



14th May 2018

NUKU'ALOFA NETWORK UPGRADE PROJECT SUPPLY OF HIGH VOLTAGE AND LOW VOLTAGE CONDUCTORS AND HARDWARE - REQUEST FOR TENDER (RFT)

Tonga Power Limited (TPL) is inviting the submission of tenders for the supply of conductors and hardwares required for area 1 of their Nuku'alofa Network Upgrading Project (NNUP). Tenderers are required to submit a fixed price offer for either;

- i. High Voltage conductors and required Hardware or;
- ii. Low Voltage conductors and required hardware or;
- iii. Both High Voltage and Low voltage conductors and required Hardware.

Material list available in the **Schedule 1** of this document. Supplied rates will be used for purchasing area 1 materials and may use any additional materials as required throughout the remainder of the project.

Supply of all materials for area 1 is required in Nuku'alofa by the 1st October 2018. Details of the supply requirements are contained in Attachment One, *Scope and programme for supply of materials*.

Timetable

The anticipated timetable for this RFT process is as follows:

Item	Date due
Release of tender document/s	09/05/18
Close off time for any questions to be asked regarding the tender and documentation	06/06/18
Close of tender	15/06/18
Opening of Tenders	16/06/18
Contract award	29/06/18
Contract commencement	02/07/18
Materials required on site	01/10/18

Tenderers should note that this timetable is indicative only, and may be subject to change at the sole discretion of TPL

TPL may seek to negotiate the scope of supply before finalising a contract with the preferred Tenderer.

CONDITIONS OF QUOTATION

1 Contents of this RFT

This RFT consists of:

- Conditions of Quotation
- Attachment 1: Scope and Programme for Supply of Materials
- Attachment 2: Assessment Criteria
- Attachment 3: Material Schedule – LV Line Main and Service Line Conductors
- Attachment 4: Tender Letter

All amendments to this RFT will be issued via email and on issue will become part of this RFT.

2 Communications Regarding this RFQ

All correspondence and questions relating to this RFT must be in writing via email and directed to the Authorised Representative:

Timote Tuipulotu
Projects Manager
Tonga Power Ltd
Email address
NNUP.procurement@tongapower.to

TPL will not be bound by any statement, written or verbal, made by any person other than the Authorised Representative stated above. The Authorised Representative is the only person authorised to make representations or explanations regarding this RFT document and process.

Tenderers may submit written questions to clarify issues relating to the RFT up to and including the date given on page 1. Questions received after this time/date may not be responded to.

Questions and answers that TPL deems relevant to all Tenderers will be published to all Tenderers, unless it considers the question (and answer) contains commercially sensitive information. Tenderers must indicate any information in their question that they consider to be commercially sensitive.

3 Additional information

TPL may issue additional information or changes to this RFT by way of a written Notice to Tenderers (NTT). All notices issued will become part of this RFT.

4 Content of Quotations

Quotes must comprise the following documents:

- Completed Tender Letter (*Attachment 4*)
- Pricing (Attachment 4 , Form I) Pricing will be for the supply of area 1 materials with the rates supplied to be used for any supply quantity variations that may be needed during the future years of the project.

All tenders must be firm offers and may not be withdrawn for a period of 60 calendar days following the deadline for submission of quotes.

You may attach any supporting material that you wish to your tender. Please make sure that any supporting material is relevant, clearly labelled, and summarise any attachments in a covering letter. General advertising or marketing material should not be included.

TPL requires that all tenders conform to these *General Conditions of Contract*, and reserves the right to reject any non-conforming tender.

5 Submission of Tenders

Tenders must be received by the deadline specified on the front page of this RFT, or it may not be considered.

Tenders must be submitted in electronic format only **as a single file in pdf format** (or otherwise in a format compatible with Microsoft Office 2013) to the Nominated Contact.

Please ensure that the total size of the required documents and your email is **under 5 megabytes**. Any email exceeding the 5MB limit can be send through via a secure share link.

6 Confidentiality

6.1 TPL undertakes to keep confidential any information marked "Commercial in Confidence" provided to TPL by the Tenderer/s prior to the award of a contract and, in respect of unsuccessful Tenderers, after contract award.

6.2 The obligation of confidentiality in clause 12.1 does not apply if the confidential information:

- 6.2.1 Is disclosed by TPL to its consultants, advisors or employees solely in order to consider the tender responses;
- 6.2.2 Is disclosed by TPL to its responsible Minister;
- 6.2.3 TPL is authorised or required by law to be disclosed; or
- 6.2.4 Is in the public domain

- 7 This RFT, and the information supplied by TPL (either itself or through its consultants or advisors) in connection with this RFT, is confidential. You must not release or disclose any of the information to any other person (other than your employees or advisors) without the prior written consent of TPL.

8 The RFT Process

- 8.1 Each respondent shall examine, or be deemed to have examined, the *Conditions of Quotation, Scope and programme for supply of materials, Specifications and Assessment Criteria* and any other information supplied by TPL in writing.
- 8.2 In submitting a Tender in response to this RFT, the respondent accepts and agrees to be bound by these *Conditions of Quotation*.
- 8.3 All costs of preparing and submitting the tender shall be borne by the respondent.
- 8.4 TPL reserves the right to change, suspend, cancel or reissue this RFT, or the contents of the RFT documentation at any time.
- 8.5 TPL shall have no liability for any information it provides, or for any cost or loss to any respondent, in the event that this RFT is cancelled, suspended, changed or reissued.
- 8.6 All information provided by Tenderers in their responses is warranted by the Tenderer to be complete and accurate in all material respects. The Tenderer also warrants to TPL that the provision of information to TPL, and the use of it by TPL for the evaluation of RFT responses and for the negotiation and implementation of a contract, will not breach any third-party intellectual property rights. Tenderers will be responsible for verifying the accuracy and adequacy of information supplied by or on behalf of TPL.
- 8.7 TPL is under no obligation to check any RFT response for errors. Acceptance of an RFT response that contains errors will not invalidate any contract that may be negotiated on the basis of that RFT response.
- 8.8 TPL reserves the right to accept or reject any, or all quotes, and to cancel the RFT process, at any time, thereby rejecting all tenders, prior to any contract being awarded.

9 Joint tenders

- 9.1 Joint tenders, whereby an organisation invited to submit a tender elects to form an alliance with another organisation to offer the services specified in this RFT, are permitted, provided that full disclosure is given of the alliance, and the manner in which the delivery of the specified services/products will be apportioned and administered.
- 9.2 In such a submission, the proponents are jointly and severally liable.
- 9.3 One of the joint proponents must be identified as the contact point for all communications with TPL relating to the tender.

10 Evaluation of Quotes

- 10.1 Tenders will be assessed against the criteria outlined in Attachment Two: Assessment Criteria.
- 10.2 TPL reserves the right to clarify or request additional information from any respondent before accepting any quote and to implement additional processes to evaluate the quote.
- 10.3 The lowest priced tender, or any tender, will not necessarily be accepted.
- 10.4 Each respondent shall be notified in writing as to whether or not it has been selected as the preferred tenderer as soon as possible. No tenderer shall be deemed to be shortlisted unless and until the respondent has been notified by TPL in writing.
- 10.5 TPL reserves its absolute discretion in the evaluation and selection process.

