

BIDDERS LETTERHEAD (please insert your letterhead)

Request for Quotation No.: SAMEPC19/2018

RFQ Name: SUPPLY OF AERIAL BUNDLED CONDUCTOR MATERIALS.

To: George Suisala
TEAM LEADER-PROCUREMENT
Level 5 TATTE Building
Sogi
Apia
SAMOA

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Invitation for Quotation, including Addendum No _____
- (b) We offer to supply in conformity with the Invitation for Quotation and in accordance with the delivery schedule specified in the Schedule of Supply, the following Goods:

- (c) The total price of our Quotation, excluding any discounts offered in item (d) below is:

- (d) The discounts offered and the methodology for their application are:

- (e) Our Quotation shall be valid for a period of **90 calendar days** from the date fixed for the bid submission deadline in accordance with the Invitation for Quotation, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (f) We understand that this Invitation for Quotation, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us.
- (g) We understand that you are not bound to accept the lowest evaluated quotation or any other quotation that you may receive.

- (h) We agree to permit EPC or its representative to inspect our accounts and records and other documents relating to the bid submission and to have them audited by auditors appointed by EPC if required.

- (i) We understand EPC reserves the right to change quantities of the Schedule of Supply with the successful bidder.

- (j) We understand that payment will only be processed when the goods and services have been delivered in full.

- (k) We understand EPC reserves the right to award this RFQ as a whole or in part without furnishing reasons.

- (l) We understand that EPC reserves the right to reject any or all tenders.

- (m) Late bid shall be rejected.

Name _____

In the capacity of _____

Signed _____

Duly authorized to sign the Bid for and on behalf of _____

Date _____

BIDDERS LETTERHEAD (please insert your letterhead)

SCHEDULE OF SUPPLY							
Item No.	PART NAME	SPECIFICATION	QTY	CURR	UNIT PRICE (CIF)	TOTAL PRICE (CIF)	Delivery (Weeks)
1	AERIAL BUNDLED CABLE (4CORE X 95mm ²) XLPE INSULATED	AS/NZS 3560.1	7000 m				
2	SINGLE SUSPENSION CLAMP 2X16/4X120mm ²	EN50483	40				
3	DOUBLE SUSPENSION CLAMP (YOKE) 24KN	EN50483, AS1154.1, AS/NZS4680	40				
4	STRAIN CLAMP 4X50/4X120mm ²	EN50483	350				
5	SERVICE STRAIN CLAMP 2X6/4X35mm ²	HN 33 S 64	40				
6	STRINGING ROLLER for 4X95mm ²	AS3766	15				
7	M20X400mm HOOKBOLT	AS1154.1, AS/NZS4680	220				
8	M20X400mm EYEBOLT	AS1154.1, AS/NZS4680	220				
9	M12X100mm COACH SCREW	AS1154.1, AS/NZS4680	1000				
10	ABC HEAT SHRINKS END CAPS	BT430	640				
11	ABC LUGS (Pre-insulated Bi-metal) CONDUCTOR SIZE 95mm ²	AS4325, BS4579, AS/NZS4396:1996	80				
12	WATERPROOF Pre-insulated hexagonal compression connectors 4x95mm ²	EN50483-4, NFC33021	80				
13	INSULATION PIERCING CONNECTOR (IPC)-MAIN(25-95)mm ² /Tap(25-95)mm ²	NFC33020, EN50483	480				

NOTE: REFER MATERIALS TECHNICAL SPECIFICATIONS BELOW.

REQUIREMENT:

- Bidder must provide **drawings/pictures and additional details** of items quoting in the Schedule of Supply.
- Bidder must provide **test certificates/reports** of items quoting in the Schedule of Supply.

CONDITIONS:

- Closing Date: 15 Oct 2018 at 10am local time.
- Further info: Contact Ms Da Young Tuuau by email tuuau@epc.ws.
- All bids should be dropped inside the tender box at the front desk of TATTE Building, 5th Floor, before closing time or send through email fepuleaiv@epc.ws.

