

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 2					
TITLE (4) Inadequate Surveillance Tests to Verify Slope of Average Power Range Monitor Flow Bias Thermal Trip and Upscale 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						DOCKET NUMBER(S)										
									Brunswick Unit 2						0 5 0 0 0 3 2 4										
1	0	1	0	8	5	8	5	—	0	5	6	—	0	0	1	1	0	8	5	0 5 0 0 0					
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)																							
5		20.402(b)				20.405(c)				50.73(a)(2)(iv)				73.71(b)											
POWER LEVEL (10)		20.405(a)(1)(i)				50.36(c)(1)				50.73(a)(2)(v)				73.71(c)											
0 0 0		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															
M. J. Pastva, Jr., Regulatory Technician										AREA CODE		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 NRC		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC															
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 fifteen single-space typewritten lines) (16)

On 10/10/85, a Corporate Quality Assurance audit determined adequate plant procedures did not exist to test the slope of the average power range monitor (APRM) flow bias setpoints. The procedures qualitatively checked the slope of the thermal trip circuitry, but the only quantitative check was that of the 100% flow setpoint of the thermal RPS trip and upscale alarm. Procedures did adjust the 0% flow point of the APRM upscale alarms if the 100% flow point was determined to be out of tolerance. This procedural inadequacy applies to Units 1 and 2. Unit 1 was in a refuel/maintenance outage and Unit 2 was at 10%.

This event resulted from a misunderstanding of the testing requirements and inadequate technical review which led to an inappropriate procedural revision in October 1983.

The Unit 2 APRM setpoints were checked and found to be satisfactory. Following a check of the Unit 1 APRM setpoints, adjustments were made to the unit APRMs C and F to reestablish the proper APRM slope. No setpoints for any APRM RPS trips were found in excess of technical specification values.

Appropriate procedural revisions and/or development will be made to ensure proper testing of the slope of the APRM flow bias thermal trip and upscale alarm rod block functions.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

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 1	0 5 0 0 0 3 2 5 8 5	—	0 5 6	—	0 0 0	2	OF 0 2

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

On October 10, 1985, a Corporate Quality Assurance audit determined adequate plant procedures did not exist to test the slope of the average power range monitor (APRM) flow bias setpoints. The APRM slope circuitry is shared by the APRM thermal Reactor Protection System (RPS) trip and the APRM upscale rod block setpoints which are a function of core flow ($[0.66W + 54\%]$ and $[0.66W + 42\%]$ where W = loop recirculation flow in percent of rated flow). Procedures for APRM surveillance qualitatively checked the APRM thermal trip slope. The only quantitative procedural check performed was the 100% flow setpoint of the thermal RPS trip and upscale alarm. They failed to quantitatively check any other flow points. At least one other flow input is required to permit the establishment of a value for the slope and allow verification that the setpoints are within the required technical specifications (T/S) values. Procedures did calibrate the 0% flow point of the APRM upscale alarm if the 100% flow point was out of tolerance. In this case, the subsequent check of the 100% flow point within required tolerance did prove the slope within T/S compliance. In addition, neither prior revisions nor the revision of Periodic Test (PT) 01.1.7PC in use at the time of this discovery provided for verification of the slope of the APRM flow bias upscale alarm rod block, which due to its proximity to the T/S requirements was not adequately checked when the RPS thermal trip slope was qualitatively checked. This procedural inadequacy applies to Units 1 and 2. At the time of this determination, Unit 1 was in a refueling/maintenance outage and Unit 2 was operating at 10% power.

This procedural inadequacy is attributed to deletion in October of 1983 of appropriate procedural steps from the once per three months channel calibration of the APRM RPS and control rod blocks setpoints, PT-01.1.7PC. It is felt involved personnel assumed the weekly functional test of the RPS thermal trip PT-01.1.7P, qualitatively performed at three different flow signals, satisfied the slope requirement for APRM flow bias setpoints. PT-01.1.7P did not adequately assess the slope to assure the T/S tolerance requirement for both setpoints was being met. Inadequate technical review of the subject procedural revision was a major contributor leading to the procedural problems with PT-01.1.7PC.

Following this event determination, the APRM flow bias RPS thermal trip setting at 0% core flow was checked for the APRMs of Units 1 and 2. Unit 2 APRM values required no tolerance adjustments while on Unit 1, APRMs C and F did require a slope adjustment. As a result of this event prior to the next required performance of the APRM channel calibration for each unit, appropriate procedural revisions and/or development will be made to ensure the subject testing requirement is met.



Carolina Power & Light Company

Brunswick Steam Electric Plant
P. O. Box 10429
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November 8, 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
LICENSEE EVENT REPORT 1-85-056

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,

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

MJP/ag

Enclosure

cc: Dr. J. N. Grace

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