GUAM POWER AUTHORITY
P.O. BOX 2977
AGANA, GUAM 96932

TRANSMISSION & DISTRIBUTION SPECIFICATION

SPECIFICATION NO. E-019

FOR

OVERHEAD CUTOUTS AND ACCESSORIES

EFFECTIVE DATE: 08.05.24	ISSUED:	APPROVED:

OVERHEAD CUTOUTS AND ACCESSORIES

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1.0 SCOPE

This specification covers GPA's requirement for open fuse cutouts with or without load break capability to be used on the overhead system at 13.8 KV phase to phase at 60 hertz.

2.0 CONFORMANCE TO SPECIFICATIONS

2.1 APPLICABLE DOCUMENTS

The most recent revisions of the following regulations and standards specify all pertinent requirements that the fuse cutout must achieve or exceed:

a) ANSI/IEEE C37.41-2000 IEEE Standard Design Tests for High-Voltage Fuses, Distribution Enclosed Single-Pole Air Switches, Fuse Disconnecting Switches, and Accessories.

b) ANSI/IEEE C37.42-2016 IEEE Standard Specification for High-Voltage (>1000V) Fuses and Accessories.

c) ANSI/IEEE C37.34-1994 IEEE Standard Test Code for High-Voltage Air Switches.

d) ANSI/IEEE C37.32-2002 American National Standard or High Voltage Switches, Bus Supports, and Accessories Schedules of Preferred Ratings, Construction Guidelines, and Specifications

e) NEMA SG2 (This standard is applicable to distribution enclosed single-pole air switches, fuse disconnecting switches, high-voltage fuses "above 1000 volts", and accessories for alternating-current distribution systems.)

2.2 ACCEPTANCE REQUIREMENTS

Equipment purchased under this specification will be accepted under the requirements specified herein.

2.3 DEVIATIONS AND NONCONFORMANCE REQUIREMENTS

2.3.1 Deviations from this specifications or changes in the material or design after the purchase order has been placed must be approved by the GPA Engineering Department and acknowledged by an addendum to the specification which shall be issued by a Purchase Order Amendment.

2.3.2 Units received with deviations or non-conformances which are not acknowledged as specified in subparagraph 2.3.1 are subject to rejection. The supplier of units rejected in this paragraph is responsible for any corrective action including but not limited to materials, labor, and transportation necessary to dispose of, or make the units conform to the specifications.

2.3.3 Notification of defective units discovered before or after installation that are believed to be inherent to manufacturing problems or workmanship shall be made and forwarded to the Supplier. The description information, disposition and/or follow-up (as appropriate) that GPA expects from the Supplier will be specified. The Supplier's response shall be made within thirty (30) days unless an extension is acknowledged and approved in writing by the GPA Manager of Engineering.

3.0 SUBMITTALS

3.1 The Bidder shall provide with their bid catalog cuts, part numbers, shop drawings, and other relevant information necessary to evaluate submittal.

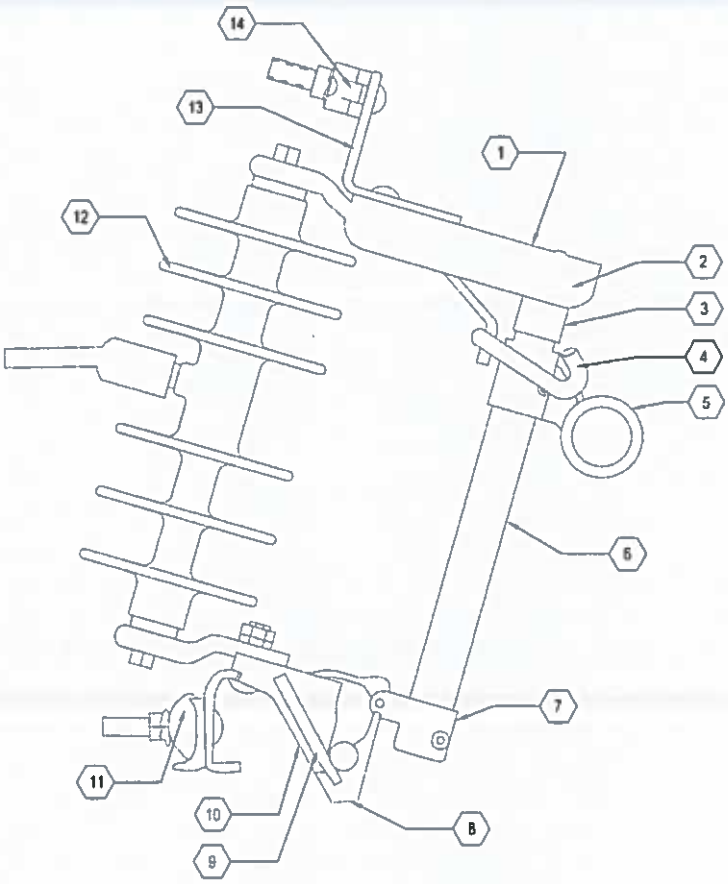
3.2 Upon award of bid, vendor shall provide final shop drawings to GPA for review and approval. GPA shall be allowed two (2) weeks to review and approve documents without affecting the shipping date. Delays in delivery due to drawings that are disapproved during this review period are the responsibility of the Vendor/Supplier.