Bids will be opened immediately after the deadline in the presence of bidders representatives who wish to attend.



Low Voltage XLPE Aerial Bundled Conductor Insulated Cables

Materials Technical Specification

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1. Purpose and Scope

This specification sets out the guideline requirements for the ‘Low Voltage Aerial Bundled Conductor Cables with fully insulation type XLPE’ for overhead electricity mains and services in a completely exposed distribution system.

CABLE	DESCRIPTION	STANDARD
MAINS - 4 CORE X 95MM²	Aluminum Type with Cross-linked Polyethylene Insulation	AS/NZS 3560.1

2. Standards

All required items shall be designed, manufactured and tested according to the listed standards.

Item	Standards
Timber Drums for Insulated Cables	AS/NZS 2857:1986
Metal Drums for Insulated Cables	NZS/AS 3983:1991
Aerial Bundled Conductor Electric Cables	AS/NZS 3560.1
Single Suspension Clamps	EN50483
Double Suspension Yoke	EN50483, AS1154.1, AS/NZS4680
Strain Clamps/Termination Clamps	EN50483
Re-Usable Stringing Rollers	AS3766
Hook-bolts, Eye-bolts, Coach-Screws	AS1154.1 , AS/NZS4680
Heat Shrinks	BT430
Lugs (Pre-insulated Bi-Metals)	AS4325, BS4579, AS/NZS 4396:1996
Waterproof Pre-Insulated Compression Connectors	EN50483-4, NFC33021
Insulation Piercing Connectors	NFC33020 , EN50483
Quality Assurance	ISO 9001

3. Material List and Quantity

Material	Specification
Aerial Bundled Cable (4 core x 95mm ²) XLPE Insulated	AS/NZS 3560.1
Single Suspension Clamp 2x16 / 4x120mm ²	EN50483
Double Suspension Clamp (Yoke) 24kN	EN50483 , AS1154.1 , AS/NZS4680
Strain Clamp 4x50 / 4x120mm ²	EN50483
Service Strain Clamp 2x6 / 4x35mm ²	HN 33 S 64
Stringing Roller for 4x95mm ²	AS3766
M20 x 400mm Hook-bolt	AS1154.1 , AS/NZS4680
M20 x 400mm Eye-bolt	AS1154.1 , AS/NZS4680
M12 x 100mm Coach Screw	AS1154.1 , AS/NZS4680
ABC Heat Shrinks End Caps	BT430
ABC Lugs (Pre-insulated Bi-metal) Conductor Size 95mm ²	AS4325, BS4579, AS/NZS 4396:1996
Waterproof Pre-insulated hexagonal compression connectors 4x95mm ²	EN50483-4, NFC33021
Insulation Piercing Connector (IPC) - Main (25-95)mm ² Tap (25-95)mm ²	NFC33020 , EN50483

4. Quality Assurance

The manufacturer shall possess certified certificate of Quality Assurance under the ISO 9001:2015, ISO 9001:2008 is also acceptable for the factory where the materials were manufactured. The bidders must provide with the bid a copy of the ISO Certificate certified as a true copy of the original.

5. Drawings

The tenderer to supply with the tender detailed drawings and pictures of the items tendered.

6. Local Environmental Conditions

The items or materials as listed are exposed to the following environmental conditions.

FACTORS	CONDITIONS
TEMPERATURES	Average temperature is around 30°C but shall cable comply to a 40°C ambient temperature minimum operating temperature
SOLAR RADIATION	1000 W/m ²
HUMIDITY	Relative humidity in excess of 90%
PRECIPITATION	Range of 3000 mm to 6000 mm rainfall annually Exposure to winds in excess of 250km/hr.
POLLUTION	Salt spray and salt deposit densities on coastal areas and pollution ranging from 3.0g/m ² to 4.50g/m ²

7. Construction Design

7.1 Conductor

The cables shall be stranded aluminum and comply with AS/NZS 3560.1 Clause 2.1.

7.2 Insulation

Insulation type is 'XLPE' cross-linked polyethylene as specified in Clause 2.3 of the AS/NZS 3560.1 Standards complying with AS/NZS 3808.

