NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

LICENSEE EVENT REPORT (LER)

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

TITLE (4)

Inadequate Calibration of the Units 1 and 2 Reactor Shroud Level Instrumentation

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	0 3	8 5	8 5	0 0 1	0 0				Brunswick Unit 2	0 5 0 0 0 3 2 4
										0 5 0 0 0

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 9 9	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
		20.405(a)(1)(ii)	50.36(c)(2)	X 50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	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 Technician	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	

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 01/03/85, a determination was made that the calibration of the Units 1 and 2 reactor vessel shroud level instruments, 1(2)-B21-LTM-N036-1 and N037-1, did not meet the design intent. This was based on a discovered inconsistency between the plant instrument calibration procedure for the subject instruments and the Instrument Data Sheet of the instruments' manufacturer. Use of the subject calibration procedure resulted in the instruments providing a permissive to allow manual initiation of primary containment spray when vessel level has been restored above the technical specifications of >/= -53" reactor level following a loss of coolant accident. After correspondence with General Electric, the system designer, a determination was made that the design intent of the N036-1 and N037-1 is to prohibit a containment spray permissive on reactor level >/= -53".

Following a determination of the design intent of the N036-1 and N037-1 instruments, appropriate calibration procedure for the instruments was rewritten and the instruments were properly calibrated.

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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 0 1	— 0 0	0 2 OF 0 2

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

On January 3, 1985, a determination was made that the calibration method employed to establish the actuation setpoints of the Units 1 and 2 reactor vessel shroud level instruments resulted in failure to meet the design intent of the instruments. These instruments, 1(2)-B21-LTM-N036-1 and N037-1, provide reactor shroud level permissive logic input to the primary containment spray mode of the unit Residual Heat Removal (RHR) System. The calibration method based the instruments' actuation setpoints as a function of the reset setpoints by utilizing an increasing input signal and verifying that containment spray could not be initiated prior to reaching >/= -53". The calibration method was developed from an interpretation that the purpose of the instruments is to provide a permissive to initiate primary containment spray after a loss of coolant accident following restoration of reactor level above the technical specifications setpoint. The actual design intent is to prohibit containment spray prior to and below a setpoint, >/= -53". The initial interpretation was based on the plant Final Safety Analysis Report and sheet 8, revision 1, of Instrument Data Sheet 234A9301RL in Volume V, Book 1, GEK-16654, of the instruments' Technical Manual, GEK-9693. Revision 1 to the sheet did not specify a direction for the setpoint. However, revision 9 to the Instrument Data Sheet specified the setpoint in the decreasing level direction.

Due to the instrument reset band inherent in the instruments, the capability existed to manually initiate primary containment spray on a decreasing reactor level until -53.44" without use of the permissive interlock manual override.

Following correspondence with General Electric concerning the design intent of the N036-1 and N037-1, a determination was made that the instruments are designed to prohibit containment spray on decreasing reactor level at a value of >/= -53".

Appropriate changes to the calibration procedures for the N036-1 and N037-1 instruments of both units were made, and the instruments were calibrated and returned to service.

CP&L

Carolina Power & Light Company

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February 1, 1985

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SERIAL: BSEP/85-0102

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 1-85-1

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/smp/LETSMP

Enclosure

cc: Mr. R. C. DeYoung
Mr. J. P. O'Reilly

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