11 Subject to Contract

- 11.1 Quotes are submitted on the basis that no binding legal relations with TPL are created unless and until a formal written contract is signed by both TPL and the successful respondent.
- 11.2 If, in the opinion of TPL, and at TPL's sole discretion, none of the tenders submitted are acceptable, TPL reserves the right to enter into negotiations with one or more of the respondents for a satisfactory offer.
- 11.3 All parties submitting an RFT response agree that:
 - 11.3.1 A contract is only formed between TPL and the successful Tenderer when TPL executes such a contract covering the relevant supply services
 - 11.3.2 Neither the RFT, nor the RFT process, creates a process contract or any legal relationship between TPL and any Tenderer, except in respect of:
 - i. The Tenderers' declaration in its tender;
 - ii. The Tender Validity Period;
 - iii. The Tenderer's statements, representations and/or warranties in its tender and in its correspondence and negotiations with [insert agency name here];
 - iv. The evaluation approach set out by [insert agency name here] in this RFT;

12 Reserved rights

12.1 TPL reserves the right to:

- 12.1.1 Accept or reject any tender response;
- 12.1.2 Re-advertise the RFT;
- 12.1.3 Waive any irregularities or informalities in the RFT process;
- 12.1.4 Amend the closing date, the acceptance date, or any other date in the RFT document;
- 12.1.5 Amend this RFT and any associated documents by the issue of a written amendment notice;
- 12.1.6 Seek clarification of any RFT response;
- 12.1.7 Suspend or cancel (in whole or in part) this RFT process;
- 12.1.8 Consider or reject any alternative RFT response;
- 12.1.9 Deal separately with any of the divisible elements of any RFT response, unless the relevant RFT response specifically states that those elements must be taken collectively;
- 12.1.10 Enter into discussions and/or negotiations with any Tenderer at any time and upon any terms and conditions, before or after acceptance of an RFT response;
- 12.1.11 Conduct a financial check on any Tenderer who submits a tender response;
- 12.1.12 Obtain similar goods/services from any third party and not deal exclusively with any Tenderer under this RFT process;
- 12.1.13 Meet with any Tenderer before and/or after the RFT closes and prior to the award of any contract;
- 12.1.14 Amend the proposed form of contract; and
- 12.1.15 Decide not to enter into a contract with any Tenderer.

13 Probity of tender procedures

13.1 Should any Tenderer consider that they have been prejudiced by any breach of the Conditions of Tender or any other relevant principles affecting the tender process and/or evaluation of tender responses, the Tenderer must provide immediate notice of the alleged breach to TPL's Authorised Representative. The Tenderer should include in their notification the issues in dispute, the impact upon the Tenderer's interest, any relevant background information and the outcome they seek.

14 No canvassing

14.1 Tenderers will not canvass any TPL employees, contractors, consultants, board member or anyone who has a direct working relationship with TPL other than the Authorised Representative stated in Section 2 in relation to this RFT. Any Tenderer found to be canvassing or have canvassed any TPL employee, contractor, consultant, board member or anyone who has a direct working relationship with TPL other than the Authorised Representative regarding this RFT, may be excluded from further consideration.

15 Conflicts of interest

15.1 Tenderers should disclose any conflicts of interest in relation to the matters covered by this RFT. (See Conflict of Interest form).

16 Acceptance of gifts

16.1 In compliance with TPL policy, gifts, inducements, promotional products or services, etc. should not be offered to TPL employee, agent, consultant, board member or contractor acting on behalf of TPL at any time. Any Tenderer attempting to provide gifts, inducements, promotional products or services to any TPL employee, agent, consultant, board member or contractor acting on behalf of TPL may be disqualified from tendering.

17 Governing law

17.1 This RFT is governed by Tongan law, and the Tongan government has exclusive jurisdiction to all matters relating to this RFT.

Attachment One: Scope and Programme for Supply of Materials

Project Overview

The Nuku'alofa Network Upgrading Project (NNUP) is a five year project, which upgrades both the low and high voltage networks within the urban areas of Tongatapu. This includes new underground service line to all premises and also provides free new connection to premises that required electrical power for the first time. NNUP area consist of 30 villages and are sorted to groups of 5 main Areas of construction work in annual basis.

NNUP area 1 is funded by New Zealand and the rest of the project fund are still under processing. The overarching goal of the project is to create an environment for sustainable economic growth through improved electricity accessibility, reliability and safety.

This supply tender is for the Area 1 of the project and the result from this tender may be valid for the remaining Areas of the project.

SCOPE AND PROGRAMME FOR SUPPLY OF GOODS

Tenderers are requested to price on the Materials Schedule included in Attachment 3 and a unit price for any future material requirements including ad hoc orders and yearly material requirements similar to the original quantity required. ***The unit price provided is to be inclusive of delivery to the TPL yard in Nuku'alofa Tonga***

The overview details for the design is as follows:

i. High Voltage Network

- Use of Treated Timber 11m utility poles at 225mm and 300mm SED.
- Conductor of 95mm Aerial bundled 3 core conductor (ABC)
- Pole mounted overhead Transformer

ii. Low Voltage Network

- Use of Treated Timber 9m Utility Poles at 225mm and 300mm SED.
- LV Main Line is 95mm and 150mm Aerial Bundled 4 Core Conductor (ABC)
- LV Service Line is Neutral Screen Single Core 0.6/1kV Conductor (16mm & 25mm) and Neutral Screen Three Core 0.6/1kV Conductor (16mm)

The Hardware and Equipment specified is to be fit for purpose for the above design. If the Tenderer wishes to provide an alternative product to what is specified they may do so only when the following information is provided:

- Details of the alternative product and the reason why it has been offered
- Benefits to Tonga Power in using the alternative product (ie: cost saving, superior product, ease of installation, etc)
- Details on relevant past history and performance use of the alternative product

This will not be an exclusive supply contract for all materials required on the project. Other suppliers may and will be utilised for material supply for the remainder of the project

Attachment Two: Assessment Criteria

No.	Assessment Criteria	Weighting (%)
1	Value for money: Does the response demonstrate value for money	40%
2	Supply Chain Capability: Responsiveness and ability to provide support through the life of the supply contract. Reliability of supply. What systems will be put in place to be able to assist with additional orders, imports, any defects etc in a pro-active timely manner	30%
3	Experience: Ability to supply similar materials in scope and size. Including a track record of supplying materials of this nature	20%
4	Quality: Company quality procedures, qualification and track record. Robustness of internal process management and quality control procedures	10%
Total		100%

Attachment Three: Specifications

Service Specification

Potential suppliers will need to abide by the Tonga Power LTD. Specifications for Main Line HV & LV Conductors, Low Voltage Service Line Single Phase Conductors and, Low Voltage Service Line Three Phase Conductors.

Particular points to take note from the specifications are:

- All Conductors meet the requirements of all applicable AS/NZ standards, namely AS/NZS 3560.1:200 and AS/NZS 4961:2003
- All cables to be supplied with a minimum of 5 years warranty on conductor and PVC coating.
- All cables to be supplied in clean new condition suitably marked with the following information:
 - Length marked per meter
 - Manufacture Date
 - Product Size / Type / End Use
 - International Standard Applicable
 - Manufacturers Name
 - Product Run Identification Code
- All associate hardware required and equipment are to meet the requirements of the relevant applicable AS/NZS Standard Quality, Service life, Materials and Workmanship.
- All Hardware and Equipment to be supplied with a Manufactures warranty against defective workmanship and breakage under normal operating conditions.
- All Hardware & Equipment is to be supplied in clean new condition, packaged and suitably marked with the following information:
 - Manufacture Date
 - Product Type / Size / End Use
 - Manufacturers Name
 - Product Run Identification Code

1.1 Conductors Types

Tenderers are to price on the conductor types identified in Attachment 1. All conductor to be provided on 500m drums

1.2 Assistance Given to the Selected Supplier

Tonga Power LTD will assist by all means possible to ensure successful supply, delivery and clearance of the product to our yard in Nuku'alofa, Tonga. However it is the sole responsibility of the supplier to ensure that all requirements by any Transport, Shipping or

Customs agency are meet and abided by. Furthermore, any delay, damage or loss incurred during transit of the product will be borne by the supplier.

