



GUAM POWER AUTHORITY

ATURIDÂT ILEKTRESEDÂT GUÅHAN
P.O.BOX 2977 • HAGÂTÑA, GUAM U.S.A. 96932-2977

March 31, 2025

AMENDMENT NO.: II

TO

INVITATION FOR BID NO.: GPA-036-25

FOR

VARIOUS INSULATORS

Prospective Bidders are hereby notified of the following changes, inclusion and responses to inquiries received from Bidder No. 1 dated March 24, 2025 and Bidder No. 3 dated March 25, 2025:

CHANGES:

1. **REMOVE** Page 4 of 55 and **REPLACE** with 4a of 55 (see attached):

Under INVITATION FOR BID, DESCRIPTION, As per GPA Specification is changed:

FROM:

E-021

TO NOW READ:

* E-008, Revision 4

2. **REMOVE** Page 7 of 55 and **REPLACE** with 7a of 55 (see attached):

Under INVITATION FOR BID, DESCRIPTION, As per GPA Specification is changed:

FROM:

E-008, Revision 3

TO NOW READ:

* E-008, Revision 4

3. **REMOVE** Pages 18 thru 27 of 55 and **REPLACE** with Pages 18a thru 27a, 27a.1, 27a.2, 27a.3, 27a.4 and 27a.5 of 55 (see attached):

GUAM POWER AUTHORITY SPECIFICATION No. E-008 is changed:

FROM:
Revision 3

TO NOW READ:
* Revision 4

INCLUSION:

REMOVE Page 5 of 55 and **REPLACE** with Page 5a of 55 (see attached):

Under INVITATION FOR BID, DESCRIPTION, to include the following:

* As per GPA Specification E-008, Revision 4


Bidder No. 1 dated 03/24/2025:

QUESTION:

1. We received a question from one of the suppliers for this bid. Please provide clarification:

There are 4 items in this tender, No.1, No.3 and No.4 before we produced them.

So we are checking how to design No.2 , it says the Index SSO10777 but from detail specification, we only find the item SSO 10776.
Could you help to review they are looking for SSO10776 and we can use silicone rubber to produce it?



GUAM POWER AUTHORITY
AGANA, GUAM

SPECIFICATION NO. E-008

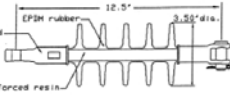
PAGE 4 OF 9
REV. 3 11/21/91

PREPARED BY: ENGINEERING DEPARTMENT

Crimped end fitting

EPDM rubber

Reinforced resin rod



DEADEND INSULATOR
INDEX NO. SSO10776

0.0. DEADEND INSULATOR

- The insulator shall be made with polymer EPDM.
- The end fittings shall be made of forged steel hot dip galvanized for rugged dependability and strength.
- The chemical bond between rod and weatherheads shall be developed under heat and pressure to give superior dielectric integrity.
- The insulator shall have a solid 3/8 inch epoxy fiberglass rod with a 100,000 psi tensile strength.
- The surface area shall be of controlled weathering to produce a self-cleaning action to reduce surface contamination and avoid tracking.

TECHNICAL FEATURES			
1. Kv Rating Phase To Phase	15	6. 60 Hz Flashover Wet-Kv	65
2. Ultimate Tensile Strength Lbs.	15,000	7. Impulse Flashover Pos.-Kv	140
3. Maximum Design Load Lbs.	7500	8. Impulse Flashover Neg.-Kv	175
4. Leakage Distance-Inches	16.5		
5. 60 Hz Flashover Dry-Kv	90		

ANSWER:

Refer to the *CHANGES* and *INCLUSION* above.

Bidder No. 3 dated March 25, 2025:

QUESTION:

1. I'd like to request for a change of delivery requirement from 18 weeks ARO to the following:

Item 1.0 – 26 weeks ARO

Item 2.0 – 56 weeks ARO

Item 3.0 – 22 weeks ARO



Item 4.0 – 26 weeks ARO

Attached are the lead times (highlighted for your reference) provided by the manufacturer ex-factory. Plus, inland freight of about 2 weeks, 3 weeks ocean freight and 1 week Guam delivery coordination.

ANSWER:

The Authority stands firm with the delivery requirement set forth of this tender.

All other Terms and Conditions in the bid package shall remain unchanged and in full force.


