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VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION
P. O. BOX 402
MINERAL, VIRGINIA 23117

10 CFR 50.73

June 3, 1991

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

Serial No. N-91-015
NAPS/CSW:csw
Docket No. 50-339

License No. NPF-7

Dear Sirs:

The Virginia Electric and Power Company hereby submits the following Licensee Event Report applicable to North Anna Unit 2.

Report No. LER 91-002-00

This Report has been reviewed by the Station Nuclear Safety and Operating Committee.

Very Truly Yours,


G.E. Kane
Station Manager

Enclosure:

cc: U.S. Nuclear Regulatory Commission
101 Marietta Street, N.W.
Suite 2900
Atlanta, Georgia 30323

Mr. M. S. Lesser
NRC Senior Resident Inspector
North Anna Power Station

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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 RECORDS AND REPORTS MANAGEMENT BRANCH (P-30), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1): NORTH ANNA POWER STATION UNIT 2										DOCKET NUMBER (2): 0 5 0 0 0 3 3 9 1 OF 0 4										PAGE (3): 1		
TITLE (4): Automatic Start Of The 2H Emergency Diesel Generator Caused By De-energization Of The 2H Emergency Bus Due To Personnel Error.																						
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 NAMES					DOCKET NUMBER(S)								
0	5	1	4	9	1	0	0	2	0	0	6	0	3	9	1	0	5	0	0	0	0	0
OPERATING MODE (9): 1				THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 50. (Check one or more of the following) (11):																		
POWER LEVEL (10): 19.7				20.402(b)				20.405(a)				<input checked="" type="checkbox"/> 50.73(a)(2)(iv)				73.71(b)						
				20.405(a)(1)(ii)				50.36(a)(1)				50.73(a)(2)(iv)				73.71(a)						
				20.405(a)(1)(iii)				50.36(a)(2)				50.73(a)(2)(v)				OTHER (Specify in Attachment below and in text area of Form 366A)						
				20.405(a)(1)(iv)				50.73(a)(2)(ii)				50.73(a)(2)(vi)(A)										
				20.405(a)(1)(v)				50.73(a)(2)(iii)				50.73(a)(2)(vi)(B)										
20.405(a)(1)(vi)				50.73(a)(2)(iv)				50.73(a)(2)(vii)				50.73(a)(2)(viii)										
LICENSEE CONTACT FOR THIS LER (12):																						
NAME: G. E. Kane, Station Manager												TELEPHONE NUMBER: 710 3 81 91 41 - 21 11 0 1										
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 DATE (15):				MONTH	DAY	YEAR						
YES (If yes, complete EXPECTED SUBMISSION DATE:)										NO												

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

At 0000 hours on May 14, 1991, with Unit 2 at 97% power (Mode 1) and Unit 1 in cold shutdown (Mode 5); the Unit 2 emergency bus 2H was inadvertently de-energized due to isolation from the Reserve Station Service Transformer B. This caused an automatic actuation of the 2H EDG due to loss of voltage on the 2H bus. This event is reportable pursuant to 10CFR50.73(a)(2)(iv) as an automatic actuation of an Engineered Safety Feature (ESF). A four-hour report was made in accordance with 10CFR50.72(b)(2)(ii) at 0131 hours on May 14, 1991.

This event was caused by personnel error. The control room operator did not properly follow the operating procedure and accidentally manipulated the wrong circuit breaker while transferring the Unit 1 B station service bus to the B Reserve Station Service Transformer.

No significant safety consequences occurred because the redundant emergency bus 2J remained available to supply power to required plant equipment. The 2H EDG functioned properly and re-energized the 2H Emergency Bus. All other automatically actuated equipment functioned as designed. The health and safety of the public were not affected at any time during this event.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 600 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-630), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545, AND TO THE PAPERWORK REDUCTION PROJECT (1605-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

DOCKET NUMBER (2)

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PAGE (3)

NORTH ANNA POWER STATION
UNIT 2

0 6 0 0 0 3 3 9 9 1 - 0 0 2 - 0 0 0 2 OF 0 4

TEXT (If more than one required, use additional NRC Form 396A's) (17)

