



DEC 21 1995

SERIAL: BSEP-95-0640
10 CFR 50.73

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. DPR-71
SUPPLEMENTAL LICENSEE EVENT REPORT 1-95-20

Gentlemen:

In accordance with the Code of Federal Regulations, Title 10, Part 50.73, Carolina Power & Light Company submits the enclosed Supplemental Licensee Event Report. The original report fulfilled the requirement for a written report within thirty (30) days of a reportable occurrence and was submitted in accordance with the format set forth in NUREG-1022, September 1983.

Please refer any questions regarding this submittal to Mr. K. A. Harris at (910) 457-3312.

Sincerely,

W. Levis, Director-Site Operations
Brunswick Nuclear Plant

SFT/

Enclosures

1. Supplemental Licensee Event Report
2. Summary of Commitments

cc: Mr. S. D. Ebnetter, Regional Administrator, Region II
Mr. D. C. Trirable, Jr., NRR Project Manager - Brunswick Units 1 and 2
Mr. C. A. Patterson, Brunswick NRC Senior Resident Inspector
The Honorable H. Wells, Chairman - North Carolina Utilities Commission

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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 INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, 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)

1 of 4

TITLE (4)
Control Building Emergency Air Filtration System (CBEAF) Unable To Maintain Positive Control Room Pressure In The Radiation Protection Mode

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 NAME	DOCKET NUMBER
10	25	95	95	- 20 -	01	12	21	95	BSEP-Unit 2	50-324
									FACILITY NAME	DOCKET NUMBER
										05000

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following)(11)								
		20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)		
		20.405(a)(1)(ii)		50.36(c)(1)		50.73(a)(2)(v)		73.71(c)		
POWER LEVEL (10)	100	20.405(a)(1)(iii)		50.36(c)(2)		50.73(a)(2)(vii)		OTHER		
		20.405(a)(1)(iii)	X	50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		(Specify in Abstract and Text)		
		20.405(a)(1)(iv)		50.73(a)(2)(iii)		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

Steve F. Tabor, Regulatory Affairs Specialist

TELEPHONE NUMBER

(910) 457-2178

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)

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

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

On October 25, 1995, testing of the control room pressure envelope was initiated to obtain baseline differential pressure data to support future plant enhancements. Upon entering the radiation protection mode of the Control Building Emergency Air Filtration (CBEAF) system, control room pressure was measured to be -0.04 inches of water. Control room pressure is required by the Technical Specifications to be positive to minimize radioactive material intrusion into the control room during accident conditions. Within 2.5 hours following the test it was determined that certain system configuration changes would maintain control room positive pressure and compensatory actions were implemented to ensure control room pressure remained positive with the CBEAF system configured in the radiation protection mode. An operability assessment of the above configuration was immediately initiated and completed on October 29, 1995. This assessment concluded that operability of the CBEAF system could be assured provided certain restrictions on CBEAF system configuration were maintained. In conjunction with this assessment, troubleshooting continued and a root cause investigation was performed to determine the cause of the event. The most probable cause of the negative control room pressure condition is the cumulative degradation of control room cable seals and ductwork. Following completion of troubleshooting activities, system repairs, and a satisfactory surveillance test, the Control Building Ventilation system was declared operable with no compensatory measures on December 4, 1995.

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

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Brunswick Steam Electric Plant Unit 1	05000325	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 of 4
		95	- 20 -	01	

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

TITLE

Control Building Emergency Air Filtration (CBEAF) System Unable To Maintain Positive Control Room Pressure In The Radiation Protection Mode

INITIAL CONDITIONS

On October 25, 1995, Unit 1 was operating at 100% power and Unit 2 was operating at 88% power. Testing of the control room pressure envelope was in progress.

EVENT NARRATIVE

On October 25, 1995, testing of the control room pressure envelope was initiated to develop baseline data to support future plant enhancements. With the control building ventilation system configured in the normal mode of operation, control room pressure was measured at +0.03 inches of water. Subsequently, with the system configured in the radiation protection mode (CBEAF), control room pressure was measured at -0.04 inches of water.

Troubleshooting activities were initiated to reverify CBEAF system lineup, and verify the condition and position of associated ductwork and dampers. Within 2.5 hours following the test it was determined that certain system configuration changes would maintain control room positive pressure and compensatory actions were implemented to ensure control room pressure remained positive with the CBEAF system configured in the radiation protection mode. An engineering evaluation was initiated to assess the operability of the CBEAF system.

