

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Brunswick Steam Electric Plant Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 3 2 5	PAGE (3) 1 OF 0 4
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TITLE (4) Failure to Fully Comply With Liquid and Gaseous Effluent Monitoring Surveillance Requirements

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 8	0 6	8 4	8 4	0 1 5	0 1	0 3	2 7	8 5	Brunswick Unit 2		0 5 0 0 0 3 2 4
THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)											

OPERATING MODE (9) 1	POWER LEVEL (10) 0 7 6	20.402(b)	20.406(c)	50.73(a)(2)(iv)	73.71(b)
		20.406(a)(1)(i)	50.36(e)(1)	50.73(a)(2)(v)	73.71(c)
		20.406(a)(1)(ii)	50.36(e)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.406(a)(1)(iii)	X 50.73(a)(2)(ii)	50.73(a)(2)(viii)(A)	
		20.406(a)(1)(iv)	50.73(a)(2)(iii)	50.73(a)(2)(viii)(B)	
		20.406(a)(1)(v)	50.73(a)(2)(iv)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME M. J. Pastva, Jr., Regulatory Technician	TELEPHONE NUMBER AREA CODE 9 1 9 4 5 7 - 2 3 1 5
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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)

<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
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ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On 08/06/84, at 0200, personnel performing the channel functional test of the Unit 2 Main Service Water System effluent radiation monitor determined the test procedure did not provide for technical specifications (T/S) required testing of the monitor downscale and high voltage supply low inoperable alarm functions. Subsequent reviews of other Units 1 and 2 gaseous and liquid effluent radiation monitor surveillance test procedures revealed similar problems relative to the units' common Main Off-Gas Stack Radiation Monitoring System, each unit's Reactor Building ventilation monitor, each unit's Turbine Building exhaust ventilation radiation monitor, and the Unit 1 main condenser air ejector radioactivity monitors. Unit 2 was unaffected during this time period due to being in a refueling outage. Unit 1 was operating at 76 percent power and Unit 2 was in a refuel/maintenance outage.

These procedural problems resulted from inadequate technical review of the procedures during their initial development. In addition, it was not recognized that the design configurations of the monitors prevents meeting the present T/S surveillance requirements.

Revisions to T/S were requested and received to allow the T/S surveillance requirements to accurately reflect the design configurations of the involved monitors. Also, appropriate revisions to plant test procedures have been made to ensure compliance with the applicable T/S.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

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

On August 6, 1984, at 0200, plant Operations personnel performing the channel functional test of the Unit 2 Main Service Water System effluent radiation monitor, in accordance with PT-04.1.10, determined the PT did not provide for required testing of the monitor downscale and high-voltage power supply low inoperable functions. This was determined when the involved plant Operations personnel noted that the Unit 2 Reactor Turbine Gauge Board (RTGB) alarm annunciator Process Liquid Down-Inoperative was not reset by the PT test procedure after performing the sequence of steps which test for the monitor controls "not in Operate" mode. The subject testing of the liquid effluent monitor, 2-D12-RM-K605, is covered in Technical Specification (T/S) Table 4.3.5.8-1, Notations (d)2 and (d)3. This testing is required to ensure the operability of appropriate Control Room RTGB alarm annunciations. The same PT procedural deficiency also applies to the corresponding Unit 1 Main Service Water System effluent radiation monitor, 1-D12-RM-K605. At the time of this discovery, Unit 1 was operating at 76 percent power and Unit 2 was in a refueling/maintenance outage.

As a result of the identified PT procedural deficiency involving the 1(2)-D12-RM-K605 monitors, other PT procedures for T/S required surveillance testing of the gaseous and liquid effluent radiation monitors of Units 1 and 2 were reviewed to determine their technical adequacy. This review revealed the following PT procedural deficiencies common to both units:

1. PT-04.1.2, the channel functional test of the units' common Main Off-Gas Stack Radiation Monitoring System, did not provide for meeting the surveillance requirements of T/S Table 4.3.5.9-1, Notations (d)2 and (d)4. These requirements specify a direct method to test for appropriate Control Room RTGB alarm annunciation due to an electrical circuit failure (high-voltage low condition) in the power supplies to the Monitoring System instruments, D12-RM-4599-1, 2, and 3. Due to system design, failure of the power supplies to the instruments would be revealed to the Control Operator through RTGB alarm annunciation. This would occur within 5 minutes of loss of instrument counts as measured by the 4599-1, 2, and 3 instruments or by failure of the 4599-1, 2, and 3 instruments' once-per-8-hours automatic source check.
2. PT-04.1.6P, the channel functional test of the units' Reactor Building ventilation monitors, did not provide for meeting the surveillance requirements of T/S Table 4.3.5.9-1, Notations (d)2, (d)3, and (d)4. These requirements specify a direct method to test for appropriate Control Room RTGB alarm annunciation due to an electrical circuit failure (high-voltage low condition) in the power supplies to the monitor instruments, an instrument downscale failure of the monitors' instruments, and the monitors' instrument controls not set in the instrument Operate mode. The instruments involved are the Reactor Building roof ventilation gaseous radiation monitor 1(2)-CAC-AQH-1264.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