JOHN M. BENAVENTE, P.E.
General Manager 

INVITATION FOR BID NO.: GPA-036-25
Requisition No.: 39726

NO.	DESCRIPTION	QTY.	U/I	UNIT PRICE:	TOTAL PRICE:
1.0	Insulator	200	EA.	\$ _____	\$ _____
				COMPLY:	NOT COMPLY:
				Comply must be identified below. All deviation must be identified below.	
A.	SPECIFICATIONS:				
A.1	Polymer			_____	_____
A.2	Composite			_____	_____
A.3	34.5 kV			_____	_____
A.4	Horizontal Line Post			_____	_____
A.5	Clamp Top			_____	_____
A.6	Suspension Trunnion Clamp not included			_____	_____
*As per GPA Specification No.: E-008, Revision 4 GPA Index No.: SSOI0717					
B.	MARKING REQUIREMENTS:				
B.1	Stencil 1" GPA Index No./P.O. No./Quantity per Box			_____	_____
Reference Mfr.: MacLean Power Systems Reference P/N: NPKG20XG013S0					
Reference Mfr.: EC Insulators Shanghai Co. Reference P/N: ECIP16081007-02					
**** APPROVED EQUAL TO OR BETTER ****					
NOTE: Bidders must state either "Comply" or "Not Comply" against each specification on the bid document.				All deviations shall be identified referencing the Section and Sub-Section(s) from the attached GPA Specification	
NOTE: Notwithstanding the fact that this contract was written by one (1) Party, it will be construed that it was written by two (2) parties.				REMARKS / DEVIATIONS: _____ _____ _____	
DELIVERY REQUIREMENT: 18 Weeks After Receipt of Order (ARO)					
Reasonable delivery extension requests for this specific bid will be duly considered with the supporting manufacturer documentation however, such requests are not guaranteed approval due to the critical and urgent need of the materials to support the Guam Power Authority's needs.					
TO BE COMPLETED BY BIDDER:					
MANUFACTURER/BRAND NAME: _____					
CAT. NO. / MODEL NO.: _____					
PLACE OF ORIGIN: _____					
EXPORT ABROAD: _____					
TIME OF DELIVERY AFTER RECEIPT OF PURCHASE ORDER: _____					
				Specifications Generated by: _____ ANGELA BALAJADIA Date Inventory Management Officer	
				Specifications Approved by: _____ BEATRICE P. LIMTIACO 4/1/2025 Assistance General Manager of Administration	

INVITATION FOR BID NO.: GPA-036-25
Requisition No.: 39726

NO.	DESCRIPTION	QTY.	U/I	UNIT PRICE:	TOTAL PRICE:
2.0	Insulator	50	EA.	\$ _____	\$ _____
				<div>COMPLY:</div>	<div>NOT COMPLY:</div>
				Comply must be identified below. All deviation must be identified below.	
A.	SPECIFICATIONS:				
A.1	EPDM Polymer			_____	_____
A.2	Deadend Type			_____	_____
A.3	34.5 kV			_____	_____
A.4	15,000 lbs. Capacity			_____	_____
* As per GPA Specification E-008, Revision 4 GPA Index No.: SSOI0777					
B.	MARKING REQUIREMENTS:				
B.1	Stencil 1" GPA Index No./P.O. No./Quantity per Box			_____	_____
Reference Mfr.: Powerline Reference P/N: P8235-S					
Reference Mfr.: Ohio Brass Reference P/N: 8010460215					
**** APPROVED EQUAL TO OR BETTER ****				All deviations shall be identified referencing the Section and Sub- Section(s) from the attached GPA Specification	
NOTE: Bidders must state either "Comply" or "Not Comply" against each specification on the bid document.				REMARKS / DEVIATIONS:	
NOTE: Notwithstanding the fact that this contract was written by one (2) Party, it will be construed that it was written by two (2) parties.				_____	
DELIVERY REQUIREMENT: 18 Weeks After Receipt of Order (ARO)				_____	
Reasonable delivery extension requests for this specific bid will be duly considered with the supporting manufacturer documentation however, such requests are not guaranteed approval due to the critical and urgent need of the materials to support the Guam Power Authority's needs.					
TO BE COMPLETED BY BIDDER:					
MANUFACTURER/BRAND NAME: _____					
CAT. NO. / MODEL NO.: _____					
PLACE OF ORIGIN: _____					
EXPORT ABROAD: _____					
TIME OF DELIVERY AFTER RECEIPT OF PURCHASE ORDER: _____					
				Specifications Generated by:	
				<div>Angela Balajadia</div> 03/31/2025	
				ANGELA BALAJADIA Date Inventory Management Officer	
				Specifications Approved by:	
				<div>Beatrice P. Limtiaco</div> 4/1/2025	
				BEATRICE P. LIMTIACO Date Assistance General Manager of Administration	

INVITATION FOR BID NO.: GPA-036-25
Requisition No.: 39726

NO.	DESCRIPTION	QTY.	U/I	UNIT PRICE:	TOTAL PRICE:
4.0	Insulator	200	EA.	\$_____	\$_____
				<div>COMPLY:</div>	<div>NOT COMPLY:</div>
				Comply must be identified below. All deviation must be identified below.	
A.	SPECIFICATIONS:				
A.1	Vertical Clamptop			_____	_____
A.2	Line Post			_____	_____
A.3	15 kV			_____	_____
A.4	Non-Tracking			_____	_____
A.5	EDPM (Polymer) Rubber			_____	_____
A.6	3 Sheds			_____	_____
* As per GPA Specification No.: E-008, Revision 4 GPA Index No.: SSOI0783					
B.	MARKING REQUIREMENTS:				
B.1	Stencil 1" GPA Index No./P.O. No./Quantity per Box			_____	_____
Reference Mfr.: Hubbell Power Systems Reference P/N: 80S0150209					
Reference Mfr.: EC Insulator Reference P/N: ECIP17080305-01					
**** APPROVED EQUAL TO OR BETTER ****					
NOTE: Bidders must state either "Comply" or "Not Comply" against each specification on the bid document.				All deviations shall be identified referencing the Section and Sub-Section(s) from the attached GPA Specification	
NOTE: Notwithstanding the fact that this contract was written by one (4) Party, it will be construed that it was written by two (2) parties.				REMARKS / DEVIATIONS: _____ _____ _____	
DELIVERY REQUIREMENT: 18 Weeks After Receipt of Order (ARO)					
Reasonable delivery extension requests for this specific bid will be duly considered with the supporting manufacturer documentation however, such requests are not guaranteed approval due to the critical and urgent need of the materials to support the Guam Power Authority's needs.					
TO BE COMPLETED BY BIDDER:					
MANUFACTURER/BRAND NAME:_____					
CAT. NO. / MODEL NO.:_____					
PLACE OF ORIGIN:_____					
EXPORT ABROAD:_____					
TIME OF DELIVERY AFTER RECEIPT OF PURCHASE ORDER:_____					
				Specifications Generated by: <div>Angela Balajadia</div> 03/31/2025 ANGELA BALAJADIA Date Inventory Management Officer	
				Specifications Approved by: <div>Beatrice P. Limtiaco</div> 4/1/2025 BEATRICE P. LIMTIACO Date Assistance General Manager of Administration	



