NRC FORM 366 (6-89) U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

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.

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Shoreham Nuclear Power Station Unit 1	0 5 0 0 0 3 2 2	1 OF 0 4

TITLE (4)
Unplanned Actuation of ESF Systems due to EPA Breaker Trip

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)
1 2	1 1	9 0	9 0	— 0 0 9	— 0 0	0 1	0 9	9 1		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)	*	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10) 0 0 0		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)(v)	73.71(c)
		20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		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
Robert A. Pauly, Operational Compliance Engineer (Acting)	AREA CODE 5 1 6 9 2 0 - 8 3 0 0

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)

At 1257, on 12/11/90, the "A" Reactor Protection System (RPS) bus was deenergized when one of its Electrical Protection Assembly (EPA) breakers tripped. This caused the unplanned automatic initiation of the ESF systems Reactor Building Standby Ventilation System (RBSVS) "A" and Control Room Air Conditioning (CRAC) "A" and also closure of the inboard containment isolation valves for the Reactor Building Floor Drains and Reactor Building Equipment Drains. Plant management personnel were notified of the event and the NRC was notified at 1410 per 10CFR 50.72(b)(2)(ii). The RBSVS and CRAC initiations were reset at 1250 on 12/13/90 after initial troubleshooting had been completed. After the event, the "A" RPS MG set output voltage was found to be only 117.4V instead of 121.5V. 117.4V is very close to the EPA breaker undervoltage trip point. The cause for this has not been determined.

*Reactor Defueled

PLANT AND SYSTEM IDENTIFICATION

General Electric - Boiling Water Reactor

Energy Industry Identification System (EIIS) codes are identified in the text as [xx].

IDENTIFICATION OF THE EVENT

Unplanned ESF Actuations (Control Room Air Conditioning [VI] "A" and Reactor Building Standby Ventilation System [BH] "A", and Primary Containment Isolation System [JM]) due to the tripping of a Reactor Protection System [JC] EPA breaker.

Event Date: 12/11/90

Report Date: 01/09/91

CONDITIONS PRIOR TO THE EVENT

Reactor Defueled - All fuel assemblies stored in the Spent Fuel Pool.

Mode Switch - Refuel

RPV Drained

DESCRIPTION OF THE EVENT

At 1257, on 12/11/90, the "A" Reactor Protection System (RPS) bus was deenergized when one of its Electrical Protection Assembly (EPA) breakers tripped. This caused the unplanned automatic initiation of the ESF systems Reactor Building Standby Ventilation System (RBSVS) "A" and Control Room Air Conditioning (CRAC) "A" and also closure of the inboard containment isolation valves for the Reactor Building Floor Drains and Reactor Building Equipment Drains. Plant management personnel were notified of the event and the NRC was notified at 1410 per 10CFR 50.72(b)(2)(ii). The RBSVS and CRAC initiations were reset at 1250 on 12/13/90 after initial troubleshooting had been completed.

CAUSE OF THE EVENT

The unplanned actuations of the ESF systems were caused by deenergization of the "A" RPS bus when EPA breaker 1C71-BKR-002B tripped. The most likely cause for this breaker tripping was low output voltage on the "A" RPS MG set. The EPA breaker undervoltage trip setpoint is 116.4V and after the trip the RPS MG set output voltage was only 117.4V instead of its normal value of 121.5V.

The cause for the "A" RPS MG set output voltage being lower than normal could not be determined. However, the following activities did take place on 12/7/90 which was only 4 days before this event. The "A" RPS MG set output breaker was replaced by electrical maintenance personnel. Then a technician functionally tested the overvoltage and undervoltage breaker trips by adjusting the voltage regulator. Then the voltage regulator was set to 121.5V. Later after the operators could not shut the associated EPA breaker they opened up the MG set control panel to check the MG set output breaker. They determined that one lead was loose and this caused the voltage to be zero at the supply side of the EPA breaker. Electrical maintenance personnel were called in to install a missing screw in the breaker. Finally, the operators were able to close the associated EPA breakers. At some point in the above activities, the voltage regulator setpoint changed and it became too close to the EPA breaker undervoltage trip point.

ANALYSIS OF THE EVENT

There was no safety significance to this event. The plant is shutdown and has been defueled since August 1989.

CORRECTIVE ACTIONS

1. The "A" RPS MG set voltage was reset to 121.5V.

2. The "A" RPS bus voltage was then monitored for a week following the event and was found to be steady.

3. The voltage drop between the RPS MG set and the RPS bus was measured and found to be normal.

4. SP 23.312.01, 120V AC RPS-MG sets, will be revised by requiring a technician to verify that the RPS voltage is at its proper value when the RPS bus is reenergized following maintenance on RPS MG set.

5. The Preventive Maintenance Scheduled Activity Worksheet, which is used for the breaker functional test, will be revised also.

ADDITIONAL INFORMATION

a. LER number of previous similar events

LER 86-029, 89-001.