1.0 Description of the Event

At 0000 hours on May 14, 1991, with Unit 2 at 97% power (Mode 1) and Unit 1 in cold shutdown (Mode 5); the Unit 2 emergency power bus 2H was inadvertently de-energized due to isolation from the Reserve Station Service Transformer B (EIIIS System Identifier EA, Component Identifier XFMR). This caused an automatic actuation of the 2H EDG (EIIIS System Identifier EK, Component Identifier DG), due to loss of voltage on the 2H bus. This event is reportable pursuant to 10CFR50.73(a)(2)(iv) as an automatic actuation of an Engineered Safety Feature (ESF). A four-hour report was made in accordance with 10CFR50.72(b)(2)(ii) at 0131 hours on May 14, 1991.

At the time of the event, control room operators were transferring the Unit 1 B station service bus to the B Reserve Station Service Transformer (RSST). This transfer was being performed to facilitate maintenance on the Main and Station Service Transformers.

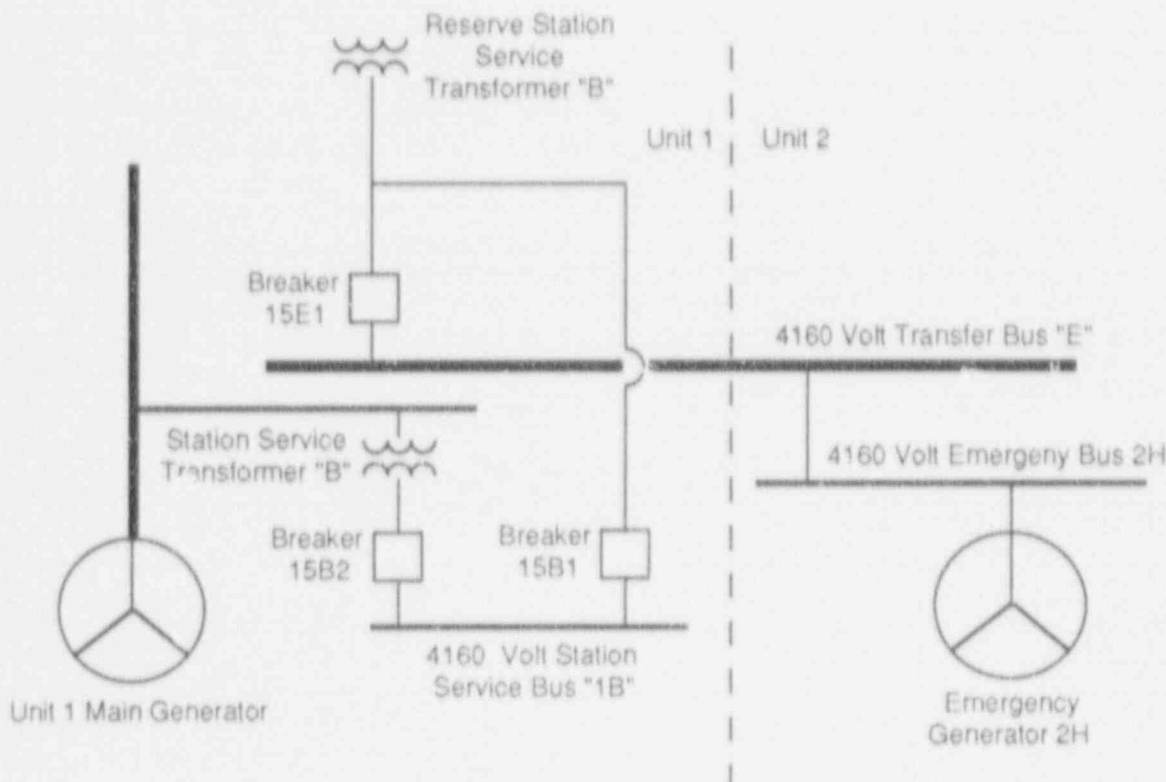


Figure 1

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATES TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F330) U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545 AND TO THE PAPERWORK REDUCTION PROJECT (3160-0104) OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)	
		YEAR	REGISTRATION NUMBER	REVISION NUMBER		
NORTH ANNA POWER STATION UNIT 2	0 5 0 0 0 3 3 9 9 1	--	0 0 2	--	0 0 0 3	OF 0 4