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

3. PT-04.2.1, the channel functional test of the units' Turbine Building exhaust ventilation radiation monitors, did not provide for meeting the surveillance requirements of T/S Table 4.3.5.9-1, Notations (d)2 and (d)4. These requirements specify a direct method to test for appropriate Control Room RTGB alarm annunciation due to an electrical circuit failure (high-voltage low condition) in the power supplies to the monitors' instruments, 1(2)-D12-RM-23L. Due to system design, failure of the power supplies to the monitors' instruments would be revealed to the Control Operator through Control Room RTGB alarm annunciation within 5 minutes on a loss of instrument counts as measured by the D12-RM-23L monitors' instruments or by failure of the instruments' once-per-24-hours automatic source check.

4. PT-04.1.3, the channel functional test of the units' common Radiological Waste Liquid Effluent Radiation Monitoring System and test of the automatic isolation function of the system discharge valves, did not provide for meeting the surveillance requirements of T/S Table 4.3.5.8-1, Notation (c)2. These requirements specify a direct method to test for appropriate Control Room RTGB alarm annunciation due to an electrical circuit failure (high-voltage low condition) in the power supplies to the Monitoring System instrument D12-RM-K604. Due to system design, failure of the power supplies to the instrument would be revealed to the Control Operator through an appropriate instrument downscale/inoperable RTGB alarm annunciation.

5. PT-04.1.7, the channel functional test of each unit's main condenser air ejector radiation monitors, did not provide for meeting the surveillance requirements of T/S Table 4.3.5.9-1, Notation (c)2. These requirements specify a direct method to test for appropriate Control Room alarm annunciation due to an electrical circuit failure (high-voltage low condition) in the power supplies to the monitors' instruments, 1(2)-D12-RM-K601A and K601B, on a once-per-quarter periodicity.

The Unit 1 main condenser air ejector radiation monitors were calibrated in the first quarter of 1984: K601B on March 5, 1984, and K601A on April 12, 1984. The calibration of these monitors, covered by PT-04.3.6PC, includes a test for circuit failure due to high-voltage low. On March 12, 1984, Unit 2 was shut down for an extended unit outage which lasted through September 1984, thereby eliminating the subject surveillance requirement for Unit 2 during that time frame. On or about August 13, 1984, a determination was made that PT-04.1.7 did not provide for satisfying the subject surveillance requirement. The appropriate section of PT-04.3.6PC was performed to meet the channel functional test. Prior to startup of Unit 2 after its extended unit outage, plant maintenance instruction MI-03-15G1 was performed to ensure compliance with the subject surveillance requirement. Prior to startup of Unit 1 following a brief unit outage, the maintenance instruction was performed on December 1, 1984, to satisfy the surveillance requirement. On December 4, 1984, PT-04.1.7 was appropriately revised to provide for the subject surveillance requirement.

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		8 4	- 0 1 5	- 0 1	0 4	OF 0 4

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The procedural deficiencies involving the subject PTs resulted from inadequate technical review of the PT procedures and the applicable T/S surveillance requirement requests during their initial development. In addition, it was not recognized that the design configuration of the monitors prevents meeting these T/S surveillance requirements added by the implementation of the Radiological Effluent Technical Specifications (RETS).

As a result of this event, the Brunswick Steam Electric Plant (BSEP) On-site Nuclear Safety (ONS) group conducted a procedural audit of the Brunswick Surveillance Program as it pertains to the RETS. This audit determined that with the exception of the identified deficiencies the program is adequate in meeting the surveillance requirements of RETS.

Revisions to T/S were requested and received to allow the T/S surveillance requirements to accurately reflect the design configurations of the subject monitoring instrumentation. Also, appropriate revisions to plant test procedures have been made to ensure compliance with the applicable T/S.



Carolina Power & Light Company

Brunswick Steam Electric Plant
P. O. Box 10429
Southport, NC 28461-0429
March 27, 1985

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

BRUNSWICK STEAM ELECTRIC PLANT UNIT 1
DOCKET NO. 50-325
LICENSE NO. DPR-71
SUPPLEMENT TO LICENSEE EVENT REPORT 1-84-015

Gentlemen:

In accordance with Title 10 to 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,

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

MJP/dj/LETDJ1

Enclosure

cc: Dr. J. N. Grace

IE22
11