Please Note; All quantities provided are approximate amounts only to be used for quotation purposes. Actual amounts and products could be subject to change upon placement of order. All rates provided are to be inclusive of all costs associated with delivery to the NNUP yard in Nuku'alofa Tonga including custom brokerage.

Appendix A:

Tonga Power Specification for Main Line HV & LV
Conductors.

Appendix B:

Tonga Power Specification for Low Voltage Service Line
Single Phase Conductors.

Appendix C:

Tonga Power Specification for Low Voltage Service Line
Three Phase Conductors.

Attachment Four: Tender Letter

Tenderers must submit a Tender letter in the following format with all the necessary documents attached in accordance with the Tender Requirements.

(COMPANY LETTERHEAD) _____

1. In response to your Invitation to Tender for Contract No. C/NNUP1/181, dated 14th May 2018 having examined the Conditions of Purchase Order, Specification and Drawings, and Schedules of Supplementary Information for the Supply of Main and Service Line Conductors we, the Undersigned, offer to manufacture, test, supply, deliver and remedy defects in the whole of the said Goods in conformity with the said Conditions of Purchase Order, Specification and Drawings, and Schedules of Supplementary Information, Post Award Documentation and to comply with the requirements of the Notices to Tenderers listed at the foot of this letter, for the sum of _____ (_____) excluding Goods and Services Tax, or such other sums as may be ascertained in accordance with the said Conditions.
2. We undertake if our Tender is accepted to commence work on the Order upon receipt of the Letter of Acceptance and to complete and deliver the whole of the Goods comprised in the Order within the periods or by the dates as indicated in Attachment 1, Scope and Programme of Supply of Goods.
3. If our Tender is accepted we shall provide all documentation required by the Order.
4. We agree to abide by this Tender for the period of 60 days from the date fixed for receiving the same and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
5. Unless and until a formal Order is prepared and executed this Tender, together with your written acceptance thereof, shall constitute a binding Contract between us.
6. We understand that you are not bound to accept the lowest or any Tender you may receive.

Attached and made a part of this proposal are all data required by the Contract Documents.

Notices to Tenderers received and allowed for in this price are:

Tenderer: (Name) _____ Title: _____

Signature: _____

duly authorised to sign Tenders for and on behalf of:

Company: _____

Business Address: _____

Business Telephone: _____ Date: _____

Email: _____

NOTE: If Tenderer is a partnership or joint venture give full names of all partners or joint venturers, who shall be jointly and severally liable. Evidence of authority of the person signing on behalf of a corporation, partnership or joint venture should be attached to the Tender Letter.

APPENDIX TO THE TENDER LETTER

1.1 Form A - Exceptions and Deviations

The Tenderer shall detail on Form A each deviation from the Tender documents (Terms, Conditions, Specification, Drawings, etc).

1.2 Form B - Manufacturing Programme

The Tenderer shall provide a proposed Manufacturing Programme that includes the key dates for delivery of the Goods as set out in Part II - Scope and Programme of Supply of Goods.

1.3 Form C - Subcontractor/Supplier Listing

The Tenderer shall provide on Form C a list of proposed Subcontractors and Suppliers.

1.5 Form F - Packing and Shipping Schedule

The Tenderer shall provide information on the proposed shipping method, destinations and delivery dates as required by Form F.

1.6 Form G - Quality Assurance

The Tenderer shall provide a summary of the Company's Quality Assurance Programme and comments to the information requested on Form G.

1.7 Form H - Tenderer's Experience

The Tenderer shall provide information on its previous experience in the supply of similar Goods and equipment and indicating what facilities are available for carrying out the Order.

1.8 Form I - Schedule of Prices

The Tenderer is to complete the Schedule of Prices in the format of Form I.

1.9 Form J – Conflict of Interest

The Tenderers should disclose any conflicts of interest in relation to the matters covered by this RFT in the format of Form J.

FORM A

EXCEPTIONS AND DEVIATIONS

Tenderer's Name _____

The Tenderer is to list below any exceptions and deviations proposed to any part of the Tender Documents. Precise reference to appropriate Clauses or Sub-clauses is essential. No amendments to the Tender Documents will be recognised unless expressly listed herein. If no exceptions or deviations are proposed by the Tenderer, **enter "None" below.**

If the Goods offered comply with a standard equivalent to any standard mentioned in the specification (s), state the name of the standard, issuing authority, number, issue and full title of such standard, and attach an English language copy of the standard or relevant part thereof to this form.

FORM B

MANUFACTURING PROGRAMME

Tenderer's Name _____

The Tenderer is to submit a proposed Manufacturing and Supply Programme. The Programme shall indicate all the stages of manufacture and the Tenderer's programme for delivery of the Goods within the Time frames indicating compliance with the Delivery Dates set out in Attachment 1 - Scope and Programme for Supply of Goods.

FORM C

SUBCONTRACTOR LISTING

Tenderer's Name _____

Name and address of Subcontractor/Supplier	Description of Subcontractor's/ Supplier's Work Scope	Comments
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The above list should include the proposed Subcontractors and/or suppliers of materials, equipment, or services in connection with the Order.

FORM E

PACKING AND SHIPPING SCHEDULE

Tenderer's Name _____

Provide details of how the completed Goods will be shipped to the Delivery Point, to include, but not limited to:

- (a) Location of Works
- (b) Ex Works date
- (c) Method of shipment and delivery to Nuku'alofa location
- (d) Method of complying with customs requirements
- (d) ETA at delivery point
- (e) Type of packaging including weights and dimensions of all containers

FORM G

QUALITY ASSURANCE PROGRAMME

Tenderer's Name _____

The Tenderer shall submit its Quality Manual in accordance with Australia/New Zealand Standard AS/NZS ISO 9001:2008. Where the Tenderer is certified to an equivalent or higher category of any internationally recognised Quality System Standard then that Standard may be proposed for the work.

If a standard is offered as equivalent to or exceeding the specified New Zealand Standard, the Tenderer shall state the issuing authority, number, issue, and full title of the Standard.

The Tenderer shall provide evidence of Certification to AS/NZS ISO 9001:2008 or equivalent or higher Standard by a recognised authority.

The Tenderer shall provide full details of its methods of traceability. Tenderers may propose any part or component of the Plant for which it considers traceability inappropriate.

If the Tenderer is not certified to an internationally recognised Quality System the Purchaser may, during evaluation of tenders, call for further information, and may require to audit the Contractor's Quality System.

All Conductors meet the requirements of all applicable AS/NZ standards, namely AS/NZS 3560.1:200 and AS/NZS 4961:2003

For HV and LV network hardware provided shall be international or New Zealand recognised Quality standard and also fit for the purpose and environmentally friendly.