7.3 Cable Identification

The cables must be readily identifiable by longitudinal continuous ribs on the core insulation to easily identified different phases complying with the Clause 2.4 of AS/NZS 3560.1.

6.4. Lay-Up of Cores

Laying of cores must be complied with the Clause 2.6 of AS/NZS 3560.1.

6.5 Manufacturer's Identification

The manufacture of the Aerial Bundled Conductor must be clearly have its mark/identification marked on to a single core of the cable using a laminated polyethylene terephthalate tape, this is clearly stated under Clause 2.8 of AS/NZS 3560.1.

6.6 Length Marking

The cables shall be meter marked in accordance with Standard AS/NZS 3560.1 Clause 2.5.

6.7 Drawings

Drawings of the cross-section items to be provided by the tenderer.

7. Testing Performance

7.1 Cable Testing

The cables shall be tested in accordance to the Section 3 of the Standard AS/NZS 3560.1

7.2 Type Tests and Reports

The certificates of type tests for all performed test shall conform to relevant specified standards. The test certificates must clearly pinpoint the specific material showing the manufacturer and the technical parameters.

In terms of quality assurance, certified original copy of the ISO 9001 certificate by the manufacturer of the ABC accessories must be attached to the offer.

- i) Submission with the offer, certificates of type tests conducted in accordance with the requirements of Standard AS/NZS 3560.1 for the cable type 4 core x 95mm² under Table 3.1, Clause 3.1 of AS/NZS 3560.1

The tenderer to submit results for the 'Adhesion of the Insulation' test with the offer, as well as specific comments on their ability to constantly provide test results of insulation adhesion fulfilling the requirements of AS/NZS 3560.1.

Also, the tenderer to provide evidence with the offer of the adopted procedures to guarantee that cables were completely discharged after completion of all electrical testing carried out.

The type tests certificates for the following items must be provided with the offer.

- ii) Suspension and Clamp Assemblies

Tensile Tests, Ageing Tests, and Corrosion Tests for complete units.

- iii) Piercing Connectors

Mechanical tests, voltage and water tightness test, ageing test in climatic conditions, corrosion test, electrical ageing test, temperature rise and over current tests

- iv) Pre-insulated Sleeves (compression connectors) and Bi-metallic Lugs

Mechanical Tests (Crimping ability test and tensile test), voltage and water tightness test, current carrying capacity, ageing test in electrical and climatic conditions, corrosion test, endurance under mechanical and thermal stresses.

v) Insulation End Caps

Voltage and water tightness tests, ageing test.

8. Packaging

8.1 Cable

The cables must be supplied on wooden or steel drums in accordance to the requirements of AS/NZS 2857:1986 and NZS/AS 3983:1991 respectively, and it must be self-supporting Low Voltage Aerial Bundle Conductor Lines which incorporates 1 or 2 additional insulated aluminum conductors with cross sections of 16mm² or 25mm² as pilot wires. Both Cable ends must be properly sealed to prevent any access of moisture to the conductors. For all cable preparations for delivery, supplier must refer Clause 2.10 of AS/NZS 3560.1.

8.2 Drums

- The drums must be properly marked as according to Clause 2.11 of the AS/NZS 3560.1 Standards.
- The drums shall be sufficiently robust as this is to ensure that the cable is undamaged during delivery considering transportation and distances of delivery.
- Drum must be of appropriate quality to withstand 24 months of exposure to all weather conditions especially tropical conditions in outside storage without deterioration.

8.3 Materials

- Each set of clamps assembly must be supplied in a well suited single bag (considering transportation)
- Each piercing connectors must be packed in a well suited sealed bag to prevent moisture penetration during delivery and transportation. For bags more than 10 in quantity, shall be packed in appropriate boxes.
- Each pre-insulated sleeves (compression connectors) must be packed in a well suited sealed bag, to prevent moisture penetration.
- Each pre-insulated bi-metallic lug must be packed in a well suited sealed bag to avoid moisture penetration.
- Sets of End Caps must be packed in a well suited sealed bag to avoid moisture penetration.

