



Carolina Power & Light Company

Brunswick Nuclear Project
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APR 9 1992

FILE: B09-13510C

10CFR50.73

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

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
DOCKET NO. 50-324
LICENSE NO. DPR-62
LICENSEE EVENT REPORT 2-92-002

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

RK/

Enclosure

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

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PDR ADDICK 05000324
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LICENSEE EVENT REPORT (LER)

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-130), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Brunswick Steam Electric Plant
Unit 2

DOCKET NUMBER (2)
05000324

PAGE (3)

1

TITLE (4) HIGH PRESSURE COOLANT INJECTION SYSTEM AUTOMATIC ISOLATION OCCURRED DURING MAINTENANCE SURVEILLANCE

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
3	17	92	92	- 02	- 0	4	16	92		

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more of the following) (11)

OPERATING MODE (9)	1	20.402(b)	20.405(c)	X	50.73(a)(2)(iv)	73.71(e)
POWER LEVEL (10)	77%	20.405(a)(1)(i)	50.36(v)(1)	X	50.73(a)(2)(v)	73.71(e)
		20.405(a)(1)(ii)	50.36(v)(2)		50.73(a)(2)(vi)	OTHER (specify in Abstract and Text)
		20.405(a)(1)(iii)	50.73(a)(2)(f)		50.73(a)(2)(vii)(A)	
		20.405(a)(1)(iv)	50.73(a)(2)(g)		50.73(a)(2)(vii)(B)	
		20.405(a)(1)(v)	50.73(a)(2)(h)		50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME Rhonda S. Knight, Regulatory Compliance Specialist

TELEPHONE NUMBER

(919) 457-2174

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)

YES (If yes, complete EXPECTED SUBMISSION DATE)	X	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

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

On March 17, 1992, at 1330 hours, Unit 2 was at approximately 77% power. Instrumentation and Control (I&C) technicians were performing a maintenance surveillance test (MST) on the High Pressure Coolant Injection (HPCI) system steam leak detection. The Automatic Depressurization, Core Spray, Reactor Core Isolation Cooling, and Low Pressure Coolant Injection systems were operable. The "A" channel of the HPCI system had been placed in the "test" mode by I&C technicians. An I&C technician in the field twice correctly read the next step to be performed. This step involved heating an "A" logic temperature switch. He performed the step. The Control Room technician recognized that an annunciator for "HPCI "B" Logic Isolation" was in alarm. The field technician realized that he had not heated up the correct temperature switch and had caused an isolation signal to the HPCI "B" logic which was not in the "test" mode. This generated a "B" logic primary containment isolation signal. The testing was stopped. HPCI remained inoperable until the cause of the isolation was determined and the signal was reset. At approximately 1353, the I&C technicians returned HPCI to service as per the MST and instructions from the I&C Foreman. After a briefing with Operations and I&C personnel, the Senior Reactor Operator gave permission to resume the test. I&C satisfactorily completed the test. The cause of this event was a mindset on the part of the field technician. The safety significance of this event was minimal in that the "B" HPCI steam leak detection logic functioned as designed.

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REG. EST: 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) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (3)				PAGE (3)
Brunswick Steam Electric Plant Unit 2	05000324	YEAR	SEQ NO.	REV NO.	2	
		92	02	0		

TEXT (If more space is required, use additional NRC Form 368A's) (17)

INITIAL CONDITIONS

On March 17, 1992, at 1330 hours, Unit 2 was operating at approximately 77% reactor power. Instrumentation and Control (I&C) technicians were in the process of performing a maintenance surveillance test (MST) on the High Pressure Coolant Injection (HPCI) system steam leak detection. The Automatic Depressurization system, Core Spray system, Reactor Core Isolation Cooling system, and Low Pressure Coolant Injection system were operable.

