



Carolina Power & Light Company

Brunswick Nuclear Project
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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. DPR-71
LICENSEE EVENT REPORT 1-92-004

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. Ebner
Mr. N. B. Le
BSEP NRC Resident Office

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Brunswick Steam Electric Plant
Unit 1DOCKET NUMBER (2)
05000325

PAGE (3)

1

TITLE (4) RESIDUAL HEAT REMOVAL ROOM COOLER FOUND INOPERABLE DUE TO OUTLET DAMPER NOT PASSING
SUFFICIENT FLOW

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	
1	27	92	92	004	0	2	26	92			

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

OPERATING MODE (9)	1	20.402(a)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)	100	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)(vi)	OTHER (Specify in Abstract and Text)
		20.405(a)(1)(iii)	X 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)(vii)(B)	
		20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(ix)	

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)

EXPECTED SUBMISSION

MONTH

DAY

YEAR

DATE (15)

YES (if yes, complete EXPECTED SUBMISSION DATE)

X

NO

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

Unit 1 was operating at 100% power. Emergency core cooling systems and diesel generators were operable. On January 27, 1992, while an Operations Shift Supervisor was touring the Unit 1 Reactor Building, he noted that the ambient temperatures in the north and south Residual Heat Removal (RHR) rooms were noticeably different along with a lack of air flow to the High Pressure Coolant Injection room. He contacted the engineer for the HVAC system who then performed a limited inspection of the south damper and found that the two top and two bottom louvers were closed, the two louvers in the middle were fully open, and some linkage was broken. At 1745 on January 27, 1992, an active Limiting Condition of Operation (LCO) on the RHR system was initiated due to this condition. Based on an engineering evaluation, the room cooler was made temporarily operable by wiring the damper open and modifying the temperature and limit switch fan start logic by installation of a jumper. This condition will exist until parts can be obtained and repairs to the damper linkage can be completed. Based upon this compensatory action, the active LCO was cancelled on January 29, 1992, and a tracking LCO was initiated to administratively follow this item until the damper linkage replacement. The damper linkage was replaced and the LCO was cancelled on February 25, 1992. The failure mechanism of the south RHR room damper was a broken linkage. A contributing factor to this event is that the preventative maintenance procedure used to inspect the damper did not include a requirement to inspect the internal linkage of the damper. The safety impact of this event was minimal due to the fact that the north RHR room cooler damper was inspected and verified to be capable of fulfilling its designed safety function a (i.e. 100% cooling capacity existed).

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENT 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.

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

TITLE

RESIDUAL HEAT REMOVAL ROOM COOLER FOUND INOPERABLE DUE TO OUTLET DAMPER NOT PASSING SUFFICIENT FLOW

INITIAL CONDITIONS

Unit 1 was operating at 100% power. Emergency core cooling systems and diesel generators were operable.

EVENT NARRATIVE

On January 27, 1992, while an Operations Shift Supervisor was touring the Unit 1 Reactor Building, he noted that the ambient temperatures in the north and south Residual Heat Removal (RHR) rooms were noticeably different along with a lack of air flow to the High Pressure Coolant Injection Room (HPCI). Upon his return to the Control Room, he contacted the engineer for the reactor building heating, ventilation and air conditioning (HVAC) system and informed him of this concern.

The HVAC system engineer went to the RHR rooms to investigate and he noted that the air flow was not distributed as it should have been with the south RHR room cooler in service. He performed a limited inspection of the south damper via the pitot tube holes and found that the two top and two bottom louvers were closed, the two louvers in the middle were fully open, and some linkage had broken. (This damper is designed to have six louvers operated by a single common linkage).

The north and south RHR room coolers are each 100% capacity coolers feeding a common relatively straight duct which services the north and south RHR rooms and the High Pressure Coolant Injection (HPCI) room located in between. One RHR room cooler is located at each end of the duct. The south cooler was in service with the discharge damper only partially open while the north room cooler was not in service (discharge damper closed). In this event, with the reduced air flow condition, the path of least resistance was for the air to flow to the damper at the opposite end of the duct. Consequently, air traveled down the open duct, met the closed damper, and began to pressurize the duct at the end opposite the running room cooler. This caused the registers farthest away from the south RHR room cooler (i.e., north RHR room) to be satisfied first. The length of time that this condition existed is indeterminate therefore, this event is being reported as operation outside technical specifications.

At 1745 on January 27, 1992, an active Limiting Condition for Operation (LCO) was initiated due to this condition. On January 28, 1992, an engineering evaluation report (EER) was written providing direction to return the cooler to operability by wiring the damper open and modifying the temperature and limit switch fan start logic by installation of a jumper. (Jumpering out the limit switch would allow the control switch and temperature switches to start and stop the fan while bypassing the damper control functions). This condition will exist until repairs to the damper linkage can be completed. With the EER interim actions completed the active LCO was cancelled on January 29, 1992, and a tracking LCO was initiated to administratively follow this item until the damper linkage replacement. This LCO was cancelled on February 25, 1992.

The north RHR room cooler damper was inspected through the pitot holes. From this perspective, it appeared the blades were on equal angles with no degradation of the linkage. This verified that the north RHR room cooler damper was capable of fulfilling its designed safety function.

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

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

CAUSE OF EVENT

The failure mechanism of the B RHR room cooler damper was a broken linkage.

A contributing factor to this event is that the preventative maintenance procedure used to inspect the dampers did not include a requirement to inspect the internal linkage of the dampers. Records indicate that this linkage has not been previously replaced.

CORRECTIVE ACTIONS

The damper was wired open to allow proper air flow and the logic was modified to allow proper fan operation.

The damper linkage was replaced.

The feasibility of replacing the entire damper during the next Unit 1 refueling outage will be examined.

The preventative maintenance procedure used to inspect these dampers will be revised to include an internal inspection of the damper.

An investigation will be performed to identify other dampers on BSEP units 1 and 2 that may have the same problem and to perform an internal inspection of these dampers.

Materials Control has established a minimum stock level of replacement parts for these dampers.

SAFETY ASSESSMENT

Prior to this event, the north RHR room cooler was available to perform it's design function and the south room cooler was available to partially perform it's design function. Because the north and south RHR room coolers service RHR/HPCI which is an interconnecting area and because each of the room coolers is a 100 percent capacity unit with redundant Class 1 source of cooling water and electrical power, a single failure will not cause a loss of cooling capacity to these rooms. In the event of a complete loss of the south RHR room cooler, the north RHR room cooler was capable of providing adequate cooling to these areas.

After wiring the south RHR room cooler damper in the open position and jumpering out the associated limit switch, the damper and room cooler were made available to perform their designed safety function in the event of a loss of the north RHR room cooler. With both RHR room coolers available to perform their designed functions, under reasonable and credible conditions, this condition would not have increased the consequences of an accident.

PREVIOUS SIMILAR EVENTS

A previous event involving Unit 2 RHR room cooler damper limit switch operation was reported in LER 2-85-069.

EXPIRES: 4/30/92

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

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

EIIS COMPONENT IDENTIFICATIONSystem/ComponentEIIS CodeRESIDUAL HEAT REMOVAL/
LOW PRESSURE COOLANT
INJECTION

BO

COOLER*

BO/CLR

DAMPER

BO/CLR/DMP

*ROOM COOLER