

83-893-000

GENERAL ELECTRIC

MEDIUM VOLTAGE SWITCHGEAR BUSINESS SECTION
GENERAL ELECTRIC COMPANY • P.O. BOX 488 • BURLINGTON, IOWA 52601 • (319) 753-8400

May 10, 1983

Mr. Richard DeYoung, Director
Office of Inspection & Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. DeYoung:

In compliance with the requirements of the NRC's Rules and Regulations, Title 10, Chapter 1 C.F.R. "Reporting of Defects and Noncompliances", I am writing this letter to notify you of a reportable condition involving the existence of a defect in a fuseholder component.

NATURE OF THE DEFECT - (PROBLEM IDENTIFICATION)

This office on May 4, 1983, was notified by an internal quality control representative that a possible problem had arisen with our 60 ampere fuseholders Dwg. 0673D0515-422-01. Specifically, some of the vendor-furnished spring-steel bands were found broken on several fuse clips (See attached ILSCO Dwg. Part M163). These 1/16" square horse-shoe shaped spring-steel bands provide additional tension to the copper clips holding the fuses. Four of these clips are assembled inside of the molded Bakelite encased fuseholder, 0673D0515-422-01.

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S PDR

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ANALYSIS AND RISK

The complete fuseholder is used in the trip circuit controlling medium voltage circuit breakers in metalclad switchgear. The fuse clips inside of these fuseholders are formed from electrolytic copper sheet and provide a nominal tension to hold the cartridge type fuses in place, and maintain circuit continuity. Type M wire reinforced fuse clips used in this fuseholder have spring-steel bands that increase the contact pressure of the fuse clips.

Although the chances are small, there are two risks involved if the steel-spring band breaks:

- 1) That a high resistance joint may develop at the point of contact between the fuse and fuse clip.
- 2) That the broken piece of steel band may fall laterally across the two legs of the fuseholder. The resulting fault could blow the fuses causing a loss of trip circuit control power. Without this power, the breaker cannot be remotely opened to protect downstream power circuits.

INVESTIGATION

Our investigation indicates four (4) reports of broken spring-steel bands. The broken bands were discovered by GE personnel when the equipment was being put into service. We have received no reports or any indication of this problem from any nuclear installation.

Mr. Richard DeYoung
5/10/83
Page Three

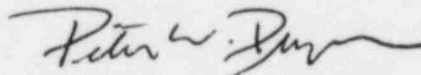
INVESTIGATION (CONT.)

We have requested our vendor/supplier of the fuse clips to determine the cause of breakage and the time span of the defective furnished parts.

We are also metallurgically testing pieces of the broken spring-steel bands ourselves to assist in determination of the cause of failure.

FIX AND CORRECTIVE ACTION

At this time, we have not determined the root cause or the time frame of defective parts shipment. We plan to have this investigation completed and a corrective action recommendation within thirty (30) calendar days.



P. W. Dwyer, Manager
Development & Design Engineering

Attachment

PWD/rb

FUSE CLIP WIRE REINFORCED TYPE M

These clips are made from electrolytic copper sheet. A permanent band of tough spring steel wire encircles the clip insuring tighter grip and positive contact with either knife or ferrule type fuses. Each reinforcing spring is plated and heat treated to prevent hydrogen embrittlement.

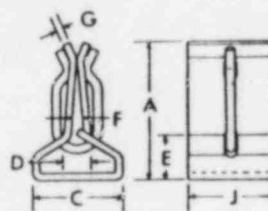
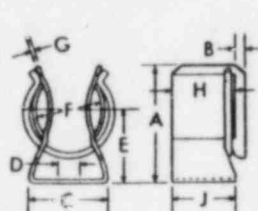
SPRING-STEEL
BAND



FIG. 1



FIG. 2



Catalog No.	Amp. - Volts	Fig. No.	Dimensions In Inches								
			A	B	C	D	E	F+	G	H	J
M161	30-250	1	27/32	1/16	19/32	13/64	17/32	9/16	.030	17/32	1/2
M162	30-600	1	1-1/32	1/16	3/4	1/4	21/32	13/16	.030	17/32	1/2
M163	60-250	1	1-13/64	1/16	51/64	.221	51/64	13/16	.040	21/32	21/32
M164	60-600	1	1-3/8	1/16	31/32	13/64	29/32	1-1/16	.040	21/32	5/8
M165	100-250 600	2	1-23/64	-	29/32	17/64 & Slot	-	1/8	.078	-	7/8
M233	200-250 600	2	1-15/16	-	1-1/4	11/32 & Slot	-	3/16	.094	-	1-1/4

TYPE R DESIGNED FOR CLASS R FUSES

Same as Type M fuse clips except slotted to allow insertion of a steel rejection plate to insure non-interchangeability. This prevents insertion of any other fuse except Class R.

