



Carolina Power & Light Company

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

JUN 16 1994

SERIAL: BSEP-94-0217
10CFR50.73

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

BRUNSWICK NUCLEAR PLANT UNIT 1 and 2
DOCKET NO. 50-325/50-324 LICENSE NO. DRP-71/DRP-62
LICENSEE EVENT REPORT 1-94-003

Gentlemen:

In accordance with the Code of Federal Regulations, Title 10, Part 50.73, Carolina Power & Light Company submits the enclosed Licensee Event Report. 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.

Please refer any questions regarding this submittal to Mr. M. A. Turkal at (910) 457-3066.

Very truly yours,

J. Cowan, Director-Site Operations
Brunswick Nuclear Plant

GMT/

Enclosures

1. Licensee Event Report
2. Summary of Commitments

cc: Mr. S. D. Ebnetter, Regional Administrator, Region II
Mr. P. D. Milano, NRR Project Manager - Brunswick Units 1 and 2
Mr. R. L. Prevatte, Brunswick NRC Senior Resident Inspector

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LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20585-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)
Brunswick Steam Electric Plant, Unit 1

DOCKET NUMBER (2)
05000325

PAGE (3)
1 of 4

TITLE (4)
UNPLANNED ESF ACTUATION RESULTING FROM DE-ENERGIZING THE MAIN STACK RADIATION MONITOR

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
06	03	94	94	- 03 -	00	06	16	94	BSEP UNIT 2	05000324
									FACILITY NAME	DOCKET NUMBER
										05000

OPERATING MODE (9)	01	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more of the following)(11)								
POWER LEVEL (10)	100	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)(iv)		73.71(c)		
		20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)		OTHER		
		20.405(a)(1)(iii)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(A)		(Specify in Abstract and Text)		
		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 M. Thearling, Regulatory Affairs Specialist

TELEPHONE NUMBER
(910) 457-2038

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)	X	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

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

On June 3, 1994, Unit 1 was operating at 100% power and Unit 2 was defueled. Repair activities on the Main Stack Wide Range Gas Monitor (WRGM) sample pump inadvertently de-energized the monitor. The loss of power resulted in unplanned actuations with Unit 1 receiving an isolation of the Containment Atmospheric Control (CAC) and Secondary Containment Isolation systems including a Standby Gas Treatment System (SBGTS) initiation. The impact on Unit 2 was limited to a Secondary Containment isolation as the SBGTS had been removed from service and the CAC valves were being maintained closed. The actuations were verified to be invalid and the affected systems were realigned to support plant conditions. Personnel error is the primary cause of the Main Stack WRGM loss of power with the following areas identified as weaknesses: (1) attention to the work control process by maintenance personnel, (2) communications between maintenance and operations personnel, and (3) operation of plant equipment by maintenance personnel without a clear understanding of the resulting impact. Secondary causes of the event include a deficiency in the detail of the work planning, inadequate turnover of information between maintenance crews, and the lack of inconsistent site standards governing the manipulation of plant components.

This event has minimal safety significance in that the affected systems functioned as required on the invalid signal from the Main Stack WRGM.

The cause classification for this event per the criteria of NUREG-1022 is personnel error.

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 1	05000325	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 of 4
		94	- 03 -	00	

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

TITLE

UNPLANNED ESF ACTUATION RESULTING FROM DE-ENERGIZING THE MAIN STACK RADIATION MONITOR

INITIAL CONDITIONS

On June 3, 1994, Unit 1 was operating at 100% power and Unit 2 was defueled to support the ongoing refuel outage (B211R1). The Unit 2 Standby Gas Treatment System (SBGTS) was removed from service and the Containment Atmospheric Control (CAC) system isolation valves were being maintained in the closed position in support of outage related activities.

EVENT NARRATIVE

On June 2, 1994, a maintenance work order (WR/JO) was generated to repair the main stack radiation monitor sample pump motor. The maintenance planner coordinated work instruction development with a repair crew supervisor and generated general, nonspecific work instructions whose successful implementation relied heavily on this repair crew supervisor's participation.

The work package was approved by the Work Control Center Senior Reactor Operator (WCC SRO) who was familiar with this maintenance activity.

Due to higher priority work, the repair of the sample pump motor was delayed. The work package was then assigned to a different crew which had no previous experience in replacement of the stack sample pump motor. The lead man of the second crew was unaware of the first crew supervisor's intended repair plan and believing he was still within the general guidelines contained in the work package, decided it would be necessary to open a power disconnect to gain access to electrical terminals. During his contact with the WCC SRO for permission to open the disconnect, additional information was requested by the SRO which was not relayed to the craft technician the next day.