FORM H

TENDERER'S EXPERIENCE

Tenderer's Name _____

The Tenderer shall supply the following information:

1. A statement setting out the experience, resources and facilities at the Tenderer's disposal for executing the work covered by the Specification.
2. Details of the Tenderer's previous experience in the supply of similar type of Goods to that offered. The information supplied shall include the following:
 - (a) Material types
 - (b) General description
 - (c) Quantity supplied
 - (d) Date supplied
 - (e) Country
 - (f) Customer's name and address

FORM I

SCHEDULE OF PRICES

Tenderer's Name _____

NOTES TO THE SCHEDULE OF PRICES

Tenderers are to indicate on the following schedules their complying Tender prices on a rates basis, as required by the Conditions of Contract.

The Tender Prices are to be indicated in \$TOP

Tonga Power reserves the right to split the order and vary the quantities.

Prices are to be inclusive of all transport, shipping and customs clearance to Tonga.

OVERSEAS MANUFACTURED GOODS

For Goods manufactured overseas, the Delivery Point shall be DDU to Tonga Power store in Nuku'alofa, Tonga.

The Tenderer is to indicate separately all taxes, duties, fees and charges related to the import of the Goods to Tonga.

Tenderer's Name _____

SCHEDULE OF PRICES

SCHEDULE 1A – HIGH VOLTAGE CONDUCTORS AND HARDWARE

Item	Description	Description	Quality Requirements	Unit	Quantity
CONDUCTORS					
0.1	95mm ² HV Aerial Bundle 3C (ABC) AL Conductor (19 Strand) XLPE SCREENED	Distributing high voltage 11KV Line	-Must compliant to AS1531 -Must build suitable catenary withstand weight	meters	30,500
0.2	185mm ² HV Aerial Bundle 3C (ABC) AL Conductor (19 Strand) XLPE SCREENED	Distributing high voltage 11KV Line	-Must compliant to AS1531 -Must build suitable catenary withstand weight	meters	5,000
0.3	50mm ² Copper PVC - Black	Drop down cable from HVABC to HV side Transformer	-Must compliant to AS1531	meters	1,000
0.4	95mm ² Copper PVC - Black	Drop down cable from Transformer LV side to K292 fusing	-Must compliant to AS1531	meters	500
0.5	25mm ² green/yellow SD copper conductor	Grounding of catenary wire	-Must compliant to AS1531	meters	500
0.6	50mm ² green/yellow SD copper conductor	Grounding at Transformer pole	-Must compliant to AS1531	meters	1,000
HARDWARES					
1.0	HV ABC Suspension bracket	Mounting HV suspension clamp on wooden power pole	- All galvanized hardware to AS4680	each	700
1.1	HVABC 3x95mm suspension hook	Provide hanger for HV Suspension clamp	- All galvanized hardware to AS4680	each	700
1.2	HVABC suspension clamp for 95mm ² HVABC cable	Clamp for holding HV ABC cable on power pole	-Must be fully enclosed all body to securely retain the polymer insert. (not the cheap wing nut type)	each	700

1.3	HVABC suspension clamp for 185mm ² HVABC cable	Clamp for holding 185mm ² HV ABC cable on power pole	-Must be fully enclosed all body to securely retain the polymer insert. (not the cheap wing nut type)	each	200
1.4	M12X300mm Galvanised bolt+ Washer (50X50X3mm) + Nuts	Secure crossarm and brace to wooden power pole	- AS1252, DIN6914 Clause 4.8 - Galvanized to AS1214 Min 42um	each	200
1.5	M12X400mm Galvanised bolt + Washer (50X50X3mm) + Nuts	Secure crossarm and brace to wooden power pole	- AS1252, DIN6914 Clause 4.8 - Galvanized to AS1214 Min 42um	each	200
1.6	M12X450mm Galvanised bolt + Washer (50X50X3mm) + Nuts	Secure crossarm and brace to wooden power pole	- AS1252, DIN6914 Clause 4.8 - Galvanized to AS1214 Min 42um	each	200
1.7	M12X500mm Galvanised bolt + Washer (50X50X3mm) + Nuts	Secure crossarm and brace to wooden power pole	- AS1252, DIN6914 Clause 4.8 - Galvanized to AS1214 Min 42um	each	200
1.8	M16X300mm Galvanised bolt + Washer (50X50X3mm) + Nuts	Secure crossarm and brace to wooden power pole	- AS1252, DIN6914 Clause 4.8 - Galvanized to AS1214 Min 42um	each	200
1.9	M16X400mm Galvanised bolt + Washer (50X50X3mm) + Nuts	Secure crossarm and brace to wooden power pole	- AS1252, DIN6914 Clause 4.8 - Galvanized to AS1214 Min 42um	each	200
1.10	M16X450mm Galvanised bolt + Washer (50X50X3mm) + Nuts	Secure crossarm and brace to wooden power pole	- AS1252, DIN6914 Clause 4.8 - Galvanized to AS1214 Min 42um	each	200
1.11	M16X500mm Galvanised bolt+ Washer (50X50X3mm) + Nuts	Secure crossarm and brace to wooden power pole	- AS1252, DIN6914 Clause 4.8 - Galvanized to AS1214 Min 42um	each	200

1.12	M20X300mm Galvanised bolt + Washer (50X50X3mm) + Nuts	Secure crossarm and brace to wooden power pole	- AS1252, DIN6914 Clause 4.8 - Galvanized to AS1214 Min 42um	each	200
1.13	M20X400mm Galvanised bolt + Washer (50X50X3mm) + Nuts	Secure crossarm and brace to wooden power pole	- AS1252, DIN6914 Clause 4.8 - Galvanized to AS1214 Min 42um	each	200
1.14	M20X450mm Galvanised bolt+ Washer (50X50X3mm) + Nuts	Secure crossarm and brace to wooden power pole	- AS1252, DIN6914 Clause 4.8 - Galvanized to AS1214 Min 42um	each	200
1.15	M20X500mm Galvanised bolt + Washer (50X50X3mm) + Nuts	Secure crossarm and brace to wooden power pole	- AS1252, DIN6914 Clause 4.8 - Galvanized to AS1214 Min 42um	each	200
1.16	M16x75mm Galvanised Coach Screw	Suspension Bracket to wooden power pole	- AS1252, DIN6914 Clause 4.8 - Galvanized to AS1214 Min 42um	each	300
1.17	M12x100mm Galvanised Bolt + washer and nuts	Secure crossarm wooden power pole	- AS1252, DIN6914 Clause 4.8 - Galvanized to AS1214 Min 42um	each	200
1.18	M12x110mm Galvanised Bolt + washers and nut	Secure crossarm wooden power pole	- AS1252, DIN6914 Clause 4.8 - Galvanized to AS1214 Min 42um	each	200
1.19	M12x130mm Galvanised Bolt + washers and nut	Secure crossarm wooden power pole	- AS1252, DIN6914 Clause 4.8 - Galvanized to AS1214 Min 42um	each	200
2.0	HV ABC 3x95mm Helical bundle restraint	For terminating HVABC cable on wooden power pole	-Fit for purpose	each	800
2.1	HV ABC 3x95mm insulator mounting Galvanized bracket	Mounting HCABC insulator on wooden power pole	-Fit for purpose - Supplied with required fittings	each	400
2.2	HV ABC 3x95mm standoff insulators to fit the mounting bracket	HV insulator mounting on bracket	- Fit for purpose -supplied with all required fittings	each	1,200