GUAM POWER
AUTHORITY

SPECIFICATION No. E-008

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JUNE 20, 2024

PREPARED BY THE
ENGINEERING DEPARTMENT

REV. 4

GUAM POWER AUTHORITY

Post Office Box 2977

Hagåtña, Guam 96932

**TRANSMISSION AND DISTRIBUTION
SPECIFICATION**

Specification No. E-008

FOR

**INSULATORS: SUSPENSION, VERTICAL
TYPE, POST TYPE, SPOOL AND
GUY-STRAIN**

EFFECTIVE DATE: 06-21-2024

ISSUED: 

APPROVED: 

GUAM POWER
AUTHORITY**SPECIFICATION No. E-008**

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REV. 4

**INSULATORS, SUSPENSION, VERTICAL TYPE,
POST TYPE, SPOOL AND GUY-STRAIN**

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EFFECTIVE DATE: 06-21-2024

ISSUED: APPROVED: 

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1.0 SCOPE

This specification covers Guam Power Authority's requirement for the design and technical features of porcelain and polymer type insulators for the Overhead Distribution System at 13.8 kV and 34.5 kV.

2.0 SERVICE CONDITIONS AND OPERATION

The insulators are intended for use in an average ambient temperature of 21-32 deg. C (70-90 deg. F) with corrosive, salt air environment, sustained wind strengths of 170 MPH, and subject to IBC seismic zone 4 conditions.

3.0 CONFORMANCE TO SPECIFICATION REQUIREMENTS**3.1 Applicable Standards**

The insulators shall be designed, manufactured and tested in accordance with the latest editions of the applicable, International Electrotechnical Commission (IEC), American National Standards Institute (ANSI), Institute of Electrical and Electronics Engineers (IEEE) and National Electrical Manufacturers Association (NEMA).


NEMA/ANSI C29.13	Insulators – Composite Distribution Deadend Type
NEMA/ANSI C29.5	Wet-Process Porcelain Insulators – Low And Medium Voltage Types
NEMA/ANSI C29.4	Wet-Process Porcelain Insulators – Strain Type
NEMA/ANSI C29.3	Wet-Process Porcelain Insulators – Spool Type
NEMA/ANSI C29.11	Composite Insulators – Test Methods
IEC 61952	Insulators for overhead lines – Composite line post insulators for A.C. Systems with a nominal voltage greater than 1000 V – Definitions, test methods and acceptance criteria.
IEC 62217	Polymeric HV insulators for indoor and outdoor use – General Definitions, test methods and acceptance criteria

3.2 Deviations and Non-Conformance Requirements

3.2.1 Deviations from this specification 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 a Purchase Order Agreement issued by Guam Power Authority.

EFFECTIVE DATE: 06-21-2024

ISSUED: APPROVED: 

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3.2.2 Units received with deviations or non – conformance that are not acknowledged as specified in Section 3.2.1, are subject to rejection. The Supplier of rejected units 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 this specification.

3.2.3 Notification of defects 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 of the item, documentation of the problem and the described information, disposition and/or follow-up (as appropriate) that Guam Power Authority 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.



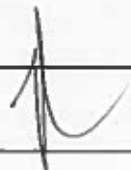
4.0 INSULATOR CLASS

4.1 Porcelain:

- a. The insulators shall be made of good commercial grade wet process porcelain. The porcelain shall be uniform, high density with high dielectric and mechanical strength properties.
- b. The entire surface that will be exposed after assembly shall be glazed free from imperfections. The standard color of the glaze shall be brown. The glaze shall be in compression form to substantially increase the strength of the insulator body, resist adherence of contaminating substances, and facilitate washing action of rain.
- c. The sand band grip shall be bonded to the porcelain by glaze to provide a rough surface for permanently attaching the hardware and distributing load evenly through the porcelain from one part to the other. This high strength, compression sand shall be manufactured to match the characteristics of the porcelain body.
- d. A resilient compound shall be applied between different components to serve as an elastic cushion to compensate for the different thermal coefficients.