The next day, when the technician proceeded to the work area to continue the job, he contacted the Main Control Room instead of the WCC and requested permission to open the power disconnect. The Unit 2 control operator perceived the question as an information call to notify the control room of the next step in the work package, thinking that approval to open the disconnect switch had been addressed by the WCC.

At 10:03, with the control operator's consent, the craft technician opened the power disconnect which resulted in an inadvertent loss of power to the Main Stack Radiation Monitor. The loss of power resulted in unplanned actuations to the Units 1 and 2 Engineered Safeguard Feature (ESF) related systems. Unit 1 received an isolation of the Containment Atmospheric Control (CAC) and Secondary Containment Isolation systems and a Standby Gas Treatment System (SBGTS) initiation. At the time of the event the Unit 2 CAC isolation valves were being maintained in the closed position the SBGTS was removed from service. Consequently, the impact on Unit 2 was limited to a Secondary Containment system isolation. The actuations were verified to be invalid and the affected systems were realigned to support plant conditions.

**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 1	05000325	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	3 of 4
		94	- 03 -	00	

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

CAUSE OF EVENT

Personnel error is the primary cause of the Main Stack WRGM loss of power with the following areas identified as weaknesses: (1) attention to the work control process by maintenance personnel, (2) communications between maintenance and operations personnel, and (3) operation of plant equipment by maintenance personnel without a clear understanding of the resulting impact. Secondary weaknesses contributing to the event include the detail of the work planning, turnover of information between maintenance crews, and consistent site standards governing the manipulation of plant components.

CORRECTIVE ACTIONS

1. The June 10, 1994, site-wide weekly outage review meeting reinforced the following management expectations:

Personnel other than Operations will operate valves/breakers/local control or test switches only under an approved plant procedure. Plant workers other than operators may operate equipment within a clearance boundary if the controls required by the Equipment Control Procedure AI-58.2 are used.

Component manipulations directed by WR/JO instructions alone must be performed by Operations personnel, as WR/JOs are not considered "approved plant procedures".

Clearances are needed to support maintenance work on de-energized equipment including low voltage applications.

Work packages shall include reference to any known potential impact on the involved system including RTGB indications and annunciators.

The June 5, 1994, memorandum from the Operation Managers to all licensed operators was issued showing how this event highlights the importance of maintaining the communications standards covered by the Site Command Control and Communications Manual (BSP-50). The weekly outage review meeting followed-up this up by emphasizing that requests for authorization to perform maintenance activities should be initially directed through the WCC, not the main control room. The WCC can then route the call to the control room, if appropriate.

2. A multi-disciplined team will conduct an assessment by July 15, 1994, of current procedures that allow the manipulation of equipment/plant components, with the goal of developing a consistent site standard. It will also address appropriate authorization means for component manipulation by non-operations personnel. This will lead to the resolution of any conflicts or discrepancies between existing plant procedures (OI-01, OI-13, MMM-001, MMM-003, AI-58, AI-58.2, PLP-21, PLP-24).
3. A video was prepared for site communication that included the involved plant organizations and describes this event with emphasis on the teamwork and barriers that should have prevented the event from occurring. This has been presented to Operations, Maintenance, Environmental and Radiation Control, Technical Support, Quality Control Units, and has also been made available to other site organizations.
4. The Plant General Managers have scheduled face-to-face discussions, through the end of June, with the individual maintenance crews to emphasize the importance of communication and proper work practices.

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

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Brunswick Steam Electric Plant Unit 1	05000325	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	4 of 4
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

SAFETY ASSESSMENT

This event has minimal safety significance in that the affected systems functioned as designed on the invalid signal from the Main Stack WRGM.

PREVIOUS SIMILAR EVENTS

A similar event involving the loss of power to the Main Stack WRGM isolation logic was previously reported in LER 1-92-028.

EIIS COMPONENT IDENTIFICATION

System/Component

EIIS Code

Main Stack Radiation Monitor	45
Containment Atmospheric Control	IK
Secondary Containment Isolation System	JM
Standby Gas Treatment System	BH

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
1. A multi-disciplined team will conduct an assessment of current procedures, that allow the manipulation of equipment/plant components, with the goal of developing a consistent site standard. It will also address appropriate authorization means for component manipulation by non-operations personnel. This will lead to the resolution of any conflicts or discrepancies between existing plant procedures.	7/15/94
2. The Plant General Managers have scheduled face-to-face discussions with the individual maintenance crews to emphasize the importance of communication and proper work practices.	6/30/94