NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

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 3

TITLE (4) Manual HPCI Isolation Due to Steam Leak Detection Instrumentation Operating Outside of Normal Range

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 4	0 7	8 9	8 9	0 1 2	0 0	0 5	0 5	8 9		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)	2	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 1 2	20.402(b)	20.405(c)	X 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)	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
Tony Harris, Regulatory Compliance Specialist	AREA CODE 9 1 9 4 5 7 - 2 0 3 8

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 4/7/89 at 0100 during the DSR monitoring of the Unit 1 RTGB, a channel check of the HPCI System steam line differential pressure transmitter monitor determined that the instrument was operating outside of its required tolerance. The instrument and the HPCI steam leak detection system were declared inoperable in accordance with BSEP Technical Specifications. The HPCI System was manually isolated and thus declared inoperable with the appropriate LCOs initiated.

The system engineer reviewed the concern and issued TSM 89-239 to the Manager - Operations which, based on historical data and previous engineering evaluations, found the current indication to be acceptable. The system was declared operable and returned to service.

Root cause of the event was the establishment of conservatively narrow DSR tolerances for these instruments during the 1988 HPCI steam leak detection instrumentation setpoint adjustments. The adjustment of the HPCI steam leak detection instrument tolerances is included in the work scope of PID 06156A/B, which is to be completed by July 31, 1989. This event is considered to have minimal safety significance.

Event

Manual HPCI isolation due to steam leak detection instrumentation operating outside of normal range.

Initial Conditions

Unit 1 was in Reactor Startup testing following a refueling outage, with the reactor critical at 260 psig and approximately 400 degrees fahrenheit. Low pressure testing of the High Pressure Coolant Injection (HPCI) (EIIS/BJ) and Reactor Core Isolation Cooling (RCIC) (EIIS/BN) systems had been successfully completed and the systems had been placed in standby readiness. The Residual Heat Removal/Low Pressure Coolant Injection (RHR/LPCI) (EIIS/BO) system, Automatic Depressurization System (ADS) (EIIS/*), and Core Spray System (EIIS/BM) A and B loops were operable and in standby readiness.

Event Description

On 4/7/89, at 0100, during the daily surveillance report monitoring (DSR) of the Reactor Turbine Generator Board (RTGB), a channel check of the HPCI System steam line differential pressure transmitter monitor E41-PDT-N004-1 (EIIS/BJ/PT) determined it was reading -22", which is outside the required tolerance of -20" to +20", as specified by the DSR Operating Instruction (OI)-03.1. The redundant monitor, E41-PDT-N005-1, was within the acceptable margin. E41-PDT-N004-1 and the HPCI steam leak detection system were declared inoperable in accordance with Technical Specification 3.3.2. The HPCI System was manually isolated in accordance with Operating Instruction (OI)-18, requiring HPCI to be declared inoperable. The appropriate Limiting Conditions of Operation (LCOs) were initiated. The system engineer reviewed the concern and issued Technical Support Memorandum (TSM) 89-239 to the Manager - Operations noting the following:

1. Engineering Evaluation Report (EER) 88-0418 had previously evaluated the 1-E41-N004 instrument setpoints on 9/19/88 and found that "no-flow" readings as low as -33" were acceptable with the current setpoint of 110".

2. The observed indication of -22" is consistent with 1988 data taken during periods of shutdown and startup (-24" to -25") and with historical DSR operational data of -20".

3. Maintenance checks of the instrument calibration performed subsequent to the event found no problems. The transmitter instrument line was backfilled with no changes in indication.

*No EIIS system code available

Based upon the aforementioned determinations, the current indication of -22" was considered to be acceptable. As there were no other indications of problems associated with the leak detection system, it was judged the instrument indications were normal for a startup after a long shutdown period and were not significantly different than the normal indication of -20". Therefore the HPCI steam leak detection system could be considered operable and the HPCI System could be returned to service. The involved LCOs were canceled and the HPCI system was returned to standby readiness on 4/8/89 at 0000.

Event Cause

The root cause of this event was the establishment of extremely narrow DSR tolerances for the N004 instruments during the 1988 HPCI steam leak detection instrumentation setpoint adjustments. This instrument historically has experienced a slight shift of indication following startup after a long outage. Such a shift is not unexpected as the plant heats up and is pressurized during the startup evolution.

As committed to in LER 1-88-014, setpoint changes per resolution of Project Identification Document (PID) 06156A and B are to be implemented by July 31, 1989. Included in the workscope is the adjustment of the allowable range for this instrument. The design and analysis necessary to make these changes are in progress to support resolution of this item as scheduled.

Corrective Action

As per TSM 89-239, operations expanded the DSR allowable range to -33" to +20" in OP-03.1. PID 06156A and B will complete the setpoint revisions per LER 1-88-014 by July 31, 1989.

Event Assessment

The significance of this event is considered minimal because the system leak detection instrumentation was subsequently determined to be operable, as evaluated by EER 88-0418, and the HPCI System could have been returned to service had it been needed. The system was only inoperable due to conservatively manually isolating the HPCI System until evaluations had been completed. Other required Emergency Core Cooling System (ECCS) systems were operable during the period HPCI was isolated. At the time of, and for the duration of the event, reactor pressure was maintained at approximately 260 psig. At this pressure, the core spray and LPCI systems would be the primary injection means for water into the vessel in the event of a loss of coolant accident.

CP&L
Carolina Power & Light Company

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

May 5, 1989

FILE: B09-13510C 10CFR50.73
SERIAL: BSEP/89-0437

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

BRUNSWICK STEAM ELECTRIC PLANT UNIT 1
DOCKET NO. 50-325
LICENSE NO. DPR-71
LICENSEE EVENT REPORT 1-89-12

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,

J. L. Harness, General Manager
Brunswick Nuclear Project

TH/mcg

Enclosure

cc: Mr. S. D. Ebneter
Mr. E. G. Tourigny
BSEP NRC Resident Office

IE22
1/1