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ISSUED: APPROVED: 

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<p>e. The porcelain shall receive a severe electrical test before assembly to assure the soundness and a final electrical and mechanical test on the completely assembled unit before shipment, in accordance with Section 3.1.</p> <p>4.2 Polymer:</p> <p>a. Polymer insulators shall consist of a reinforced resin core, a sheath housing with weather sheds, and metal end fittings.</p> <p>b. The insulator housing and sheds shall be made of non-tracking EPDM or Silicone Rubber.</p> <p>c. The insulating body shall be chemically bonded together by high temperature and pressure.</p> <p>d. Sheds shall be of uniform or alternating diameters.</p> <p>e. The insulation surface area shall be of controlled weathering to produce a self-cleaning action of reduced surface contamination and avoid tracking.</p> <p>f. End fittings shall be made of forged steel hot dipped galvanized and joined by compression process unless otherwise stated.</p>		
EFFECTIVE DATE: 06-21-2024	ISSUED: 	APPROVED: 



GUAM POWER
AUTHORITY

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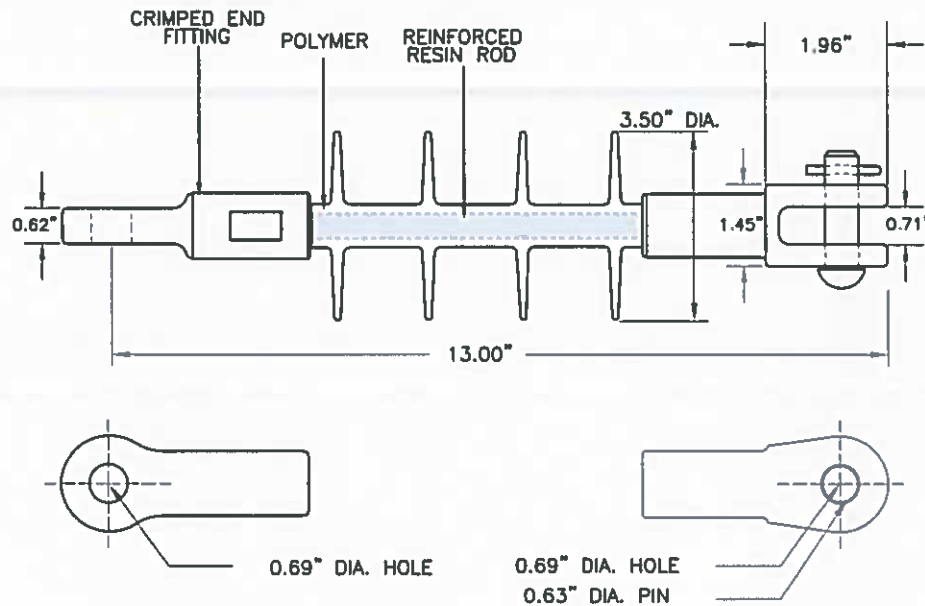
JUNE 20, 2024

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ENGINEERING DEPARTMENT

REV. 4

5.0 DEADEND INSULATORS

5.1 15 kV Deadend Insulator Technical Features and Rating:



INDEX NO. SSOI0776
(ARP ARP-15SKCE-S, ENERLINK CDI-DS-15 or equivalent)

a.	Phase to Phase Rating, kV	15
b.	Specified Mechanical Load, lbs.	15000
c.	Routine Test Load, lbs.	7500
d.	Leakage Distance, in.	16
e.	Dry Arc Distance, in.	7.40
f.	60 Hz Dry Flashover, kV	90
g.	60 Hz Wet Flashover, kV	65
h.	Critical Impulse Flashover Positive, kV	140
i.	Critical Impulse Flashover Negative, kV	150
j.	Tower End Fitting	Clevis
k.	Line Ending Fitting	Tongue
l.	Color	Grey
m.	Rod Diameter, in.	0.63
n.	Number of Sheds	4

EFFECTIVE DATE: 06-21-2024

ISSUED:

APPROVED:



GUAM POWER
AUTHORITY

SPECIFICATION No. E-008

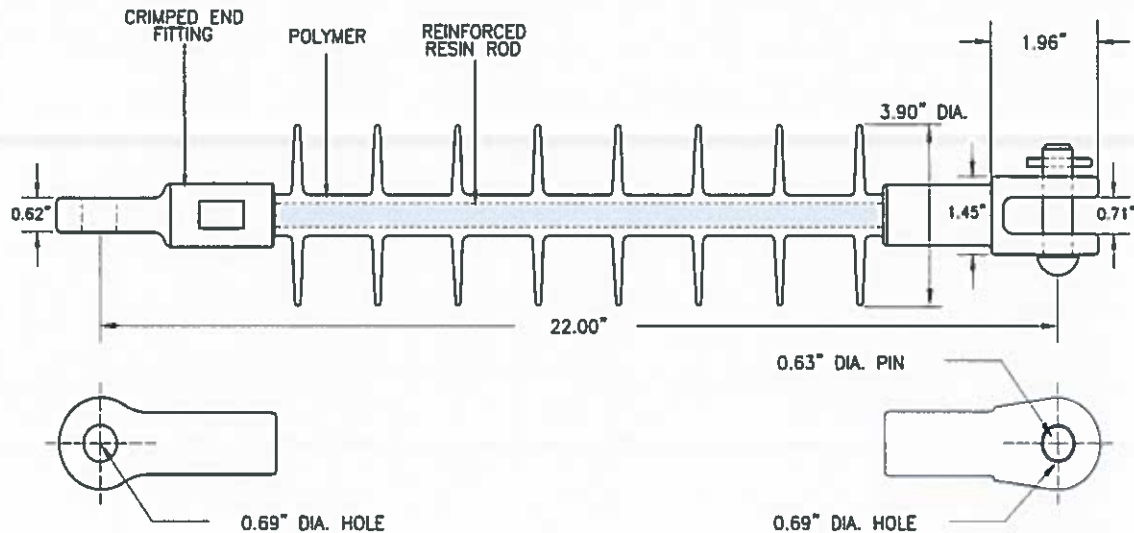
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REV. 4