2.3	HV ABC 3x95mm connection palms for mounting bracket	Terminating HVABC cable on top of the standoff insulator and drop-down cable to the DDO	- Galvanized to AS1214 Min 42um	each	1,200
2.4	M16x100mm coach screw for mounting bracket	Secure Standoff Insulator bracket	- AS1252, DIN6914 Clause 4.8 - Galvanized to AS1214 Min 42um	each	1,600
2.5	Insulator HV- 11kv 1" Pin Leadtop (fits 1130w-0-0361400-0)	Secure HV Insulator mounting on 100X75 crossarm	- Galvanized to AS1214 Min 42um	each	1,200
2.6	Insulator HV- 11kv insulator Top 1130W	Secure dropdown cable mounting on 100X75 crossarm	-Fit for purpose	each	1,200
2.7	Insulator HV - Clevis Thimble CAB750 (Alum) Small to Larger Wire	Insulator + Clevis Thimble	-Must be compliant to ANSI C29.5	each	800
2.8	Insulator HV - 11KV Polymer Strain Insulator -Y clevis, ball	Crossarm Insulator	-Dimension of Y-Clevis Ball must compliant to AS1154.1:2009 - All Galvanized hardware to AS4680 -Ball must be M16	each	1,200
2.9	50mm ² tinted copper (Heavy duty) lug M10 Stud	Terminating of 50mm ² drop down cable	- Must be compliant to AS4325.1 - Must fit 50mm ² conductor - Must be a hard copper.	each	1,200
2.10	95mm ² tinted copper (Heavy duty) lug M10 Stud	Terminating of 95mm HVABC cable	- Must be compliant to AS4325.1 - Must fit 95mm ² conductor - Must be a hard copper.	each	2,300
2.11	HV ABC 3x95mm M10x30 nut bolt washer assembly Stainless steel	Secure of Lug to the Insulator connection palms	- All stainless steel to be 316 grade - Supply with 2 flat washers + 2 spring washers	each	1,800
2.12	O/D TERM 11KV 3C XL 25-95 CWS MECH	Head shrink terminator	- Must be UV rated	each	800

2.13	Collared Pigtail Eyebolt M20x300mm (Galv) 12kN	Hook Bolt for the HVABC catenary wire securing HVABC cable	- All Galvanized hardware to AS4680 - Collar must be 75X70X4mm/ R100 towards pole side. -Washers must be 50X50X4mm	each	1,000
2.14	Collared Pigtail Eyebolt M20x400mm (Galv) 12kN	Hook Bolt for the HVABC catenary wire securing HVABC cable	- All Galvanized hardware to AS4680 - Collar must be 75X70X4mm/ R100 towards pole side. -Washers must be 50X50X4mm	each	600
2.15	Collared Pigtail Eyebolt M20x450mm (Galv) 12kN	Hook Bolt for the HVABC catenary wire securing HVABC cable	- All Galvanized hardware to AS4680 - Collar must be 75X70X4mm/ R150 towards pole side. -Washers must be 50X50X4mm	each	500
2.16	Collared Pigtail Eyebolt M20x500mm (Galv) 12kN	Hook Bolt for the HVABC catenary wire securing HVABC cable	- All Galvanized hardware to AS4680 - Collar must be 75X70X4mm/ R150 towards pole side. -Washers must be 50X50X4mm	each	400
2.17	HV ABC 3x95mm clevis thimble for catenary	Strain Insulator + Clevis Thimble	-Must be compliant to ANSI C29.5	each	200
2.18	HV ABC 3x95mm catenary helical deadend	Securing of HVABC to the clevis thimble	- Must be compliant to ANSI C29.5	each	800
3.0	ABC HV ABC 3x95mm PG clamp for catenary cable	Connection of catenary wire to the ground wire	-Body: Aluminium with Bimetallic sheet- Hot Forged -Bolt must be Galvanized steel. Supply with flat and spring washer	each	600
3.1	Earth Rod 1.8mx13mm	Grounding	-Must be compliant to AS/NZS3000 - Must be high tensile steel, copper plated on copper bonded with	each	600

			250 micron minimum of copper thickness		
3.2	Shear-lok 50mm ² – 13mm Rod/ 70mm ² – 13mm Rod	Clamping Earth conductor to earth rod	- Cast copper/bronze plates - Shear-head bolt – controlled torque -Withstand magnitude of 20KA fault current	each	600
3.3	4 Port Bus Bar, Tinned Copper 30 x 5 FB with M6X20mm stainless bolt.	Wooden power pole mounted neutral bus bars	- All stainless steel to be 316 grade - Must come with double nuts and flat washers for terminating purposes - M10 size for the holding bolts	each	100
3.4	25mm Galvanised Steel Pipe	Power pole ground conductor enclosure	- All Galvanized hardware to AS4680 -Supply in 3m length	each	400
3.5	25mm Stainless Steel Saddle	Secure Galvanized steel pipe to wooden pole	-All stainless steel to be 316 grade	each	1,500
3.6	Self-Tapping Screws 12G x 35mm 316 Button Socket	Secure saddles and pole cable guard	- Used with 5/16” Hex head socket bit. - 5mm fixed washer - All stainless steel to be 316 grades	each	3,000
4.0	900mm Tipped Galvanized Crossarm pair brace for 2.1m C/arm with 12 mm hole	Securing 2.1m crossarm for wooden pole	- Must be compliant to AS4680	each	1,000
4.1	Galvanised Crossarm Gain Block/Base for the 100X75mm 2.1m Crossarm	Crossarm base Bracket	- Must be compliant to AS4680	each	500
4.2	11kV Porcelain Pin Type Insulator with M20 Pin, Spring Washer, Nut, Locking Halfnut	HV Crossarm Insulator	- Must be compliant to BS137 Part 1	each	1,500
4.3	Fusing HV - Fuse Unit Complete DDO 11KV Cutout	DDO HV Fuseholder + required fittings for 2.1 Crossarm	- 100Amp 125BIL - Must compliant to ANSI 37.40	each	200

4.4	Fusing HV - Fuselink (11KV DDO Cutout) 005amp	HV Fuselink	- Must be compliant to ANSI 37.40	each	36
4.5	Fusing HV - Fuselink (11KV DDO Cutout) 010amp	HV Fuselink	- Must be compliant to ANSI 37.40	each	39
4.6	Fusing HV - Fuselink (11KV DDO Cutout) 020amp	HV Fuselink	- Must be compliant to ANSI 37.40	each	24
4.7	Complete Galvanised Steel Pole Mount Transformer Structure >300KVA with Bolts, J Hook, Support Beam etc.	Pole Mount Transformer Structure + All required fittings	- Must be compliant to AS4680	each	24
4.8	Hardwood Crossarm 2.1m 100mmx75mm	Mounting of HV insulator bin and Drop-down fuses	- Must be compliant to AS3818.4 - 2000	each	72
4.9	Ampact connector with Blue tap	Ampact Connector	- Must be compliant to ANSI C119.4 Class A	each	200
4.10	60x50x6mm Square Washers (18mm Hole)	Crossarm bracket	-All galvanised hardware to AS4680	each	500
5.0	Transformer OH - 6.6/11kv - 050KVA 3Ph Pole Mount Dual Ratio	Step down Transformer	- Pole mounted - Available mounting for 11KV arrester	each	9
5.1	Transformer OH - 6.6/11kv - 100KVA 3Ph Pole Mount Dual Ratio	Step down Transformer	- Pole mounted - Available mounting for 11KV arrester	each	10
5.2	Transformer OH - 6.6/11kv - 200KVA 3Ph Pole Mount Dual Ratio	Step down Transformer	- Pole mounted - Available mounting for 11KV arrester	each	5
5.3	11kV Surge Arrester 10kA with bracket/fitting/bolts etc	Surge Arrester + All required fittings for mounting on Transformer	- Must be compliant to IEC60099-4 - Mounting on the Transformer	Each	100