Catalog No.	Amps. - Volts	Fig. No.	A	B	C	D
M-2432	30/250	1	7/8	19/32	21/32	9/32
M-2433	60/250	1	1-3/16	23/32	59/64	51/64
M-2434	30/600	1	1-1/32	19/32	59/64	3/4
M-2435	60/600	1	1-3/8	23/32	1-5/64	31/32
M-2398	100-250 600	2	1-23/64	7/8	3/4	29/32
M-2399	200-250 600	2	1-15/16	1-1/4	1.2376	1-15/64

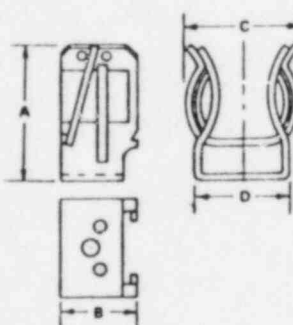


FIG. 1



FIG. 2

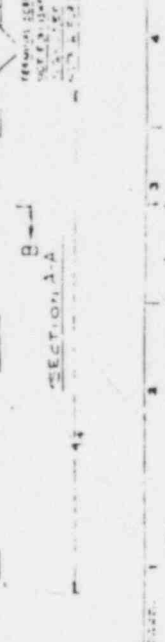
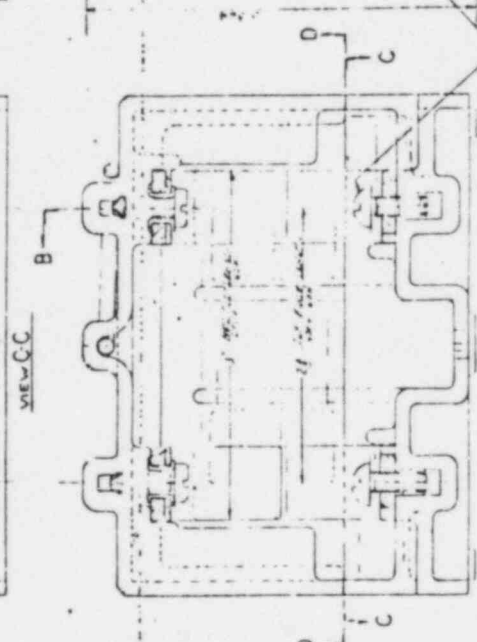
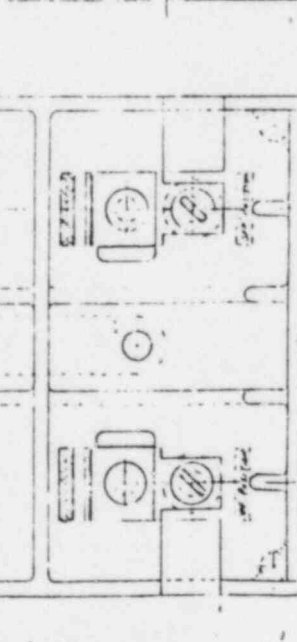
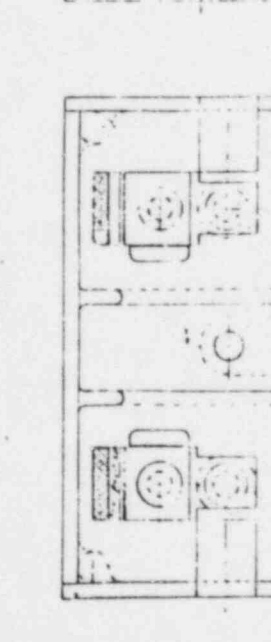
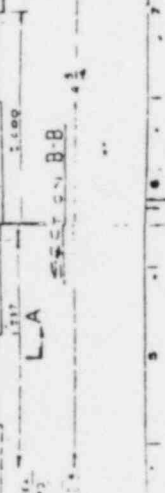
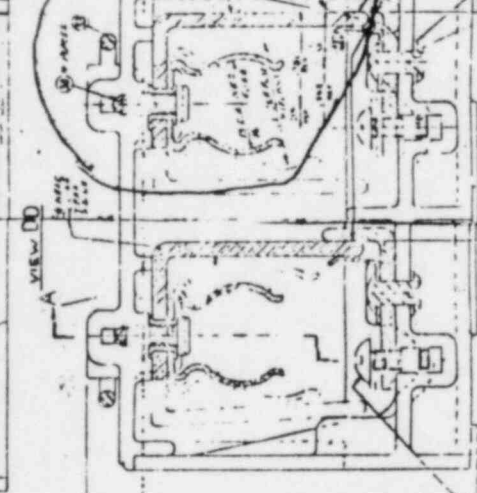
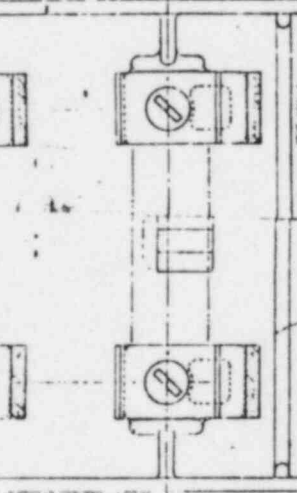
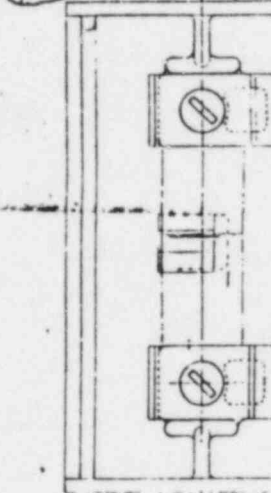
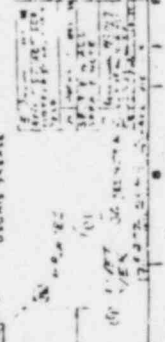
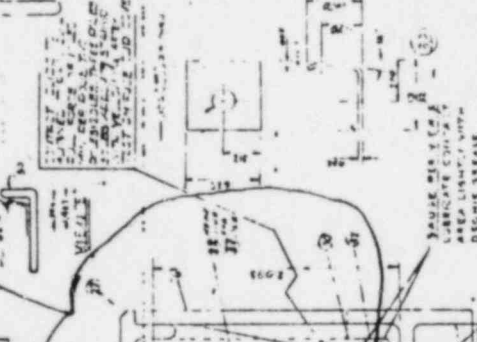