3.3 Documents returned to the Vendor/Supplier as approved shall be considered authorization to proceed with the work. The approval of GPA shall in no way abrogate the requirements of this specification.

4.0 DESIGN

4.1 ILLUSTRATION

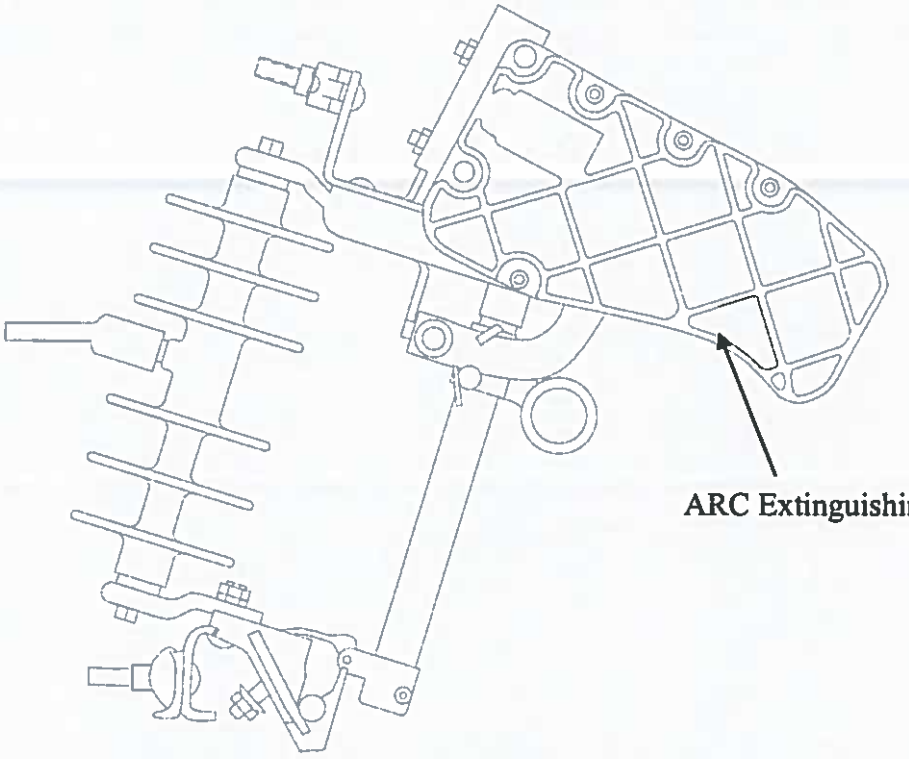
4.1.1 NON-LOAD BREAK CUTOUT



EQUIPMENT AND DEVICES

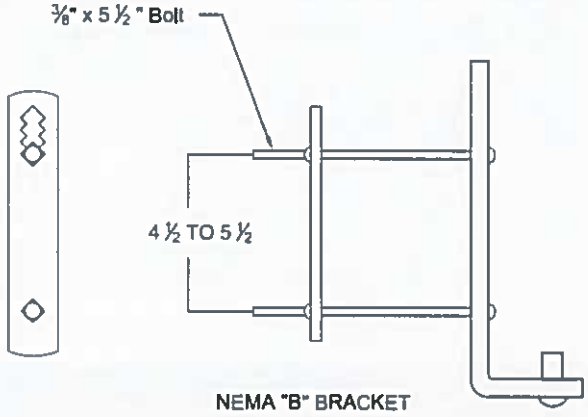
1. One Piece Hood
2. Backup Spring
3. Universal Contacts
4. Steel hooks
5. Top Tube Casting and Pull Ring
6. High-Strength Fiberglass Fuse Tube
7. Lower Tube Casting
8. Stainless-Steel Spring
9. Hinge
10. Fuse Holder
11. Copper Current Holder
12. Polymer Insulator
13. Copper Current Path
14. Terminals

4.1.2 LOAD BREAK CUTOUT



NOTE: Equipment and devices are similar to non-load break cutout.

4.1.3 NEMA B BRACKET



NOTE: NEMA B Bracket must be furnished with all Load Break and Non-Load Break cutouts.