SCHEDULE 1B – LOW VOLTAGE CONDUCTORS AND HARDWARE

Item	Materials name	Description	Quality Requirements	Unit	Quantity
CONDUCTORS					
0.1	95mm ² Aerial Bundle 4C AL XLPE ABC Cable 0.6/1KV	LV distribution cable 415V	-Must be compliant to AS/NZS3560.1 Must be proven to handle the harsh Tonga UV environment	meter	100,000
0.2	150mm ² Aerial Bundle 4C AL XLPE ABC Cable 0.6/1KV	LV distribution cable 415V	-Must be compliant to AS/NZS3560.1 Must be proven to handle the harsh Tonga UV environment	meter	6,000
0.3	16mm ² Neutral Screen Single Core Soft drawn 0.6/1KV	LV cable customer single phase underground service line.	-Must be compliant to AS/NZS 4961	meter	80,000
0.4	25mm ² Neutral Screen Single Core Soft drawn 0.6/1KV	LV cable customer single phase underground service line.	-Must be compliant to AS/NZS 4961	meter	3,000
0.5	50mm ² Neutral Screen Single Core Soft drawn 0.6/1KV	LV cable customer single phase underground service line.	-Must be compliant to AS/NZS 4961	meter	2,000
0.6	70mm ² Neutral Screen Single Core Soft drawn 0.6/1KV	LV cable customer single phase underground service line.	-Must be compliant to AS/NZS 4961	meter	1,000
0.7	95mm ² Neutral Screen Single Core Soft drawn 0.6/1KV	LV cable customer single phase underground service line.	-Must be compliant to AS/NZS 4961	meter	1,000
0.8	120mm ² Neutral Screen Single Core Soft drawn 0.6/1KV	LV cable customer single phase underground service line.	-Must be compliant to AS/NZS 4961	meter	1,000
0.9	16mm ² Neutral Screen Single Core Hard Drawn 0.6/1KV	LV cable customer single phase overhead service line.	-Must be compliant to AS/NZS 4961	meter	2,000
0.10	25mm ² Neutral Screen Single Core Hard Drawn 0.6/KV	LV cable customer single phase overhead service line.	-Must be compliant to AS/NZS 4961	meter	1,500
0.11	16mm ² Neutral Screen Three Core 0.6/1kV	LV cable customer three phase underground service line	-Must be compliant to AS/NZS 4961	meter	4,000
0.12	25mm ² Neutral Screen Three Core 0.6/1kV	LV cable customer three phase underground service line	-Must be compliant to AS/NZS 4961	meter	2,000
0.13	50mm ² Neutral Screen Three Core 0.6/1kV	LV cable customer three phase underground service line	-Must be compliant to AS/NZS 4961	meter	2,000
0.14	16mm ² Copper PVC to 1000V Black 0.6/1KV	LV cable for phase tail from 95mm LV ABC	-Must be compliant to AS/NZS5000.1	meter	3,000
0.15	25mm ² Copper PVC to 1000V Black 0.6/1KV	LV cable for phase tail from 150mm LV ABC	-Must be compliant to AS/NZS5000.1	meter	1,500
0.16	50mm ² Copper PVC to 1000V Black 0.6/1KV	LV cable for neutral tail	-Must be compliant to AS/NZS5000.1	meter	2,000
0.17	16mm ² CU PVC Green and Yellow Earth Wire	Earth Cable	-Must be compliant to AS/NZS5000.1	meter	6,000

0.18	25mm ² CU PVC Green and Yellow Earth Wire	Earth Cable	-Must be compliant to AS/NZS5000.1	meter	5,000
0.19	6mm TPS Main cable 0.6/1KV	Consumer's main	-Must be compliant to AS/NZS3000	meter	5,000
0.20	10mm TPS Main cable 0.6/1KV	Consumer's main	-Must be compliant to AS/NZS3000	meter	3,000
0.21	25mm TPS Main cable 0.6/1KV	Consumer's main	-Must be compliant to AS/NZS3000	meter	1,500
0.22	50mm TPS Main cable 0.6/1KV	Consumer's main	-Must be compliant to AS/NZS3000	meter	2,000
HARDWARES					
1.0	Dead end strain clamp for 4 core ABC 95mm	Terminating LV 95mm ABC cable to wooden pole via pigtail Eyebolt.	-Anchor end to eyebolt must be galvanised bin type not bolt. -Must be compliant to AS3766 -All galvanised hardware to AS4680	each	1,500
1.1	Dead end strain clamp for 4 core ABC 150mm	Terminating LV 150mm ABC cable to wooden pole via pigtail Eyebolt.	-Anchor end to eyebolt must be galvanised bin type not bolt. -Must be compliant to AS3766 -All galvanised hardware to AS4680	each	200
1.2	Suspension clamp for 4 core ABC 95mm.	For LV ABC	-Must be fully enclosed all body to securely retain the polymer insert. (not the cheap wing nut type) -Must be compliant to AS3766	each	1,900
1.3	Suspension clamp for 4 core ABC 150mm.	For LV ABC	-Must be fully enclosed all body to securely retain the polymer insert. (not the cheap wing nut type) -Must be compliant to AS3766	each	300
1.4	Insulated Piercing Connector - Main16-95. Tap off 2.5-35.	Connector for LVABC to a 16mm core tail cable.	IPC's must be electrically tested to EN50483-4	each	2,650
1.5	Insulated Piercing Connector - Main25-95. Tap off 25-95.	Connector for LVABC to a 50mm core tail cable.	-Contact Blades must be tinned copper and fully bi-metal connection	each	2,850

			<ul style="list-style-type: none"> - Fixed end cap to fit 95mm conductor -Stainless steel or Geomet corrosion resistant fastening bolt -Safe for Live line installation -Proven UV stabilized plastic to withstand harsh UV found in Tonga 		
1.6	Insulated Piercing Connector for 150mm ² LVABC to 25mm ² tailor cable	Connector for 150 mm ² LVABC to a 25mm core tail cable.	<ul style="list-style-type: none"> IPC's must be electrically tested to EN50483-4 -Contact Blades must be tinned copper and fully bi-metal connection - Fixed end cap to fit 150mm conductor -Stainless steel or Geomet corrosion resistant fastening bolt -Safe for Live line installation -Proven UV stabilized plastic to withstand harsh UV found in Tonga 	each	500
1.7	Michaud K491 Fuse Switch Disconnecter	Consumer pole fuse disconnecter	<ul style="list-style-type: none"> -Supply with numbering tag -Must suitable for mounting on L-shape switch disconnecter bracket -Maximum cable terminal shear bolt breaks down at 15Nm 	each	2,300
1.8	HRC Fuse Link (32amp) 22x58mm (to suit fuse carrier)	Service Line Fuse Cartridge	<ul style="list-style-type: none"> -Must be compliant to Standard IEC EN 60269-1 -500 volt, 120kA -Must be a barrel type 	each	2,300
1.9	HRC Fuse Link (63amp) 22x58mm (to suit fuse carrier)	Service Line Fuse Cartridge	<ul style="list-style-type: none"> -Must be compliant to Standard IEC EN 	each	200

