CP&L
Carolina Power & Light Company

Brunswick Nuclear Project
P. O. Box 10429
Southport, N.C. 28461-0429

AUG 3 1 1992

FILE: B09-13510C 10CFR50.73

SERIAL: BSEP-92-0017

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 2-92-004

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

SFT/

Enclosure

cc: Mr. S. D. Ebneter
Mr. R. H. Lo
BSEP NRC Resident Office

030071

IE22

NRC FORM 366 U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92
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-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)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Brunswick Steam Electric Plant Unit 2	05000324	1

TITLE (4) Reactor Water Cleanup System Isolation During E7 Substation De-energization

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
07	30	92	92	-	004	-	000	08	29	92		

OPERATING MODE (9)	4	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)	X	50.73(a)(2)(iv)		73.71(b)
POWER LEVEL (10)	0%		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)(vii)		OTHER (Specify in Abstract and Text)
			20.405(a)(1)(iii)		50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		
			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	TELEPHONE NUMBER
Steve F. Tabor, Regulatory Compliance Specialist	(919) 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)				EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
	YES (If yes, complete EXPECTED SUBMISSION DATE)	X	NO				

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

On July 30, 1992, at approximately 0450 hours, both units were in Cold Shutdown and preparations were being made to de-energize the 480 volt Substation E7 to support planned maintenance. The research performed to identify the loads supplied by E7 did not identify that loss of the bus would result in de-energization of the Reactor Water Cleanup (RWCU) heat exchanger outlet temperature switch, 2-G31-TS-N008. Consequently, upon de-energization of E7, 2-G31-TS-N008 de-energized which, by design, resulted in generation of an isolation signal and subsequent closure of the RWCU Outboard Isolation Valve, 2-G31-F004. Following the event the 2-G31-TS-N008 was re-energized using the designed alternate power source, the 2-G31-F004 reopened, and the RWCU system realigned for normal operation. Corrective actions to prevent recurrence include incorporation of lessons learned from a previous similar event as reported in LER 1-92-013, revision of appropriate procedures to incorporate a list of currently known loads affected by emergency bus de-energization, and the development of an electrical load list including plant effects which will be incorporated into a formally approved operating procedure.

As an interim measure, appropriate management (i.e., Manager of Operations, Technical Support, or Nuclear Engineering Department) will review and approve planned emergency bus outages including the method used to determine the consequences of bus de-energization.

The safety significance was minimal since both units are in Cold Shutdown and the plant systems responded as designed.

Similar events have been reported in LERs 1-88-01, 1-88-02, 1-89-04, 1-89-15, 1-90-01, 1-90-27, 1-91-12, 1-92-13, and 2-89-16.

TITLE

Reactor Water Cleanup System Isolation During Emergency Bus Substation E7 De-energization

INITIAL CONDITIONS

On July 30, 1992, with both units in Cold Shutdown, Unit 2 shift operations personnel were preparing to de-energize the 480 volt Bus Substation E7 to support replacement of the substation's feeder breaker, 2-E7-AZ1-52.

EVENT NARRATIVE

Following review of the research package by the Operations Shift Supervisor and alignment of affected system power sources, E7 was de-energized at approximately 0450 hours in accordance with Operations Procedure, OP-50.1. Subsequently, Operations personnel observed the unexpected closure of the RWCU Outboard Isolation Valve, 2-G31-F004. Investigation into the cause of the RWCU isolation revealed that an E7 supplied distribution panel, 2-2AB-RX, had not been transferred to its alternate power source prior to de-energizing the bus. Distribution panel 2-2AB-RX circuit #5 supplies logic power to the RWCU heat exchanger outlet temperature module 2-G31-TS-N008. Per design, de-energization of 2-G31-TS-N008 results in closure of the RWCU Outboard Isolation Valve, 2-G31-F004. The research package used to support the E7 bus outage did not indicate that the transfer of the 2-2AB-RX power supply to the alternate source was a requirement prior to de-energizing E7. Consequently, following de-energization of E7, an unplanned RWCU isolation occurred.

Following the closure of the 2-G31-F004, Operations transferred the 2-2AB-RX to its alternate power source, opened the valve, and realigned the RWCU system for normal operation. Following main breaker replacement, bus E7 was re-energized at approximately 0609 hours.

CAUSE OF EVENT

The personnel de-energizing the E7 bus did not perform an adequate review of the potential effects prior to proceeding with the activity. The following factors contributed to the event:

The task of de-energizing an emergency bus is complex. The research package consisted of several hundred pages of information and, although the package contained summaries of bus loads, the summaries did not identify the plant effects resulting from de-energization of those loads.

Existing emergency bus de-energizing procedures do not provide specific details enabling the user to recognize the extent of the impact and the potential for component actuation resulting from bus de-energization.

A controlled comprehensive plant emergency load list does not exist as an approved procedure.

CORRECTIVE ACTIONS

The following completed and planned corrective actions are considered adequate for preventing recurrence:

Statements (notes, cautions, etc.) have been incorporated into OP-50.1 to capture the lessons learned from a previous similar event reported in LER 1-92-013.

Appropriate procedures will be revised to incorporate a list of currently known loads affected by emergency bus de-energization. (Expected completion date is October 31, 1992)

The Nuclear Engineering Department will develop an electrical load list including plant effects (i.e., valve isolations, pump de-energizations, etc.). The plan for development and implementation of this list will be established by October 1, 1992.

Once the aforementioned electrical load list is established, the list will be incorporated into appropriate operating procedures.

As an interim measure, appropriate Operations management will review and approve planned emergency bus outages including the method used to determine the consequences of bus de-energization.

SAFETY ASSESSMENT

The safety significance was minimal since both units are in Cold Shutdown and the plant systems responded as designed.

PREVIOUS SIMILAR EVENTS

Similar events have been reported in LERs 1-88-01, 1-88-02, 1-89-04, 1-89-15, 1-90-01, 1-90-27, 1-91-12, 1-92-13, and 2-89-16.

EIIS COMPONENT IDENTIFICATION

System/Component	EIIS Code
RWCU	CE
2-G31-TS-N008	CE/TS
2-G31-F004	CE/ISV
Bus	BU
Bus,Substation	SSBU