4.2 RATING AND CAPABILITIES

4.2.1 All Devices shall have ratings as indicated by Table I.

TABLE I – RATINGS

15 KV DEVICES

GPA STOCK NUMBER	ITEM DESCRIPTION	DESIGN VOLTAGE	B.I.L.	CONTINUOUS CURRENT RATING	MINIMUM LEAKAGE DISTANCE	MINIMUM INTERRUPTING CURRENT RMS (KA)	
		KV	KV	AMPS	INCHES	SYM.	ASYM
SSOF0550	Non-Load Break 100 A. Fuse Holder	15	110	100	11.5	10.0	16.0
	Non-Load Break 200 A. Fuse Holder	15	110	200	11.5	7.5	12.0
SSOF0548	Load Break 100 A. Fuse Holder	15	110	100	11.5	10.0	16.0
	Load Break 200 A. Fuse Holder	15	110	200	11.5	7.5	12.0

4.2.2 Terminal connectors shall be a bronze eyebolt design, tin plated, and shall accept conductors from 6 solid to 250 MCM aluminum or copper.

4.2.3 The cutout shall not exert more than 8 pounds of tension on the fuse link with the fuse holder in the closed position. Tension on the fuse link should not exceed 15 pounds during closing. A description of the test method surfaces that come in contact with the fuse link, such as the bottom of the fuse holder and the flipper or link ejector shall be finished in such a manner so as not to cause corrosion of the conductor.

4.2.4 The upper and trunnion contact surfaces shall be silver plated and contact aid shall be factory applied. A lubricant shall be factory applied to all rotating pins.

4.2.5 The fuse holders shall have an expendable cap.

4.3 OPERABILITY

4.3.1 Cutouts and fuse holders purchased under this specification shall be used for sectionalizing, fusing, and switching. They shall be operable with standard industry hotline tools and load break devices.

4.3.2 Cutouts and fuse holders, shall be suitable for use with a loadbuster tool.

4.3.3 Clearly visible hooks shall be provided for operation on 13.8 kV overhead systems.

4.3.4 Each cutout shall be provided with brackets and hardware, a complete assembly for crossarm mounting.

4.4 TESTING REQUIREMENTS

4.4.1 Dielectric tests shall be performed per ANSI C37.41. All devices shall meet the following voltage withstand levels:

TERMINAL TO GROUND

TEST	VOLTAGE (KV) 15 KV CLASS	TIME
60 Hz Dry	35	1 min.
60 Hz Wet	30	10 Sec.
1.2 x 50 us Impulse (B.I.L.)	110	-

4.4.2 Interrupting tests shall be performed in accordance with NEMA SG2, latest revision.

4.4.3 The following tests shall be performed in accordance with ANSI C37.41, subparagraph 5, and subparagraphs C37.41-8 through C37.41-11, latest revision.

Static Pressure Test for Expendable Caps
Making Current Tests
Radio-Influence Test
Short-Time Current Tests
Temperature Rise Tests

4.4.4 Salt tests shall be performed by the manufacturer according to ASTM B-117 prior to any GPA evaluation of the device. No manufacturer will be considered until the test has been completed and the results presented to GPA for Engineering evaluation.

4.5 CONSTRUCTION

4.5.1 The mounting hardware and bracket shall be hot-dipped galvanized steel and shall be designed for installation on wood or fiberglass crossarms.

4.5.2 A composite-polymer silicone insulation will be molded atop a high-strength fiberglass-reinforced polyester (FRP) core to form the insulator.

4.5.3 An attachment hook at the upper (jaw) end of the fuse cutout, over which an anchor can be connected, and a pull-ring hook that is secured by a pull-ring latch.

4.5.4 Silver-Plated copper alloy solid cap on the single vent fuse holder to provide efficient current transfer.

4.5.5 Copper alloy load break hooks, stainless steel brackets, hoods, and hardware to provide increased corrosion resistance for environments where corrosion can become a significant concern.

4.5.5 The composition of all materials used shall be described and must be approved by GPA Engineering prior to acceptance by GPA.

5.0 MANUFACTURING:

5.1 MARKING AND IDENTIFICATION

Cutout frames and fuse holders, shall be indelibly marked with the manufacturer's name, month and year of manufacture, and the maximum voltage and current ratings.

6.0 QUALITY CONTROL:

6.1 QUALITY CONTROL PROGRAM

The manufacturer shall have a quality control program to enable them to assure compliance with our specification. The program shall be documented and available for GPA's review if requested.

6.2 QUALITY CONTROL DOCUMENTATION

Documentation of the quality control program shall indicate where in the production and manufacturing process the quality checks are taken, describe the purpose of the checks, and describe the nature of the check, e.g. if checks is visual only or if electrical or mechanical testing is used.

7.0 PACKAGING AND SHIPPING

7.1 The supplier shall have adequate work and inspection instructions for handling, interim storage, preservation, packaging, and shipping to protect the quality of fuses and prevent damage, loss, deterioration and substitution of products.

7.2 The cutout container must provide sufficient protection for the cutout from harm during transportation.

7.3 The supplier shall be capable of imprinting user bar codes, stock numbers and instruction for handling to the ends of the carton.