



Carolina Power & Light Company

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

April 3, 1991

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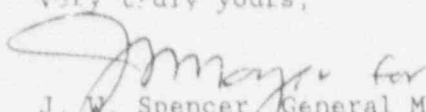
U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

BRUNSWICK STEAM ELECTRIC PLANT UNIT 1
DOCKET NO. 50-325
LICENSE NO. DRP-71
LICENSEE EVENT REPORT 1-91-006

Gentlemen:

In accordance with Title 10 of 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 submitted in accordance with the format set forth in NUREG-1022, September 1983.

Very truly yours,


J. W. Spencer, General Manager
Brunswick Nuclear Project

GT/

Enclosure

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

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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
(P-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.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Brunswick Steam Electric Plant Unit 1								DOCKET NUMBER (2) 05000325			PAGE (3) 01 OF 03	
TITLE (4) High Pressure Coolant Injection and Reactor Core Isolation Cooling low steam line isolation pressure switches (ASCO Tri-point pressure switches) exceeded the Technical Specification limit, when greater than expected setpoint shifts were experienced.												
EVENT DATE (5)			LER NUMBER (6)				REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)		
MONTH	DAY	YEAR	YEAR	SEQ. NO.	REV. NO.	MONTH	DAY	YEAR	FACILITY NAME		DOCKET NUMBER	
03	04	91	91	- 06	- 00	04	03	91				
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)										
1		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)		X 50.73(a)(2)(v)		73.71(c)				
100		20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vi)		OTHER (Specify in Abstract and Text)				
		20.405(a)(1)(iii)		50.73(a)(2)(i)		50.73(a)(2)(vii)(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)(ix)						
LICENSEE CONTACT FOR THIS LER (12)												
NAME GLEN THEARLING, REGULATORY COMPLIANCE SENIOR SPECIALIST								TELEPHONE NUMBER				
								(913) 457-2039				
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)								EXPECTED SUBMISSION	MONTH	DAY	YEAR	
YES (If yes, complete EXPECTED SUBMISSION DATE)				X	NO	DATE (15)						

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

Unit 1 ASCO Tri-point pressure switches associated with the HPCI and RCIC low pressure PCIS group 4 or 5 isolations experienced a larger than expected shift in setpoints. This resulted in 4 of 4 RCIC low pressure switches (1-E51-PS-N019A-D) and 3 of 4 HPCI low pressure switches (1-E41-PS-N001A,B and D) exceeding the Technical Specification allowable values (≥ 50 psig for RCIC and ≥ 100 psig for HPCI). Initially this event was determined to be not reportable, but further technical analysis of the event concluded at 1245 on March 4, 1991, that it was reportable. It was identified that the procedures used to calibrate these ASCO Tri-point pressure switches do not provide adequate directions for calibrating the instruments, when the unit is in a cold depressurized condition, therefore they may not remain within the Technical Specification Limit when the units are returned to a hot pressurized condition. This shift in setpoint for ASCO Tri-point pressure switches, between depressurized and pressurized conditions, had been previously identified in EER 88-0310, 88-0347, 88-0367, and 88-0406, but it is now felt that the shift was under estimated for situations where the instruments remained depressurized for long periods (i.e. a refueling outage). This was caused by a lack of available data for long term depressurized conditions, where the instruments were re-adjusted. The safety significance is considered minimal because the switches would function to isolate the lines at a slightly lower pressure.

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

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FACILITY NAME (1)

Brunswick Steam Electric Plant Unit 1

DOCKET
NUMBER (2)

05000325

LER NUMBER (6)

PAGE (3)

YEAR

91

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SEQUENTIAL
NUMBER

06

REVISION
NUMBER

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02 OF 03

TEXT (IF MORE SPACE IS REQUIRED, USE ADDITIONAL NRC FORM 366A'S) (17)

EVENT DESCRIPTION

On February 28, 1991, Technical Specification Surveillance 1MST-RCIC22M was performed on Reactor Core Isolation Cooling System (RCIC) low pressure isolation instruments 1-E51-PS-N019A-D. All four ASCO Tri-point pressure switches were found to have exceeded the Technical Specification allowable limit of ≥ 50 psig. The instruments were found below the Technical Specification allowable value, one at a time, and were recalibrated immediately. They were out of tolerance by 1.15, 2.6, 0.4, and 0.5 psig. On March 1, 1991, 1MST-HPCI22M also identified 3 of 4 ASCO Tri-point low pressure isolation instruments, 1-E41-PS-N001A,B and D, were found non-conservatively set below the Technical Specification limit of ≥ 100 psig. They were out of tolerance by 1.1, 3.5, and 1.7 psig. Initially this event was determined to be not reportable, but further technical analysis of the event concluded at 1245 on March 4, 1991 that it was reportable.

INITIAL CONDITIONS

Unit 1 had completed a refueling outage on February 27, 1991, at 0455 and was continuing the power ascension to 100% power. By February 28, 1991, at 1725, when power was about 40%, 1MST-RCIC22M was completed. On March 1, 1991, at 1653, when power was at about 60%, 1MST-HPCI22M was completed.

EVENT CAUSE

The ASCO Tri-point pressure switches are known to experience setpoint shift caused by a hysteresis effect, but the magnitude of the shift was under estimated due to the lack of data from long periods with the pressure switches depressurized and a calibration having been performed during these periods. The shift in setpoint is not a concern unless a calibration is performed on the instrument while depressurized, and it has been depressurized for greater than two days.

CORRECTIVE ACTIONS

The involved ASCO Tri-point pressure switches were immediately calibrated as they were found out of tolerance. A proposal, Project Identification (PID) G-0027A, ASCO Pressure Switch Replacement, was prepared on December 13, 1990. It has proposed the replacement of the HPCI pressure switches 1/2-E41-PS-N001A-D with Rosemount transmitters, and that the RCIC pressure switches 1/2-E51-PS-N019A-D have their setpoints changed from 55 psig to a 75 psig value, that would provide an adequate margin for the setpoint shift. The interim changes established by EER 88-406 are being re-evaluated to address the additional data made available since the completion of the Unit 1 refueling outage and new corrective actions will be established as the need is identified. If the HPCI or RCIC MST's are performed while in Mode 4 or 5 (depressurized), procedure revision requests 91-0593 for Unit 1 and 91-0594 for Unit 2, will require the System Engineer to be contacted prior to an adjustment from the "as found" setpoint.

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	05000325		YEAR		SEQUENTIAL NUMBER		REVISION NUMBER
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							03 OF 03

TEXT (IF MORE SPACE IS REQUIRED, USE ADDITIONAL NRC FORM 366A'S) (1.)

EVENT ASSESSMENT

The safety significance is minimal in that the switches exceeded their allowable setpoints by a small amount. The isolation would still occur when this setpoint was reached, thus fulfilling its design function of isolating the steam line on a gross rupture (inside Primary Containment) upstream of the high flow sensing instrumentation.

E.I.L.S. CODES

RCIC
HPCI
PCIS

BN
BJ
JM