TEXT (IF ANY) SPACE IS REQUIRED, USE ADDITIONAL NRC Form 096A's (17)

Operating Procedure 1-OP-26.1, "TRANSFERRING 4160-VOLT BUSES" implements the bus transfer by closing breaker 15B1 (connecting B RSST to Bus 1B), then opening breaker 15B2 (disconnecting Bus 1B from B SST). However, instead of opening 15B2 as directed in the procedure, the licensed control room operator inadvertently opened breaker 15E1. This de-energized the 4160 Volt Transfer Bus E (common to both Units) and Unit 2 bus 2H. As designed, the 2H EDG automatically started on the bus undervoltage and re-energized the 2H bus loads (refer to Figure 1 for a simplified one line diagram of the electrical buses).

All load shedding and sequencing logics performed as designed, including: auto start of Component Cooling Pump 2-CC-P-1B (EIS System Identifier CC, Component Identifier P), auto trip of Charging Pump 2-CH-P-1A, (EIS System Identifier BQ, Component Identifier P) and auto start of Charging Pump 2-CH-P-1B.

As a result of the event, Abnormal Procedure 0-AP-10, "Loss of Electrical Power" was entered. Offsite Power was restored to the 2H bus at 0022 hours. Alternate power sources were verified operable through the satisfactory performance of 1-PT-80, "Offsite AC Sources". This procedure was completed at 0035 hours. Component Cooling Pump 2-CC-P-1B was secured at 0054 hours. At 0200 the 2H EDG was secured after performing a 1 hour full load run. The Diesel was returned to Auto-Remote at 0235 hours.

2.0 Significant Safety Consequences and Implications

No significant safety consequences occurred because the redundant emergency bus 2J remained available to supply power to required plant equipment. The 2H EDG functioned properly and restored power to the Unit 2 H Emergency Bus. All other automatically actuated equipment functioned as designed. The health and safety of the public were not affected at any time during this event.

3.0 Cause of the Event

The cause of this event was personnel error by the licensed control room operator. The operator was following the instructions of the operating procedure and understood that he was required to manipulate breaker 15B2, but accidentally opened breaker 15E1.

4.0 Immediate Corrective Actions

Abnormal Procedure 0-AP-10, "Loss of Electrical Power" was entered to determine the extent of power loss. Offsite Power was restored to the 2H bus. Alternate power sources were verified operable. Pumps that automatically actuated or shutdown as a result of the event were restored to normal. The EDG performed a one hour full load run and was returned to automatic operation.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-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.

FACILITY NAME (1) NORTH ANNA POWER STATION UNIT 2	DOCKET NUMBER (2) 0 6 0 0 0 3 3 9 9 1 — 0 0 2 — 0 0 0 4 OF 0 4	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			

TEXT (If more space is required, use additional NRC Form 305A's) (17)

5.0 Additional Corrective Actions

None required.

6.0 Actions to Prevent Recurrence

The individual that made the error was counseled on the importance of self checking and verification of components prior to manipulation.

On May 17, 1991, the Superintendent of Operations issued a memorandum to all Operations Personnel which re-emphasized the importance of self-checking during evolutions.

On May 17, 1991, the Superintendent of Operations issued a memorandum to all Operations Personnel on the importance of operator awareness during performance of routine task.

The Nuclear Training Department has increased emphasis on self checking techniques during Operations Simulator Training.

A Human Performance Enhancement System (HPES) Evaluation will be conducted.

7.0 Similar Events

LER N1/2-89-010-00 documents automatic actuations of the Unit 1 H and Unit 2 J EDG's due to an inadvertent ground during switchyard modifications on April 16, 1989.

LER N2-90-009-00 documents an automatic actuation of the Unit 2 J EDG during undervoltage testing due to a wiring modification design deficiency on October 28, 1990.

LER N1-91-010 documents automatic actuations of the Unit 1 J EDG due to improper wiring of an overcurrent trip relay and due to accidental bypassing of the air start solenoid operated valve using manual override.

8.0 Additional Information

None.