			60269-1 -500 volt, 120kA -Must be a barrel type		
1.10	K292 Michaud 160A DIN Fuse C/W	Transformer load side protection	-Must be compliant to Standard IEC EN 60269-1 -500 volt, 120kA -Provide base and Link -Link must be in square shape -15Nm tightening bolt setting -ME60 tyco	each	500
1.11	LT PVC D/END 14.85 - 16.63 OD BK	Overhead Deadend for the 16mm Single Phase Neutral Screen	-Must be compliant to AS/NZS 1154.3	each	1,000
1.12	LT PVC D/END 22.00-23.32mm OD BLUE	Overhead Deadend for the 16mm 3 core Neutral Screen	-Must be compliant to AS/NZS 1154.3	each	200
1.13	Stainless steel strap 190X25X1mm	Saddle multiple service cable (N/S) flat to wooden pole.	-Eight 7mm hole/ 25mm centre to centre. -Stainless steel to be 316 grades.	each	1,500
1.14	Shack Strap 178X32X3 14mm/ Shackle strap Gal. 190mm	Used with CS063 210-220 Shackle Insulator Porcelain	- All Galvanized hardware to AS4680 - Two 14mm holes with 130mm centred.	each	2,300
2.0	Collared Pigtail Eyebolt 16x300mm (Galv) 12kN	Hook Bolt for the LVABC suspension/strain clamps + nut, washer	- All Galvanized hardware to AS4680 - Collar must be 75X70X4mm/ R100 towards pole side. -Washers must be 50X50X4mm	each	1,800
2.1	Collared Pigtail Eyebolt 16x400mm (Galv) 12kN	Hook Bolt for the LVABC suspension/strain clamps + nut, washer	- All Galvanized hardware to AS4680 - Collar must be 75X70X4mm/ R100 towards pole side. -Washers must be 50X50X4mm	each	1,200
2.2	Collared Pigtail Eyebolt 16x450mm (Galv) 12kN	Hook Bolt for the LVABC suspension/strain	- All Galvanized hardware to AS4680	each	600

		clamps + nut, washer	- Collar must be 75X70X4mm/ R150 towards pole side. -Washers must be 50X50X4mm		
2.3	Collared Pigtail Eyebolt 16x500mm (Galv) 12kN	Hook Bolt for the LVABC suspension/strain clamps + nut, washer	- All Galvanized hardware to AS4680 - Collar must be 75X70X4mm/ R150 towards pole side. -Washers must be 50X50X4mm	each	250
2.4	M16mm Double Suspension Clamp Bracket (Galv) up to 12kN	Hold up two LVABC suspension clamps	- Must be compliant to AS4680	each	100
2.5	Everlasting/Premax AL Tag Holders 5 Digits	Power poles numbering base	- Must be in vertical alignment and suitable to accommodate 5-digit pole numbers	each	2,500
2.6	Everlast/Premax AL Pole # 1	For Pole Numbering	- Must be UV rated tested to 40 years life	each	2,000
2.7	Everlast/Premax AL Pole # 2	For Pole Numbering	- Must be UV rated tested to 40 years life	each	2,000
2.8	Everlast/Premax AL Pole # 3	For Pole Numbering	- Must be UV rated tested to 40 years life	each	2,000
2.9	Everlast/Premax AL Pole # 4	For Pole Numbering	- Must be UV rated tested to 40 years life	each	2,000
2.10	Everlast/Premax AL Pole # 5	For Pole Numbering	- Must be UV rated tested to 40 years life	each	2,000
2.11	Everlast/Premax AL Pole # 6	For Pole Numbering	- Must be UV rated tested to 40 years life	each	4,000
2.12	Everlast/Premax AL Pole # 7	For Pole Numbering	- Must be UV rated tested to 40 years life	each	2,000
2.13	Everlast/Premax AL Pole # 8	For Pole Numbering	- Must be UV rated tested to 40 years life	each	2,000
2.14	Everlast/Premax AL Pole # 0	For Pole Numbering	- Must be UV rated tested to 40 years life	each	2,000
2.15	2 inches Stainless Nail to fix pole number holder to wooden power pole	Fixing pole numbering holder	- All stainless steel to be 316 grade	each	6,000
2.16	M12 x 110 Galvanised Bolt and Nut	Bolt for Crossarm	- AS1252, DIN6914 Clause 4.8 -Galvanized to AS1214 Min 42um	each	1,200

2.17	6 Port Bus Bar, Tinned Copper 30 x 5 FB with M6X20mm stainless bolt.	Wooden power pole mounted neutral bus bars	- All stainless steel to be 316 grade - Must come with double nuts and flat washers for terminating purposes - M10 size for the holding bolts	each	2,200
3.0	Raychem 2-way Boot / Break Out 2-25mm (Black)Rated up to 1 kV	Heat Shrink Breakout Boot for16mm2 single core Neutral screen cable.	-Length of breakout leg to be a minimum of 25mm	each	5,500
3.1	Raychem 4-way Boot / Break Out 4-25mm (Black)Rated up to 1 kV	Heat Shrink Breakout Boot for16mm2 three phase Neutral screen cable.	-Length of breakout leg to be a minimum of 25mm	each	500
3.2	Raychem Heat Shrink UV rated 1/2 " (45 m roll) - Black	Sleeves for Neutral screen cable cores	- Must be UV rated - Must have adhesive interior wall. - supply in 45m roll	each	110
3.3	Raychem Heat Shrink UV rated 1/2 " (45 m roll) - Yellow	Sleeves for Neutral screen cable cores	- Must be UV rated - supply in 45m roll	each	70
3.4	Raychem Heat Shrink UV rated 1/2 " (45 m roll) - Blue	Sleeves for Neutral screen cable cores	- Must be UV rated - supply in 45m roll	each	70
3.5	Raychem Heat Shrink UV rated 1/2 " (45 m roll) - Red	Sleeves for Neutral screen cable cores	- Must be UV rated - supply in 45m roll	each	70
3.6	Earth Pin – 1.8m x 13mm – Copper Plated Steel	Grounding of ABC Neutral	-must be high tensile steel, copper plated on copper bonded with 250 microns minimum of copper thickness	each	2,650
3.7	13-15mm Earth Rod Clamp	Connect Earth conductor to Earth rod at household end.	-Cast copper/bronze plates with a minimum thickness of 4mm -M10X25mm stainless bolt to 316 grades.	each	2,220
3.8	S/S U-bolt Earth Clamp	Connect Earth conductor to Earth rod at termination/Transformer pole end.	-Must be 316 stainless with cast copper/bronze plates.	each	450

