

## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)  
RANCHO SECO NUCLEAR GENERATING STATION UNIT NO. 1

DOCKET NUMBER (2)

0 5 0 0 0 3 1 1 2 1 OF 0 1 2

PAGE (3)

TITLE (4)

EDG "B" AUTO START

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	7	1	6	8	5	8	5	0	1	5	0	0	0	0	0	0	
NONE												0	5	0	0	0	0
THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more of the following) (11)																	
OPERATING MODE (9)			20.402(b)			20.405(e)			X 50.73(a)(2)(iv)			73.71.1					
POWER LEVEL (10)			20.405(a)(1)(i)			50.36(c)(1)			50.73(a)(2)(v)			73.71(e)					
0			20.405(a)(1)(ii)			50.36(c)(2)			50.73(a)(2)(vii)			OTHER (Specify in Abstract below and in Text, NRC Form 386A)					
0			20.405(a)(1)(iii)			50.73(a)(2)(i)			50.73(a)(2)(viii)(A)								
0			20.405(a)(1)(iv)			50.73(a)(2)(ii)			50.73(a)(2)(viii)(B)								
0			20.405(a)(1)(v)			50.73(a)(2)(iii)			50.73(a)(2)(ix)								

LICENSEE CONTACT FOR THIS LER (12)

NAME  
Ron W. Colombo, Regulatory Compliance Supervisor

TELEPHONE NUMBER

AREA CODE

9 1 1 6 4 5 2 1 - 3 2 1 1 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)

YES (If yes, complete EXPECTED SUBMISSION DATE) ☒ NO ☐

EXPECTED SUBMISSION DATE (15)

MONTH DAY YEAR

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

At 1522 hours on July 16, 1985, while the plant was in cold shutdown, a contractor electrician working in the switchgear area accidentally tripped Nuclear Services Bus 4B2 causing Emergency Diesel Generator (EDG) "B" to automatically start on an undervoltage signal. All related load shedding and load sequencing equipment functioned as designed except for the cross-connect breakers to bus 3B2 which failed to automatically close after a 180 second timeout. Bus 3B2 feeds the "B" train essential HVAC which is required to provide cooling for the Control Room and Technical Support Center. The cross-connect breakers were manually closed to energize bus 3B2, thus eliminating any potential problem. The automatic start of EDG "B" is being reported in accordance with 10 CFR 50.73(a)(2)(iv).

While troubleshooting the failure of the cross-connect breakers to close, the electrical technicians found two (2) loose terminal board screw connections in the circuit providing the timeout function. After tightening the connections, proper circuit operation of the timeout relay was verified. The cross-connect breakers are documented to have operated correctly during the June 4, 1985 performance of an electrical maintenance procedure. The cause of the loose terminations has not been determined.

The District will take the following actions to address the cross-connect breakers concern: (1) generate a maintenance instruction to test and verify operation of breakers; (2) check all terminations in the associated cabinet; and (3) check corresponding cabinet terminations on the "A" train. All work will be completed prior to plant startup.

There were no effects on public or plant safety as a result of this event.

IE22  
1/1

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 3/31/85

FACILITY NAME (1)  RANCHO SECO NUCLEAR GENERATING STATION UNIT NO. 1	DOCKET NUMBER (2)  0 5 0 0 0 3 1 1 2	LER NUMBER (5)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		8 5	- 0 1 1 5	- 0 1 0	0 1 2	OF 0 1 2

TEXT (If more space is required, use additional NRC Form 388A's) (17)

On July 16, 1985, it was reported via an internal Occurrence Description Report that Emergency Diesel Generator (EDG) "B" was automatically started on an undervoltage signal from Nuclear Services Bus 4B2 when a contractor electrician accidentally caused a feeder breaker for the bus to open. All related load shedding and load sequencing equipment functioned as designed except for the cross-connect breakers to Nuclear Services Bus 3B2 which should have automatically closed after a 180 second timeout period. Bus 3B2 feeds the "B" train essential HVAC system which provides cooling for the Control Room and Technical Support Center in the event of loss of offsite power. Operations personnel manually closed the cross-connect breakers to energize the 3B2 bus. The automatic start of EDG "B" is being reported in accordance with 10 CFR 50.73 (a)(2)(iv).

At 1522 hours on July 16, 1985, while the plant was in a cold shutdown condition, a contractor working in the switchgear area caught his shirtsleeve on the pistol grip control for circuit breaker 4B203, thus accidentally opening the breaker and creating an undervoltage condition on Nuclear Services Bus 4B2. Acting in a conscientious manner, the electrician immediately telephoned the Control Room to report the incident.

To determine why the cross-connect breakers (3B21 and 3B203) energizing Nuclear Services bus 3B2 did not automatically close following the 180 second timeout as designed, the electrical technicians checked the associated control circuitry and cabinets. As a result of this investigation, two (2) loose connections were found on terminal board TB43, terminals 3 and 4 in the H3RPB1 cabinet. The wires at these terminals are from the K43 relay contacts which energizes the 180 second timeout relay 62-10b. After tightening these connections, the proper circuit operation of the timeout relay was verified. The cause of the loose connections could not be determined, although it is known that startup testing was in progress during this period involving the Nuclear Services Electrical Building HVAC. The testing for this system included extensive "trouble shooting" within this cabinet.

The cross-connect breakers are documented to have operated correctly during the June 4, 1985 performance of EM.177B, Function Test of Nuclear Service Bus "B" and "B2" Unloading Scheme. Thus, the loose connections are thought to have occurred since that time. The corresponding loading and unloading scheme for the redundant "EDG "A" train does not incorporate the automatic cross-connect feature; thus no relevant information is provided for comparison.

The District will take the following further actions to address the cross-connect breakers concern: (1) generate a maintenance instruction to test and verify automatic closure of the breakers after the 180 second timeout; (2) check all terminations in the H3RPB1 cabinet to ensure tightness; and (3) check corresponding cabinet terminations on the "A" train. All work will be completed prior to plant startup.

There were no effects on public or plant safety as a result of this event.



**SMUD**

SACRAMENTO MUNICIPAL UTILITY DISTRICT ☐ 6201 S Street, P.O. Box 15830, Sacramento CA 95852-1830, (916) 452-3211  
AN ELECTRIC SYSTEM SERVING THE HEART OF CALIFORNIA

RJR 85-392

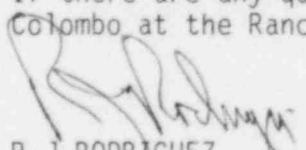
August 15, 1985

J B MARTIN REGIONAL ADMINISTRATOR  
REGION V OFFICE OF INSPECTION AND ENFORCEMENT  
ATTN DOCUMENT CONTROL DESK  
U S NUCLEAR REGULATORY COMMISSION  
WASHINGTON DC 20555

DOCKET NO. 50-312  
LICENSE NO. DPR-54  
LICENSEE EVENT REPORT NUMBER 85-15

In accordance with the requirements of 10 CFR 50.73(a)(2)(iv), the Sacramento Municipal Utility District hereby submits Licensee Event Report Number 85-15.

If there are any questions concerning this report, please contact Mr. Ron Colombo at the Rancho Seco Nuclear Generating Station Unit No. 1.

  
R J RODRIGUEZ  
ASSISTANT GENERAL MANAGER  
NUCLEAR

Attachment

cc: Revision V (2)  
INPO

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1/1