



DEC 13 1995

SERIAL: BSEP-95-0630  
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 1-95-014

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

JFM

Enclosures

1. Supplemental Licensee Event Report
2. Summary of Commitments

cc: Mr. S. D. Ebnetter, Regional Administrator, Region II  
Mr. D. C. Trimble, 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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PDR ADOCK 05000325  
S PDR

**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 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.

FACILITY NAME (1)

Brunswick Steam Electric Plant, Unit 1

DOCKET NUMBER (2)

05000325

PAGE (3)

1 of 3

TITLE (4)

Unplanned Engineered Safety Feature Actuation Due to Low Voltage Spike on B Reactor Protection System

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
07	12	95	95	- 14 -	01	12	08	95	FACILITY NAME	DOCKET NUMBER 05000
									FACILITY NAME	DOCKET NUMBER 05000

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more of the following)(11)								
		20.402(b)		20.405(c)	<input checked="" type="checkbox"/>	50.73(a)(2)(iv)		73.71(b)		
POWER LEVEL (10)	100	20.405(a)(1)(ii)		50.36(c)(1)		50.73(a)(2)(v)		73.71(c)		
		20.405(a)(1)(iii)		50.36(c)(2)		50.73(a)(2)(vii)		OTHER		
		20.405(a)(1)(iii)		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)(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

Jeanne F. McGowan, Regulatory Affairs Specialist

TELEPHONE NUMBER

(910) 457-2136

**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)	<input checked="" type="checkbox"/>	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

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

On July 12, 1995, Unit One was operating at 100% power. Reactor Protection System (RPS) buses A and B were being fed from their normal power source, the RPS Motor Generator (MG) Sets. At 1049 hours, a half scram, half Primary Containment Isolation System (PCIS) Group 1, 2 and 3 and a full Group 6 signal was received from the B RPS trip channel. The Group 6 isolation, Containment Atmospheric Control (CAC) System, isolated the Reactor Building Ventilation and started the Standby Gas Treatment system. The trip signals reset immediately and the half scram and Group isolations were reset after verifying no abnormal parameters. Investigation into the event revealed a momentary low voltage spike in the RPS B bus voltage. The voltage drop and recovery time were too fast to trip the respective Electrical Protection Assemblies (EPAs) or the MG Set output breaker, therefore the B RPS bus did not trip. The momentary low voltage spike in the RPS B Bus voltage occurred as a result of an intermittent failure in the RPS MG Set output voltage regulator. A failure analysis on the voltage regulator has been performed by the vendor. The results were indeterminate. No failures were found on any sub-component under test conditions. Corrective actions were to replace the voltage regulators on all four RPS MG Sets. The cause classification for this event per NUREG-1022 is Other.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Brunswick Steam Electric Plant Unit 1	05000325	95	- 14 -	01	2 of 3

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

TITLE

Unplanned Engineered Safety Feature Actuation Due to Low Voltage Spike on B Reactor Protection System

INITIAL CONDITIONS

On July 12, 1995, Unit One was operating at 100% power. The Reactor Protection System (RPS) buses A and B were being fed from their normal power source, the RPS Motor Generator (MG) Sets.

EVENT NARRATIVE

On July 12, 1995, at 1049 hours, a half scram, half Primary Containment Isolation System (PCIS) Group 1, 2 and 3 and a full Group 6 signal was received from the B RPS trip channel. The Group 6 isolation, Containment Atmospheric Control (CAC) System, isolated the Reactor Building Ventilation and started the Standby Gas Treatment system. The trip signals reset immediately and after verifying that no actual trip setpoints were exceeded, the half scram and group isolations were reset. A troubleshooting effort was initiated to investigate the cause of the actuations. As a result of this effort, the B RPS bus was placed on its alternate power source and the voltage regulator was replaced on the MG Set. The MG Set ran at a simulated normal load and monitored for 24 hours satisfactorily. The MG Set was placed back in service and the B RPS bus was returned to its normal power source, the MG set.

CAUSE OF EVENT

A review of the process computer data logger and the Emergency Response Facility Information System (ERFIS) computer data revealed that the trip signals were generated from the logic in the Average Power Range Monitors (APRMs), B, D, and F, Drywell high pressure channel B and Main Steam Isolation Valve signals on channel B. The common factor to these trip signals is the B RPS bus power supply. During a review of additional computer data, it was discovered that the trip signals generated by the various channels were caused by a momentary spike (from approximately 115 to 97 VAC) for a duration of less than one second in the B RPS voltage. An ERFIS trace of the Emergency bus, E2, which feeds 1B RPS MG Set indicated no significant fluctuations in the power to the MG Set. Further investigations revealed that the trip signal was a momentary voltage spike from the 1B RPS MG Set caused by the voltage regulator, which regulates the MG Set generator output. The momentary low voltage spike in the RPS B voltage occurred as a result of an intermittent failure in the RPS MG Set output voltage regulator. The only component capable of causing a momentary spike with a duration of less than one second is the RPS MG Set voltage regulator. A failure analysis was performed on the voltage regulator by the vendor. The results were indeterminate. No failures were found on any sub-component under test conditions.

CORRECTIVE ACTIONS

There are four RPS MG Sets at Brunswick Nuclear Plant, Unit 1 A and B and Unit 2 A and B. The voltage regulator had been replaced in the 2A MG Set prior to this event and

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

the 1B MG Set voltage regulator was replaced as a result of this event. The two remaining MG Set voltage regulators have also been replaced.

SAFETY ASSESSMENT

The safety significance was minimal. All expected PCIS Group isolations occurred as designed on the isolation signal.

PREVIOUS SIMILAR EVENTS

None

EIIS COMPONENT IDENTIFICATION

<u>System/Component</u>	<u>EIIS Code</u>
Reactor Protection System	JD

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. Replace the voltage regulators on all four RPS MG Sets	Complete