5.6 35 kV Deadend Insulator Technical Features and Rating:



INDEX NO. SSOI0777
(MacLean Cat. No. DS-35M or equivalent)

a.	Phase to Phase Rating, kV	35
b.	Specified Mechanical Load, lbs.	15000
c.	Routine Test Load, lbs.	7500
d.	Leakage Distance, in.	36.5
e.	Dry Arc Distance, in.	15
f.	60 Hz Dry Flashover, kV	170
g.	60 Hz Wet Flashover, kV	140
h.	Critical Impulse Flashover Positive, kV	270
i.	Critical Impulse Flashover Negative, kV	275
j.	Tower End Fitting	Clevis
k.	Line Ending Fitting	Tongue
l.	Color	Grey
n.	Number of Sheds	8

EFFECTIVE DATE: 06-21-2024

ISSUED:

APPROVED:

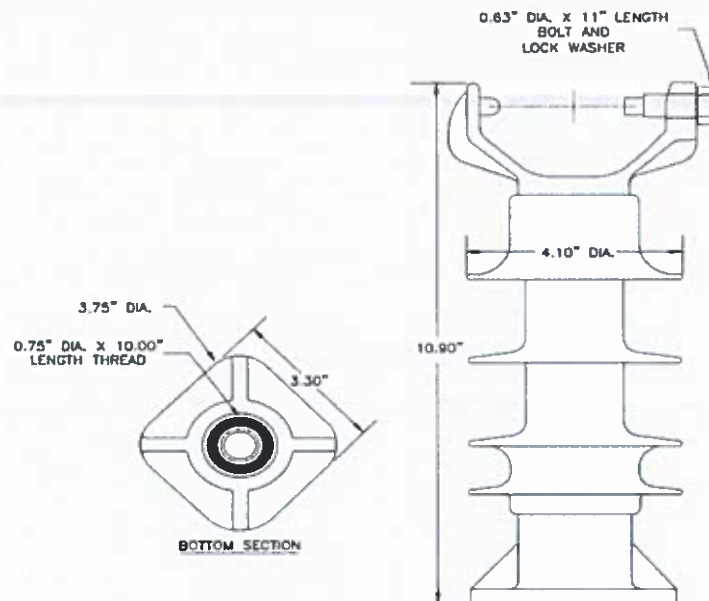
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ENGINEERING DEPARTMENT

REV. 4

6.0 VERTICAL LINE POST INSULATORS**6.1 15 kV Vertical Line Post Insulator Technical Features and Rating:**

INDEX NO. SSOI0783

(MacLean Cat. No. NPVN 10 XB 005 S0 or equivalent)

a.	Phase to Phase Rating, kV	15
b.	Maximum Design Cantilever Load	1200
c.	Maximum Design Tension	2500
d.	Tower End Fitting, Galvanized Ductile Iron	Stud Base
e.	Line End Fitting, Galvanized Ductile Iron	Vertical Clamp-Top Trunnion
f.	Number of sheds	4
g.	Leakage Distance, in.	16.1
h.	Dry Arc Distance, in.	8.3
i.	60 Hz Dry Flashover, kV	100
j.	60 Hz Wet Flashover, kV	55
k.	Critical Impulse Flashover Positive, kV	180
l.	Critical Impulse Flashover Negative, kV	215
m.	Rod Diameter, in.	1.50
n.	Mounting Stud	.075\" x 10 Stud Base

EFFECTIVE DATE: 06-21-2024

ISSUED: APPROVED: 

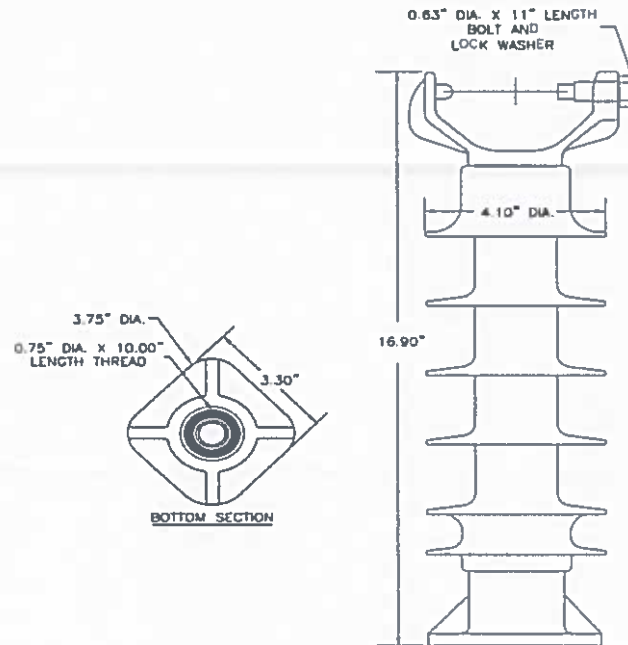
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REV. 4

6.2 35 kV Vertical Line Post Insulator Technical Features and Rating:

INDEX NO. SSOI0784

(MacLean Cat. No. NPVN 10 XB 006 S0 or equivalent)

a.	Phase to Phase Rating, kV	35
b.	Maximum Design Cantilever Load	1200
c.	Maximum Design Tension	2500
d.	Tower End Fitting, Galvanized Ductile Iron	Stud Base / 90°
e.	Line End Fitting, Galvanized Ductile Iron	Vertical Clamp-Top Trunnion
f.	Number of sheds	8
g.	Leakage Distance, in.	22.4
h.	Dry Arc Distance, in.	13.2
i.	60 Hz Dry Flashover, kV	141
j.	60 Hz Wet Flashover, kV	122
k.	Critical Impulse Flashover Positive, kV	239
l.	Critical Impulse Flashover Negative, kV	309
m.	Rod Diameter, in.	1.50 min
n.	Mounting Stud	0.75" X 10 Stud Base

EFFECTIVE DATE: 06-21-2024

ISSUED: APPROVED: 

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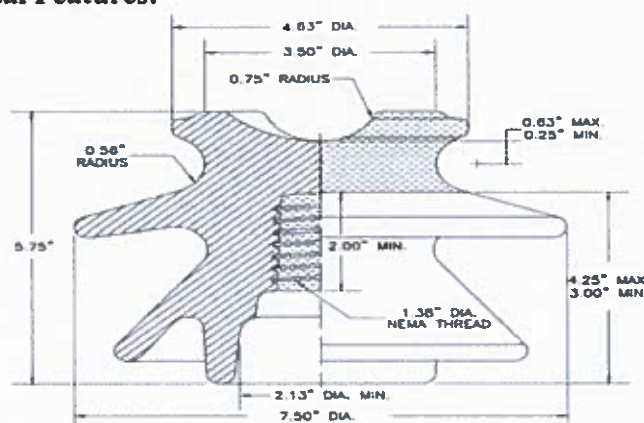
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REV. 4

7.0 PIN TYPE INSULATOR FOR NEUTRAL

7.1 Thimble shall be made of zinc and made to be sure-fit for high voltage applications. A cork washer shall be installed to serve as a buffer between the top of the thimble and pin, and as a protection from shock for the porcelain.

7.2 The groove for the wire shall be symmetrically-rounded to prevent conductor abrasion and concentration of mechanical load. Ample space shall also be provided for ease in applying tie wires.

7.3 Technical Features:

INDEX NO. SSOI0714
(LAPP Insulators Cat. No. 8248R-70 or equivalent)

a.	Typical Voltage Class, kV	23
b.	Cantilever Strength, lbs.	2500
c.	Critical Impulse Flashover Positive, kV	150
d.	Critical Impulse Flashover Negative, kV	190
e.	60 Hz Dry Flashover, kV	95
f.	60 Hz Wet Flashover, kV	60
g.	60 Hz Puncture Voltage, kV	130
h.	Leakage Distance, in.	13
i.	Dry Arc Distance, in.	7
j.	Minimum Pin height, in.	6
k.	60 Hz Test Voltage, kV	15
l.	Maximum RIV at 1000 kHz, microvolts	100
m.	Maximum RIV at 1000 KC, Plain, microvolts	5500
n.	Maximum RIV at 1000 KC, Radio-Free, microvolts	50

EFFECTIVE DATE: 06-21-2024

ISSUED: APPROVED: 

GUAM POWER
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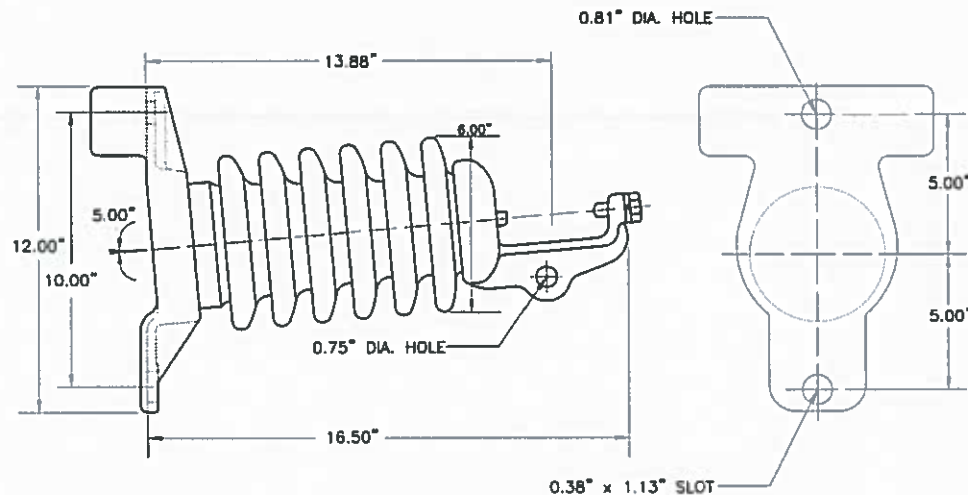
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REV. 4

8.0 POST TYPE INSULATOR:

8.1 The metal parts, except for the cotter pins, shall be made of good commercial grade malleable iron, or open hearth, or electric furnace steel, galvanized in accordance to ASTM A153/A153M-09 Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware, or the latest revision thereof. Cotter pins shall be made of a suitable corrosion resistant and tempered material.