3.9	ALC PVC Binder 4 mm	For HV Pin Insulator	-Supply in 100m coil	each	12,000
3.10	Self-Tapping Screws 12G x 35mm 316 Button Socket	Secure saddles and pole cable guard	- Used with 5/16" Hex head socket bit. - 5mm fixed washer - All stainless steel to be 316 grades	each	60,000
3.11	Self-Tapping Screws (square type) 8G 32mm	Secure meter box to household.	- Used with #2 square drive set - All stainless steel to be 316 grades	each	30,000
3.12	Wall plugs to suit 8G self-tapping screws	Used with 8G screws in masonry	-plastic	each	20,000
3.13	Stainless Saddle 16mm	Secure 16mm ² Neutral screen cable	-All stainless steel to be 316 grades	each	10,000
3.14	Stainless Saddle 25mm	Secure 25mm Galvanized and PVC conduit pipe	-All stainless steel to be 316 grades	each	10,000
3.15	Electrical Warning strip (100m roll)	Buried on top of the underground service cable	- Must compliant with AS/NZ4275.5:1995 standard - Comes in 100m roll - Colour orange	each	1,000
3.16	Underground cable cover 100mm x 3mm (25m rolls)	Protect the underground service cable under gravel trenching.	- Must compliant with AS/NZS4702 - Comes in 25m roll - Electrical warning must be shown.	each	200
3.17	Copper Crimp Link (Solid Barrier) to suit 6mm ² conductor	Joining 6mm ² copper conductors	- Must be compliant to AS4325.1	each	500
3.18	Copper Crimp Link (Solid Barrier) to suit 10mm ² conductor	Joining 10mm ² copper conductors	- Must be compliant to AS4325.1	each	700
3.19	Copper Crimp Link (Solid Barrier) to suit 16mm ² conductor	Joining 16mm ² copper conductors	- Must be compliant to AS4325.1	each	900
3.20	Copper Lug 16mm ² Stud 8mm hole H/D Barrier Type	Joining 16mm ² tailor cable to the K491 Fuse Switch Disconnecter	- Must be compliant to AS4325.1 - Must fit 16mm ² conductor - Must be a hard copper.	each	3,000

3.21	Copper Lug 50mm2 Stud 8mm hole H/D Barrier Type	Joining 50mm2 tailor cable to the neutral bus bars	- Must be compliant to AS4325.1 - Must fit 50mm2 conductor - Must be a hard copper.	each	2,000
3.22	Pole Hazard Markers (2 reflective dots)	Standard Aluminium Hazard Marker	- Must be proven to withstand the UV conditions in Tonga	each	3,600
3.23	Simel Conductor End caps- for 95mm2 LVABC cable	Used to protect the LVABC excessive conductor end.	- Must be a push on type - Suitable for 16-150mm cable	each	5,500
3.24	L shaped bracket (Galv.) to accommodate 4 Michaud Fuse Carriers	Used for mounting 4 K491 Fuse Switch Disconnecter on power poles	- Must compliant with IEC60947-3 - Must have 2 holding screws holes M12. Approx. holding side of 30mm long - Must be accommodated well by 4 K491 Fuse Switch Disconnecter	each	2,000
3.25	Insulation tape, black	Low voltage insulation		each	250
3.26	Insulation tape, blue	Low voltage insulation		each	200
3.27	Insulation tape, green	Low voltage insulation		each	200
3.28	Insulation tape, red	Low voltage insulation		each	200
3.29	Insulation tape, White	Low voltage insulation		each	200
3.30	Join C/PD AL F/TEN Aluminium	Joining crease for neutral bars		each	100
3.31	Self-Amalgamating tape 25mmX10M	Extra insulation for LV excess live part.	ASTM D1000, ASTM D1373, ASTM D1973, ASTM D150, ASTM D470 compliant	each	100
3.32	Stainless steel meter box	Housing for household meter box single phase	- All stainless steel to be 316 grade - Must be waterproof and provide lock - Digital reading of the meter must be viewed and read without unlocking the meter box.	each	2,300

3.33	Stainless steel meter box	Housing for household meter box three phase	- All stainless steel to be 316 grade - Must be waterproof and provide lock - Digital reading of the meter must be viewed and read without unlocking the meter box.	each	400
3.34	Surge Arrestor Safety Device - Meter Box 1 x 1ph	Protecting for interior wiring under lightning mounted on single phase meter box.	- Must have suitable mounting inside the meter box - Fit for the purpose	each	2,300
3.35	Surge Arrestor Safety Device - Meter Box, 1x1ph, 3x3ph	Protecting for interior wiring under lightning mounted on three phase meter box.	- Must have suitable mounting inside the meter box - Fit for the purpose	each	400
3.36	danger signs/tag	Danger warning attached on household	- Must be UV rated - Must show lightning volt	each	2,500
3.37	CS063 210-220 Shackle Insulator Porcelain	Secure overhead service cable	-suitable for purpose	each	800
3.38	Meter box seal	Seal for meter box	-Suitable for purpose	each	6,000
3.39	1000pkt meter sealing ferrules 6mm	For meter box seal	-Suitable for purpose	each	6,000
3.40	Gal M12x130 Bolt and Nut	Bolt for crossarm	- AS1252, DIN6914 Clause 4.8 -Galvanized to AS1214 Min 42um	each	250
3.41	Coach Screw M12x75	Secure pole mounted L-shape bracket for K491 disconnecter	- AS1252, DIN6914 Clause 4.8 -Galvanized to AS1214 Min 42um	each	4,000
3.42	Coach Screw M10x50	Secure pole mounted neutral bar	- AS1252, DIN6914 Clause 4.8 -Galvanized to AS1214 Min 42um	each	4,500
3.43	J-Hook 175X1222 C/W 25mm DIA	Secure overhead service cable on household	- Galvanized hardware to AS4680	each	600

3.44	1.2m Raychem Heat Shrink Thick wall UV rated 12 - 3 - Black	Extra insulation for joining neutral screen service cable.	- UV rated and adhesive interior wall. - Supply in 1.2m length	each	150
3.45	1.2m Raychem Heat Shrink Thick wall UV rated 33 - 8 - Black	Extra insulation for joining neutral screen service cable.	- UV rated and adhesive interior wall. - Supply in 1.2m length	each	150
3.46	Dazzel Paint	Used for marking pole location on multiple surfaces	- Supply in red - Must be upside spray	each	400
3.47	Meter box number #1	Meter box numbering	- Must be UV rated and reflective - Self adhesive	each	1,000
3.48	Meter box number #2	Meter box numbering	- Must be UV rated and reflective - Self adhesive	each	1,000
3.49	Meter box number #3	Meter box numbering	- Must be UV rated and reflective - Self adhesive	each	1,000
3.50	Meter box number #4	Meter box numbering	- Must be UV rated and reflective - Self adhesive	each	1,000
3.51	Pole cable guard	Protect consumers service cable on Wooden Power poles	- All stainless steel to be 316 grades - Provided in 3m length - Should have 14 hold screws (12G SS screws)	each	1,800
3.52	25mm Galvanized steel pipe	Enclosure for Earth cable at the power poles	- Provide in 3m length - Must be compliant to AS4680	each	800
3.53	25mm PVC conduit pipe	Enclosure for consumers service cable at household.	- Must be compliant to AS2053	each	1,200

All prices to be inclusive of Transport and Shipping Costs (delivery) to TPL yard in Nuku'alofa, Tonga including custom brokerage.

Give details of any other costs, taxes or duties which may be incurred. Proposals should also clearly indicate any discounts to which the Tonga Power LTD would be entitled, including public sector discounts, early payment discounts, forward contract discounts and any other discounts.

FORM J

CONFLICT OF INTEREST

CONFLICT OF INTEREST DECLARATION

Please complete and submit with your RFT response

The Tenderer confirms that it, and its staff, consultants and partners do not have and are not aware of any actual or potential conflicts of interest which may arise between TPL and the Tenderer in relation to this RFT or in submitting a tender, unless indicated below.

Are you aware of any actual or potential conflicts of interest?

No. There are no conflicts of interest.

Please detail your strategy for identifying, managing and preventing conflicts of interest during the RFT and any subsequent procurement process:

Yes. Please provide details below:

Please explain your strategy for managing the conflicts of interest noted above, and identifying and preventing conflicts of interest during the RFT and any subsequent procurement process:

Tenderer	
Signed	
Date	