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GOLDEN GATE SWITCHBOARD CO.
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Mr. Robert H. Engelken
Nuclear Regulatory Commission
Director, Office of Inspection and Enforcement
1990 North California Blvd., Suite 202
Walnut Creek, Ca. 94596

March 30, 1979

Gentlemen:

Pursuant to the requirement of Title 10, Chapter 1, Code of Federal Regulations-Energy-Part 21, we wish to report the following:

During the course of tests being run in a switchgear qualification program we have had two component failures indicative of defects which we feel might have implications affecting the safety of nuclear power plants.

The failures occurred during endurance tests of a General Electric Co. AM4.16-350-1200 air circuit breaker, serial no. 269A8794-223. Similar breakers are in use in nuclear power plants throughout the United States of America. These tests are being conducted in connection with a contract to supply switchgear for the Maanshan Nuclear Power Station in Taiwan, Republic of China.

Both failures affected the breaker spring charging mechanism and could result, under certain conditions, in failure of the breaker to close upon demand.

These failures occurred on March 27, 1979, and were reported to the General Electric Co. for their resolution:

FAILURE NO. 1

After 1,927 closures (at the rate of approximately 90 per hour), the shaft that mounts the ratchet driving pawl, (Part 8, Figure 4, ref.(1)), broke at the weld allowing the charging mechanism to run continuously without charging the springs.

The driving pawl lever, (Part 10, Fig. 4), was replaced and tests were continued.

FAILURE NO. 2

After a total of 2,282 closures, one of the cotter pins which secure the latching pawl shaft, (Part 2, Fig. 4), broke and the shaft dropped out allowing the charging mechanism to run continuously without charging the springs. The cotter pins were replaced and the test was resumed. After approximately 560 additional operations, one of the replacement cotter pins failed.

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No corrective actions or notifications have been made other than our report of March 27, 1979 to General Electric Co.

Very truly yours,

GOLDEN GATE SWITCHBOARD CO.

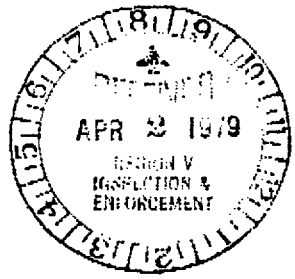
J. E. CONNORS, President

JEC:kh

CC: Mr. R. J. Hoffman
General Electric Co.
P. O. Box 3736
San Francisco, Ca. 94119

CC: Mr. J. J. Welcher
General Electric Co.
6101 Elmwood Avenue
Philadelphia, Pa. 19142

(1) General Electric Co. Instruction Book GEK-7320C



any reason the closing springs should be discharged against the positive interlock the mechanism will be jammed and be inoperable. The mechanism can be released and returned to the reset position by pushing in on the trip lever (8) Figure 5. It may require more than normal force to release the interlock.

A plunger interlock, Figure 14 can be provided when required to operate a stationary auxiliary switch and/or a rod interlock mounted in the metal-clad unit.

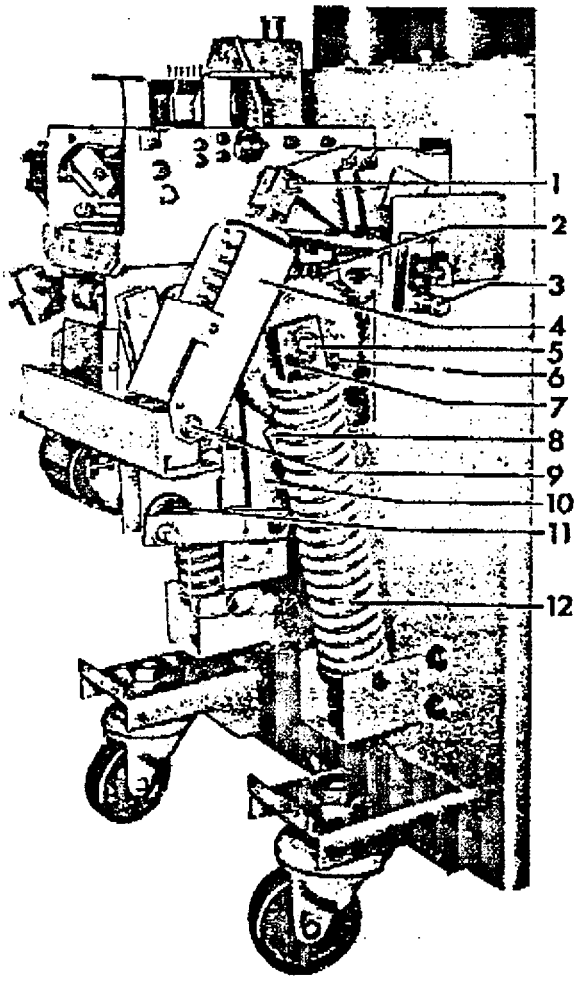


Figure 4. (8040405) Right Side View ML-13 Operating Mechanism

1. Upper Spring Pin
2. Latching Pawls
3. Positive Interlock Roller
4. Opening Spring
5. Cam Shaft
6. Ratchet Wheel
7. Bearing Block
8. Driving Pawl
9. Lower Spring Pin
10. Driving Pawl Lever
11. Eccentric
12. Closing Spring

When the breaker is used interchangeable with type MS-13 solenoid operated breakers in M-26H metal-clad units, fuses (12) Figure 2, are mounted on the breaker for protection of the motor and closing circuit. These breakers are identified by "C" suffix in the breaker nomenclature.

In cases where breakers with type ML-13 mechanisms are to be used interchangeably with breakers having type ML-12 mechanisms, the spring charging circuit should be fused in accordance with the following table, depending on which type mechanism is used.

CONTROL VOLTAGE	ML-13 MECHANISM		ML-12 MECHANISM	
	FUSE RATING	BUSS CO. CAT. NO. *	FUSE RATING	BUSS CO. CAT. NO. *
48v d-c	30A	NON 30	10A	NON 10
110v d-c 125v d-c 115v a-c	15A	NON 15	1.8A	FRN 1.8 (FUSETRON)
220v d-c 250v d-c 230v a-c	10A	NON 10	3A	NON 3

*Or Equivalent

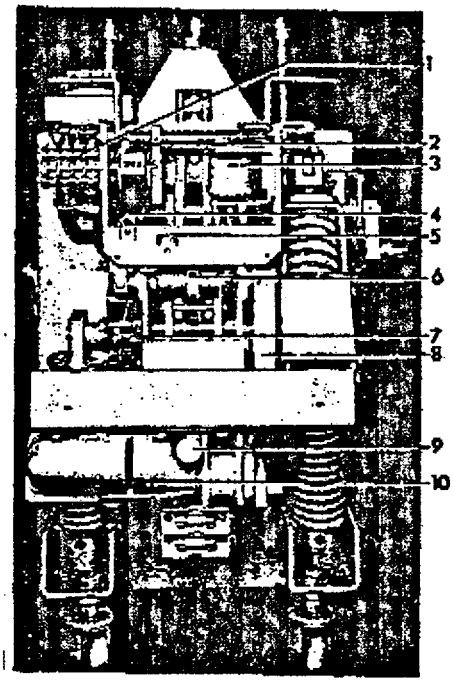


Figure 5. (8034471) Front View ML-13 Operating Mechanism

1. Auxiliary Switch
2. Open - Close Indicator
3. Trip Coil
4. Prop Spring
5. Operation Counter
6. Trip Latch
7. Charge - Discharge Indicator
8. Manual Trip Lever
9. Manual Close Lever
10. Motor