. 1 High Pressure Coolant Injection (HPCI) System, PT-09.2, an attempt was made to establish suppression pool cooling prior to actual running of the HPCI System turbine, which exhausts to the suppression pool. At the time, the unit was operating at 100 percent power and the B loop of the Residual Heat Removal Service Water (RHRSW) System was out of service and under equipment clearance for maintenance since January 16, 1984. Pump 1C of the redundant RHRSW Loop A was started, and within five seconds, it tripped concurrent with a loop low suction header pressure alarm annunciation. A check of the loop suction header pressure indicator revealed a pressure of 60 psig. Pump 1A of the loop was then started, and it too tripped within five seconds of starting, concurrent with a loop low suction header pressure alarm annunciation. Another attempt was made to start the loop 1C pump. It again ran for approximately five seconds and tripped.

The RHRSW System pump low suction pressure trip setpoint is 20 psig. The setpoint works in conjunction with a five-second pump motor trip time delay, which allows establishing adequate pump suction pressure during initial pump startup. Following the incurred pump trips, it was determined that a problem existed with the loop suction header pressure sensing instrumentation. At 0445 on January 19, 1984, a limiting condition for operation (LCO) was established for the loop. The inoperability of both RHRSW loops renders the suppression pool cooling and shutdown cooling modes of the Residual Heat Removal (RHR) System inoperable.

The plant Service Water System, which is composed of two separate headers (the conventional service water (CSW) header and the nuclear service water (NSW) header), respectively, supplies the A and B RHRSW System loops' suction headers. In addition, each plant Service Water System header is capable of supplying adequate cooling water flow through the respective RHRSW loop's suction and discharge piping to the loop's corresponding RHR System heat exchanger, A or B.

Within approximately ten minutes of establishing the LCO on the A RHRSW loop, CSW System flow through the loop RHR heat exchanger was begun. This was done to ensure that, if needed, the capability to provide the RHR System cooling did exist. Approximately five minutes later, the loop 1A pump was successfully started, and the loop was returned to service within 15 minutes of the incurred pump trips.

The cause of this event was air in the loop suction piping which prevented the loop suction header pressure switch, 1-SW-PS-1175, from sensing actual header pressure. The RHRSW loops, when not in use, are placed in wet lay-up with well water. The subject RHR System heat exchanger outlet valve, which leaks by, allowed the loop suction header to drain while in wet lay-up.

An evaluation is in progress to determine a method of ensuring that the RHRSW loop suction piping is full of water at all times. A supplement to this report reflecting corrective actions to this event will be submitted by April 13, 1984. This event did not affect the health and safety of the public.



Carolina Power & Light Company

Brunswick Steam Electric Plant
P. O. Box 10429
Southport, NC 28461-0429
March 9, 1984

FILE: B09-13510C
SERIAL: BSEP/84-0585

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

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NO. 1
DOCKET NO. 50-325
LICENSE NO. DPR-71
LICENSEE EVENT REPORT 1-84-1

Gentlemen:

In accordance with Title 10 to the Code of Federal Regulations, the enclosed Licensee Event Report is submitted. In a letter to your office dated February 17, 1984, Serial BSEP/84-0379, it was conveyed that this event would be reported by March 9, 1984. This report fulfills the requirement for a written report in accordance with the format set forth in NUREG-1022, September 1983.

Very truly yours,

C. R. Dietz, General Manager
Brunswick Steam Electric Plant

MJP/cjj/LETCG2

Enclosure

cc: Mr. J. P. O'Reilly

IE22
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