9. Non-Manufacturing Suppliers

In case of overseas manufacturers, is it mandatory that all conditions and inspections must be carried out by the Supplier and also, the tenderer must ensure that any procedures does not produce any deleterious effects to the conductor and the cable drums, as well as all the materials required.

10. Information to be provided

- i) The manufacturer shall provide with the offer all relevant drawings, pictures, technical literatures, hand books preferably in English, for proper installation.
- ii) Place of Cable Manufacturing
- iii) Routine test certificates in compliance to the specified standards while manufacturing each material must be provided with each material.
- iv) Catalogues describing material and its information (type and model number)
- v) Manufacturer Certification
- vi) Specification of Cables provided
- vii) Standard of Coil Lengths
- viii) Delivery Ex-factory and to Apia

A form is attached for the tenderer to fill in with assurance of such data provided. ([Technical Details Form](#))

11. Installation of LV-ABC

The awarded bidder must also provide trainings for EPC assigned staff for the construction of the Low Voltage Aerial Bundled Conductor cables which shall include, detailed installation constructions and the specifics of the aerial bundled conductors and connectors (tapping and compression).

12. Additional

The tenderer is also welcome to submit a separate quote for the list of special tools specifically used for installation, maintenance and operation of Low Voltage Aerial Bundled Conductor.

13. Technical Details Form

ESSENTIALS	Details	Item Number
Manufacturer's Name and Address		
Place of Manufacturer		
Cable Details and Performance Data		
Details	Units	Values
Maximum DC Resistance	$\Omega/\text{km @ } 20^{\circ}\text{C}$	
Current Rating in Air (refer to conditions 1)	Amps @ 80°C Conductor Temperature	
Voltage Drop at 50Hz 80°C	mV/A.m	
Grade of Insulation		
Mass of Cable	kg/m	
Cable Breaking Load	kN	
PACKAGING DETAILS		
Standard Drum Designation		
Spindle Hole Diameter	mm	
Method of Lagging		
Length of Cable per Drum	m	
Gross mass of drum + drum + lagging	kg	

Table 1: Conditions 1

Ambient Temperature	40°C
Solar Radiation	$1000 \text{ Wm}/\text{m}^2$
Wind Speed (Normal to Cable)	$1.0 \text{ m}/\text{sec}$

14. Checklist

Reference	Specifics	Status
2. Standards	Have the standards being met?	Yes <input type="checkbox"/> No <input type="checkbox"/>
6. Local Environmental Conditions	Has the Environmental Conditions being considered?	Yes <input type="checkbox"/> No <input type="checkbox"/>
7.2. Insulation	Adhesion of insulation to the conductor	Yes <input type="checkbox"/> No <input type="checkbox"/>
7.3. Cable Identification	Have the cables being properly identified?	Yes <input type="checkbox"/> No <input type="checkbox"/>
6.5. Manufacturer's Identification	Manufacturers identification marks	Yes <input type="checkbox"/> No <input type="checkbox"/>
6.6. Length Marking	Cable length markings	Yes <input type="checkbox"/> No <input type="checkbox"/>
7.1. Cable Testing	Test Details	Yes <input type="checkbox"/> No <input type="checkbox"/>
7.2. Type Tests and Reports	Reports, Certificates and Verifications of all type tests carried out	Yes <input type="checkbox"/> No <input type="checkbox"/>
8. Packaging	Packing standards	Yes <input type="checkbox"/> No <input type="checkbox"/>
9. Non-Manufacturing Suppliers	Tests and verifications by the supplier	Yes <input type="checkbox"/> No <input type="checkbox"/>
10. Information to be provided	Has all the information as stated been provided?	Yes <input type="checkbox"/> No <input type="checkbox"/>
11. Installation of LV-ABC	Trainings	Yes <input type="checkbox"/> No <input type="checkbox"/>
13. Technical Details Form	Completed attached form	Yes <input type="checkbox"/> No <input type="checkbox"/>