8.2 Caps shall be of corrosion resistant and heavy duty galvanized malleable material.

8.3 Porcelain Line Post Insulator Clamp Top Technical Features:

INDEX NO. SSOI0715
(LAPP Insulators Cat. No. 4735-70 or equivalent)

a.	Phase to Phase Rating, kV	35
b.	Critical Impulse Flashover Positive, kV	180
c.	Critical Impulse Flashover Negative, kV	205
d.	60 Hz Dry Flashover, kV	110
e.	60 Hz Wet Flashover, kV	100
f.	Cantilever Strength, lbs.	2800
g.	Specified Tensile Load, lbs.	5000
h.	Leakage Distance, in.	22
i.	Dry Arc Distance, in.	9.5
j.	Maximum RIV at 1000 kV, microvolts	100
k.	Test Voltage-RMS to Ground, kV	22

EFFECTIVE DATE: 06-21-2024

ISSUED: APPROVED: 



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AUTHORITY

SPECIFICATION No. E-008

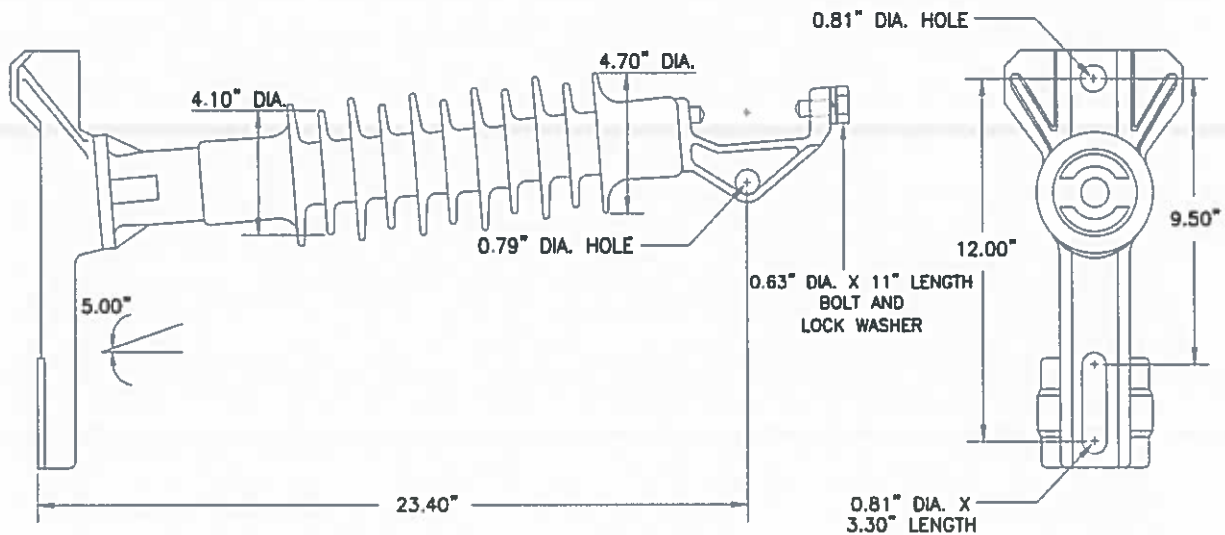
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REV. 4

8.4 Polymer Line Post Insulator Clamp Top Technical Features and Rating:



INDEX NO. SSOI0717
(MacLean Cat. No. NPKG 20 XG O13 S0 or equivalent)

a.	Phase to Phase Rating, kV	35
b.	Maximum Design Cantilever Load, lbs	1200
c.	Maximum Design Tension, lbs	2500
d.	Tower End Fitting, Galvanized Ductile Iron	Gain Base GB-12 / 5°
e.	Line End Fitting, Galvanized Ductile Iron	Horizontal Clamp- Top Trunnion
f.	Mounting Angle, degrees	5
g.	Number of Sheds	11
h.	Leakage Distance, in.	32
i.	Dry Arc Distance, in.	14
j.	60 Hz Dry Flashover, kV	150
k.	60 Hz Wet Flashover, kV	125
l.	Critical Impulse Flashover Positive, kV	250
m.	Critical Impulse Flashover Negative, kV	300
n.	Rod Diameter, in.	1.75

EFFECTIVE DATE: 06-21-2024

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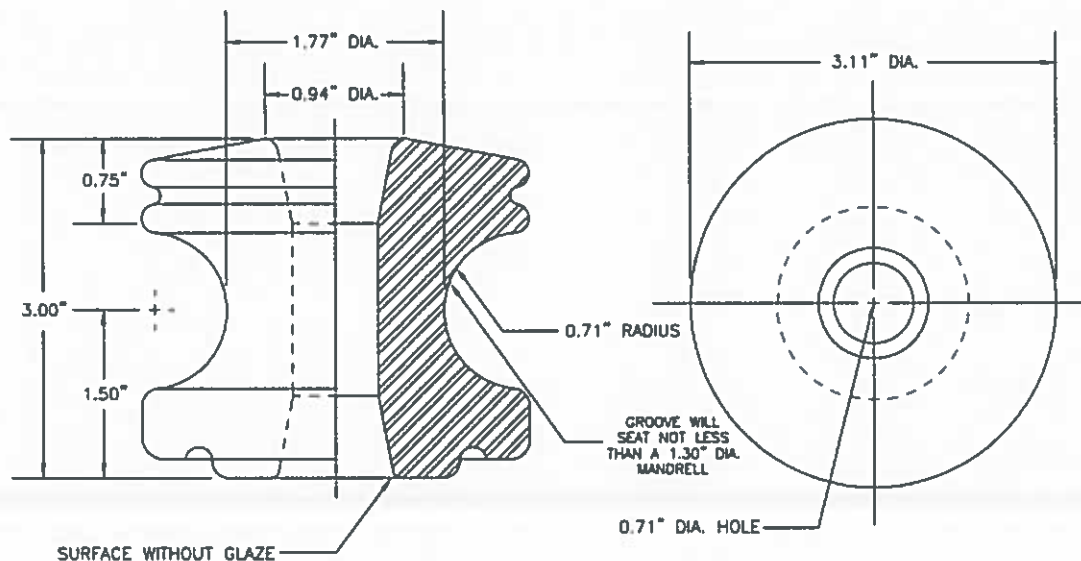
JUNE 20, 2024