On October 29, 1995, the engineering evaluation concluded that operability of the CBEAF system could be assured provided certain restrictions on CBEAF system configuration were maintained. The engineering evaluation also validated the acceptability of each of the restrictions on operation of the ventilation system for this interim period. Plant operating procedures were revised to implement the necessary temporary configuration changes for the radiation protection mode.

Follow up troubleshooting which included flow balancing of battery room ventilation, and repairs to duct work, conduit/cable seals, and door seals provided adequate system improvement to maintain positive pressure in the control room while operating the ventilation in the radiation protection mode. The surveillance test (PT 46.4, "Control Building HVAC Auto Initiation") was performed successfully on December 3, 1995, and the Control Building Emergency Ventilation System was declared operable on December 4, 1995, with no compensatory measures.

During the performance of the surveillance test it was discovered that a deficiency existed in the procedure with respect to the acceptance criteria. The procedure requires timing the closure of damper 2J-D-CB (emergency recirculation damper) after receiving a chlorine isolation signal. Past surveillance tests have verified that the damper would open on demand of a radiation/smoke signal and would remain closed upon receiving a chlorine signal during normal operation. However, the test configuration did not properly time damper closure. The last time this damper was timed properly was March 19, 1993. The surveillance procedure was revised and the damper in question was properly timed during the December 3, 1995 performance. The damper issue is being added to this report in accordance with the requirements of 10 CFR 50.73(a)(2)(i) in that the failure to test the damper adequately

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represents a condition prohibited by the Technical Specification requirements for Control Building ventilation surveillance.

CAUSE OF EVENT

Troubleshooting and investigation into the cause of the negative control room pressure condition did not conclusively identify a single cause of the event. The most probable cause of the negative control room pressure is the cumulative degradation of control room cable seals and ductwork.

The cause of the inadequate surveillance on the 2J-D-CB damper was due to a lack of understanding regarding the exact design basis requirements. Although the damper closure timing requirement was known, the required testing configuration needed to meet the acceptance criteria was not understood.

CORRECTIVE ACTIONS

CP&L formed a project team to develop and implement a plan for system optimization of the control building ventilation systems and interacting ventilation systems. The initial phase of this plan implemented battery room ventilation flow balancing, minor cable seal and duct repairs, and repairing and/or adding seals on the control room and cable spread room doors. The results of this initial effort restored CBEAF system operability with no compensatory requirements.

The 2J-D-CB damper surveillance procedural deficiency has been corrected to ensure proper damper closure testing.

As a corrective action to prevent recurrence of this event, a safety system functional inspection (SSFI) will be completed for the Control Building HVAC system. The SSFI will initiate system repairs, procedural changes, and modifications, as needed, to ensure system functional reliability.

A plan which establishes periodic functional testing of control building HVAC system and components will be developed and implemented by May 15, 1996.

A preventive maintenance inspection procedure will be developed and implemented by May 15, 1996, to evaluate the condition of, and repair as required, the control building access door seals.

SAFETY ASSESSMENT

The safety significance of this event is considered to be minimal.

Engineering evaluated, by calculation, the impact of the -.04 inch of water pressure with respect to the design basis and GDC-19 requirements. The evaluation determined that Brunswick was well within design basis at this pressure. A third party review of this evaluation concurred with the conclusions.

The 2J-D-CB damper has previously been evaluated and accepted as a single failure point. Failure of the damper to close is bounded by this analysis.

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PREVIOUS SIMILAR EVENTS

Events involving the inoperability of the CBEAF system have been reported previously in LERs 1-90-007, 1-91-022, and 1-94-002; however, these reports did not involve the inability to maintain positive control room pressure in the radiation protection mode.

EIIS COMPONENT IDENTIFICATION

System/Component

EIIS Code

Control Building Emergency Air Filtration System

VI

Condition Report # 95-02591 and # 95-02873

Enclosure
List of Regulatory Commitments

The following table identifies those actions committed to by Carolina Power & Light Company in this document. Any other actions discussed in the submittal represent intended or planned actions by Carolina Power & Light Company. They are described to the NRC for the NRC's information and are not regulatory commitments. Please notify the Manager-Regulatory Affairs at the Brunswick Nuclear Plant of any questions regarding this document or any associated regulatory commitments.

Commitment	Committed date or outage
A plan which establishes periodic functional testing of control building HVAC system and components will be developed and implemented.	5/15/96
A preventive maintenance inspection procedure will be developed and implemented to evaluate the condition of, and repair as required, the control building access door seals.	5/15/96
A safety system functional inspection (SSFI) will be completed for the Control Building HVAC system.	6/30/96