EVENT NARRATIVE

The "A" channel of the HPCI system had been placed in the "test" mode by I&C technicians during the performance of the HPCI Steam Leak Detection Channel Functional Test. Per Technical Specifications, a channel may be placed in an inoperable status for surveillance testing. The test was in process and a number of steps had been successfully completed. During the performance of this test, the "A" logic was bypassed via the logic test switch. (The "B" logic was not in the "test" mode.) An I&C technician in the field twice correctly read the next step to be performed. This step involved heating an "A" logic temperature switch which is located approximately 18 feet above the floor. (It required using a long pole with a heating device on the far end). An I&C technician in the Control Room verified that the field technician had read the step correctly both times. The field technician then proceeded to perform the step. During the performance of this step, the I&C technician in the Control Room recognized that an annunciator for "HPCI "B" Logic Isolation" was in alarm. She questioned the I&C technician in the field. Upon checking, he realized that he had not heated up the correct temperature switch and had caused an isolation signal to the HPCI "B" logic which was not in the "test" mode. This generated a "B" logic primary containment isolation signal. The HPCI Steam Supply Inboard Isolation valve (2-E41-F002) and the HPCI Torus Suction Inboard Isolation valve (2-E41-F042) received closed signals. 2-E41-F002 closed and 2-E41-F042 was already closed. This rendered HPCI inoperable. The testing was immediately stopped. HPCI remained inoperable until the cause of the isolation was determined and the signal was reset. (This was approximately 23 minutes.)

At approximately 1353, the I&C technicians returned HPCI to service per the MST and instructions provided by the I&C Foreman. A briefing was held with Operations and I&C personnel. At approximately 1507, the Unit 2 senior reactor operator gave I&C technicians permission to resume the HPCI MST. Subsequently, at approximately 1700, I&C technicians satisfactorily completed the test.

CAUSE OF

The cause of the event was a mindset on the part of the I&C field technician. Prior to going to the job location in the HPCI room, the technician had the notion that the first switch in the procedure required him to heat was physically the first switch on the left along the wall. Actually the second switch was the one the I&C technician should have heated first. Normally, there are two experienced I&C technicians in the area when this test is being performed. This is not required by the procedure, but the second I&C technician normally reads the procedure to the I&C technician performing the actions and verifies that the actions are correct.

A factor which may have contributed to this cause is the difference in the order that the HPCI temperature switches are heated during the monthly and quarterly tests. The sequence in the quarterly HPCI MST requires that the temperature switch located first (physically) along the wall is heated first. The monthly HPCI MST requires that the second temperature switch located on the wall be heated first. This may have been a contributor to the mindset on the part of the field I&C technician.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)				PAGE (3)
Brunswick Steam Electric Plant Unit 2	05000324	YEAR		SEQ NO.	REV NO.	3
		92		02	0	

TEXT (If more space is required, use additional NRC Form 365A's) (17)

Other contributing factors to the event included the following:

1. The label could be difficult to read from an angle, due to pipe hangers in the area.
2. The length of the headset cord that the I&C technician was using was not the optimum length. Because the headset cord would not reach to the farthest testing position, the technician had to lay down the procedure, remove the headset, walk over to the testing position, get the pole used to heat the temperature switches and locate the switch again from a different perspective and heat the switch. In the course of these actions, the technician went to the switch in the "B" logic instead of the "A" logic switch.

CORRECTIVE ACTIONS

The technician and the crew involved have been counselled. The counselling emphasized the need for self-checking and verification of components prior to beginning an evolution and during performance of the evolution.

The labels on the temperature switches referenced in this LER have been replaced with signs that are easier to read. These signs are color coded to coincide with the site standard colors for A and B logics.

This event will be reviewed with the appropriate maintenance personnel.

Plant modifications involving HPCI steam leak detection upgrade are scheduled for installation during the next refueling outages on Units 1 and 2 respectively. These modifications will eliminate some of the testing problems currently encountered. The plan is to replace the local temperature switches (which the technician was heating) with thermocouples. Installation of the thermocouples will result in remote testing capabilities (NUMAC drawers) of the HPCI steam leak detection. This remote testing will be performed at a panel located in an accessible area and will not require heating temperature switches on a monthly basis.

SAFETY ASSESSMENT

The safety significance of this event is minimal in that the event was caused by the testing in progress at the time. The B logic of the HPCI steam leak detection functioned as designed.

PREVIOUS SIMILAR EVENTS

Other similar events were reported in LERs 2-89-011, 2-90-005, 2-89-003.

EIIS COMPONENT IDENTIFICATION

System/Component

EIIS Code

HIGH PRESSURE COOLANT INJECTION (HPCI)

BJ

HPCI/TEMPERATURE SWITCH

BJ/