

**LICENSEE EVENT REPORT**

CONTROL BLOCK:

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

0	1	S	C	H	B	R	2	2	0	0	-	0	0	0	0	0	-	0	0	3	4	1	1	1	1	4			5	
7	8	LICENSEE CODE						14	15	LICENSE NUMBER										25	26	LICENSE TYPE					30	57	CAT 58	

CON'T

**REPORT SOURCE**

L	(6)	0	5	0	0	0	2	6	1	(7)	0	3	2	4	8	0	(8)	0	4	0	4	8	0	(9)
60	61								68	69						74	75						80	

**DOCKET NUMBER**

**EVENT DATE**

**REPORT DATE**

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

On March 24, 1980, with the plant at cold shutdown for steam generator maintenance, electrical maintenance personnel were working on a D.C. ground on "B" battery bus. This investigation revealed three relay coils in "B" train of Reactor Protection had failed and one had contacted ground. These relays are in a fail safe configuration so there was no loss of safety function. However the failures of the three coils were similar and therefore indicate a potential generic problem which is reportable under paragraph 6.9.2.a.9 of the Technical Specification.

7 8 9		SYSTEM CODE		CAUSE CODE		CAUSE SUBCODE		COMPONENT CODE				COMP. SUBCODE		VALVE SUBCODE							
0	9	I	A	E		A		R	E	L	A	Y	X	A	Z						
7	8	9	10	11	12	12	13	13	14	15	16	17	18	19	20						
17 LER/RO REPORT NUMBER		EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE		REPORT TYPE		REVISION NO.											
8 0		—		0 0 6		0 1		T		0											
21 22		23		24 25 26		27 28 29		30 31		32											
ACTION TAKEN		FUTURE ACTION		EFFECT ON PLANT		SHUTDOWN METHOD		HOURS		ATTACHMENT SUBMITTED		NPRD-4 FORM SUB.		PRIME COMP. SUPPLIER		COMPONENT MANUFACTURER					
C		C		Z		Z		0	0	0	0	Y		Y		N		W	1	2	0
22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 | The failure of the relay coils was a result of shorting of the outer layer of coil  
1 1 | windings where the lead in wires are connected to the coil wires. All three failures  
1 2 | were similar and is under investigation by the supplier due to the potential of a  
1 3 | generic problem. The remaining seven of the ten relays of this type in "B" train of  
1 4 | reactor protection were replaced as a precautionary measure. Some showed evidence of  
flash burns from the failed relay. No evidence of shorted coils was found in "A" train.

7 8 9 Flash burns from the failed relay. No evidence of shocked victim.

FACILITY STATUS (28) 1 5 G 0 0 0 (29) NA OTHER STATUS (30) METHOD OF DISCOVERY (31) A DISCOVERY DESCRIPTION (32) Electrical Troubleshooting

ACTIVITY CONTENT  
RELEASED OF RELEASE AMOUNT OF ACTIVITY (35)  
1 6 Z (33) Z (34) NA  
LOCATION OF RELEASE (36)  
NA

PERSONNEL EXPOSURES									
NUMBER			TYPE	DESCRIPTION					
1	7	0	0	0	(37) Z (38) NA				

7		8		9		11		12		13	
PERSONNEL INJURIES											
NUMBER						DESCRIPTION (41)					
1	8	0	0	0	(40)	NA					

7	8	9	11	12	
LOSS OF OR DAMAGE TO FACILITY					(43)
TYPE DESCRIPTION					
1	9	0	(42)		NA 8004100345

7 8 9 10

PUBLICITY DESCRIPTION (45)

ISSUED (44) NA

2 0

N

68 69 80

NRC USE ONLY

NAME OF PREPARED

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PHONES:

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SUPPLEMENTAL INFORMATION

FOR

LICENSEE EVENT REPORT 80-06

1. Cause Description and Analysis:

On March 24, 1980, at 1000, with the plant at cold shutdown for steam generator maintenance, an investigation by electrical maintenance personnel working on a D.C. ground on "B" battery bus revealed three failed relay coils in "B" train of Reactor Protection, one of which had contacted ground causing the alarm. The relays are installed in a fail safe configuration (normally energized) so there was no loss of safety function. Therefore no threat to the health and welfare of the public occurred.

The three failures were a result of shorting of the outer layer of coil windings where the lead in wires are connected to the coil wires. This shorting caused overheating of the coil wires resulting in opening of the winding and the relays dropped out to their de-energized trip position. Seven of the ten relays of the type NBFD-31 showed evidence of flash burns from the three shorted relays. The root cause of the failure is still under investigation.

2. Corrective Action:

The ten NBFD-31 relays in "B" train of Reactor Protection were replaced. The remaining relays in this train and all relays in "A" train were visually inspected with no other evidence of shorting revealed.

3. Corrective Action To Prevented Further Occurrence:

The supplier of the NBFD-31 relays is investigating this failure to determine if it is generic or random. Additional corrective action if needed is pending the results of this investigation.

The normal periodic test of Reactor Protection relays will continue. This testing along with the status lights and alarms available to the operator, is considered adequate to insure the Reactor Protection System is maintained in good operating condition.