PREPARED BY THE
ENGINEERING DEPARTMENT

REV. 4

9.0 SPOOL TYPE INSULATOR

- 9.1** Insulators shall fit standard secondary racks, insulated clevis, insulator fork and bracket bolts commonly used for distribution service.
- 9.2** Insulators shall be symmetrical for even load distribution, and have rounded, heavy sections to protect against breakage.
- 9.3** Insulators shall have tapered ends and holes to safe guard against mechanical failure.
- 9.4** **Technical Features and Rating:**



INDEX NO. SSOI0745
(LAPP Insulators Cat. No. 8442-70 or equivalent)

a.	Specified Tensile Load, lbs.	3000
b.	60 Hz Dry Flashover, kV	20
c.	60 Hz Wet Flashover Vertical, kV	10
d.	60 Hz Wet Flashover Horizontal, kV	12

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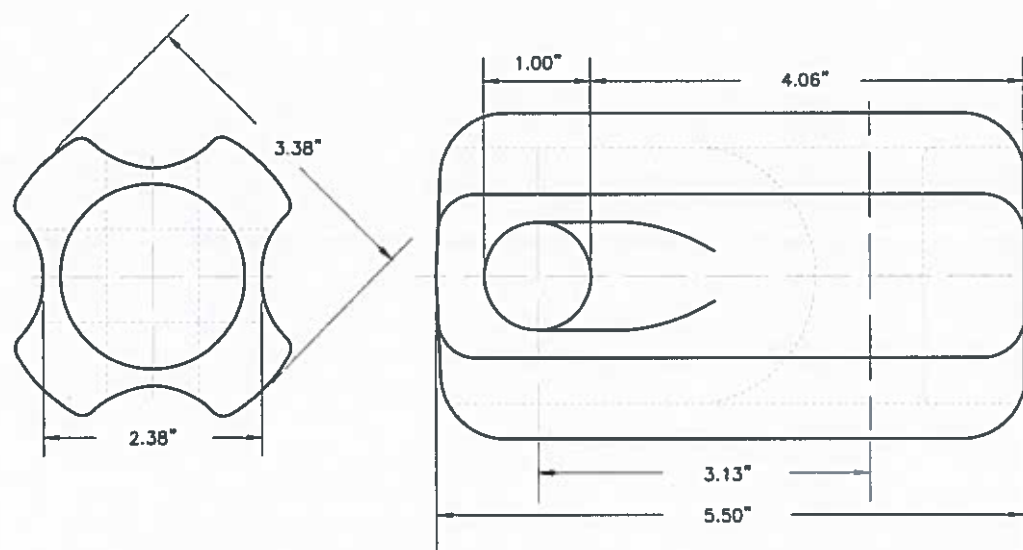
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REV. 4

10.0 GUY-STRAIN INSULATOR

10.1 Insulators shall be symmetrical for even load distribution, and have rounded, heavy sections to protect against breakage.

10.2 Technical Features and Rating:

INDEX NO. SSOI0772
(LAPP Insulators Cat. No. 8506-70 or equivalent)

a.	Specified Tensile Load, lbs.	20000
b.	60 Hz Dry Flashover, kV	35
c.	60 Hz Wet Flashover, kV	18
d.	Leakage Distance, in.	2.25
e.	Maximum Cable Diameter, in.	0.63

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REV. 4

11.0 SHIPPING REQUIREMENTS

- 11.1. The Supplier shall pay particular attention to the proper packaging and bracing of the insulators to assure its safe arrival. Material and an equipment shall be placed and crated in suitable material to prevent damage and injury during shipment and handling operations.
- 11.2. All small parts and unit components shall be separately boxed or bundled to prevent damage due to rubbing of parts against another. Each item, boxed, bundled, or palletized, shall be plainly and individually identifiable for content according to item number, GPA P.O. Number, and Supplier's Identifying Number.
- 11.3. The insulators shall be securely blocked to prevent shifting during transit. When required, pallet banding straps shall be reinforced polymer bands that do not damage insulator surfaces.
- 11.4. Instructions for handling, shipping, packaging and storing shall be provided by the manufacturer to prevent damage, loss, deterioration, and substitution of materials and equipment.
- 11.5. Complete itemized Bill of Lading, which clearly identifies and inventories each assembly, sub-assembly, carton, package, envelope, etc., shall be furnished and enclosed with each item or items at the time of shipment.

12.0 STATEMENT OF COMPLIANCE

The Supplier shall provide a signed statement verifying that the products being supplied fully comply with the specification stated herewith. Items not in full compliance with this specification will be identified with a description of the deficiency and any proposed substitutions must be approved by the Guam Power Authority Engineering Department, as described in Section 3.2.1.

EFFECTIVE DATE: 06-21-2024

ISSUED: APPROVED: 