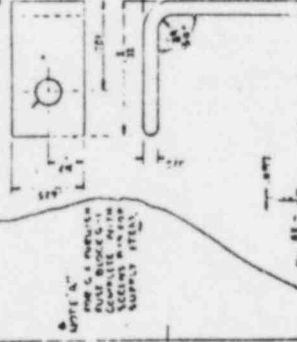
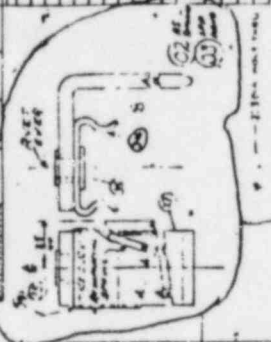


REVISIONS

60 AMP FUSE HOLDER

06730513

NO.	REV.	DATE	BY	CHKD.	DESCRIPTION
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SECTION A-A

SECTION B-B

SECTION C-C

SECTION D-D

SECTION E-E

SECTION F-F

SECTION G-G

SECTION H-H

SECTION I-I

SECTION J-J

SECTION K-K

SECTION L-L

SECTION M-M

SECTION N-N

SECTION O-O

SECTION P-P

SECTION Q-Q

SECTION R-R

SECTION S-S

SECTION T-T

SECTION U-U

SECTION V-V

SECTION W-W

SECTION X-X

SECTION Y-Y

SECTION Z-Z

SECTION AA-AA

SECTION BB-BB

SECTION CC-CC

SECTION DD-DD

SECTION EE-EE

SECTION FF-FF

SECTION GG-GG

SECTION HH-HH

SECTION II-II

SECTION JJ-JJ

SECTION KK-KK

SECTION LL-LL

SECTION MM-MM

SECTION NN-NN

SECTION OO-OO

SECTION PP-PP