



**ENERGY FIJI LIMITED**

**PREFERRED SUPPLIER OF  
33kV AND 11kV INDOOR POWER CABLE  
TERMINATION KITS AND  
ACCESSORIES**

**MR 279/2025**

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# 1. INTRODUCTION AND SCOPE OF WORK

Energy Fiji Limited [EFL] is responsible for the generation, transmission and distribution of electricity in Viti Levu, Vanua Levu, Ovalau and Taveuni in Fiji. By the end of 2024, EFL had 223,539 customers. This includes residential, commercial and institutional customers.

EFL is requesting a proposal for the Preferred Supplier to supply the items listed below for EFL's operations to carry out repair, construction and maintenance of the underground power line network in Fiji.

The preferred Supplier arrangement will be for a period of 3 (three) years from the date of signing of the contract.

This document outlines the technical requirements for 33kV and 11kV indoor cable termination kits.

The items covered by this specification are listed below:

| No.  | Stock Code | Item Description                                     | Specification               |
|--|------------|--|-----------------------------|
| <b>11kV Termination Kit</b>                |            |  |                             |
| 1  | New Code   | Screened Separable Elbow Connection System           | 11kV for 185-300 sqmm cable |
| <b>33 kV Termination Kit</b>               |            |  |                             |
| 2  | New Code   | Screened Separable Elbow Connection System           | 36kV for 500-630 sqmm cable |
| 3  | New Code   | Plug-In Termination, Size 3, without Voltage Tap     | 36kV for 300 sqmm cable     |
| 4  | New Code   | Plug-In Termination, Size 3, without Voltage Tap     | 36kV for 630 sqmm cable     |
| <b>11kV Insulating Tape</b>                |            |  |                             |
| 5  | New Code   | Heat Shrink High Voltage Insulating Tape             | For up to 11kV applications |
| <b>33kV Insulating Tape</b>                |            |  |                             |
| 6  | New Code   | Heat Shrink High Voltage Insulating Tape             | For up to 33kV applications |
| <b>Recommended Cable Termination Tools</b> |            |  |                             |
| 7  | New Code   | Cable termination tool kit for Plug in Terminations. |                             |
| 8  | New Code   | Cable termination tool kit for Elbow terminations.   |                             |

**Table 1.1: Items Covered Under this Specification**

This Specification covers the general requirements of design, manufacture, testing, supply and delivery for the 33kV and 11kV cable termination kits and accessories for various operational and project works in EFL's distribution and sub-transmission networks.

## **2. INSTRUCTIONS TO BIDDERS**

### **2.1. Eligible Bidders**

This invitation is open to all Bidders who have a sound Financial Background, and have previous experience in design, manufacture, testing and supply of such indoor cable termination kits.

Bidders shall provide such evidence of their continued eligibility satisfactory to EFL as EFL shall reasonably request. Bidders who are not manufacturers of such indoor cable termination kits and accessories tape shall provide evidence of agency.

Bidders shall not be under a declaration of ineligibility for corrupt or fraudulent practice.

### **2.2. Eligible Materials, Equipment and Services**

The materials, equipment, and services to be supplied under the Contract shall have their origin from reputable companies (as specified by EFL where relevant) and from various countries and all expenditures made under the Contract will be limited to such materials, equipment, and services. Upon request, bidders may be required to provide evidence of the origin of materials, equipment, and services.

For purposes of this Contract, "services" means the works and all related services including design services.

For purposes of this Contract, "origin" means the place where the materials and equipment are mined, grown, produced or manufactured, and from which the services are provided. Materials and equipment are produced when, through manufacturing, processing or substantial or major assembling of components, a commercial recognized product results that is substantially different in basic characteristics or in purpose or utility from its components.

The materials, equipment and services to be supplied under the Contract shall not infringe or violate any industrial property or intellectual property rights or claim of any third party.

### **2.3. One Bid per Bidder**

Each bidder shall submit only one bid. A bidder who submits or participates in more than one bid will cause all those bids to be rejected.

### **2.4. Cost of Bidding**

The bidder shall bear all costs associated with the preparation and submission of its bid and EFL will in no case be responsible or liable for those costs.

## **2.5. Site Visits**

Bidders can visit existing EFL networks by making arrangements to visit existing EFL installations. Bidders are required to familiarize themselves with the existing EFL installations so the solutions they offer does not require modification to existing poles and support infrastructure.

## **2.6. Contents of Bidding Documents**

The bidder is expected to examine carefully the contents of this Bidding document. Failure to comply with the requirements of bid submission will be at the bidder's own risk. Bids which are not substantially responsive to the requirements of the bidding documents will be rejected.

## **2.7. Clarification of Bidding Documents**

A prospective bidder requiring any clarification of the bidding documents may notify EFL in writing by email, addressed to:

Jitendra Reddy  
Manager Procurement, Inventory & Supply Chain  
2 Marlow Street,  
Suva, Fiji  
Phone: +679 331 3333 Ext 2320 or  
Mobile: +679 999 2400  
Email: [JReddy@efl.com.fj](mailto:JReddy@efl.com.fj)

EFL will respond to any request for clarification which it receives earlier than 10 days prior to the deadline for submission of bids.

## **2.8. Amendment of Bidding Document**

At any time prior to the deadline for submission of bids, EFL may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the bidding documents by issuing addenda.

## **2.9. Language of Bid**

The bid, and all correspondence and documents related to the bid, exchanged between the bidder and the EFL shall be written in the English language.

## **2.10. Bid Prices**

Unless specified otherwise, Bidders shall quote for the entire facilities on a "single responsibility" basis such that the total bid price covers all the Supplier's obligations mentioned in or to be reasonably inferred from the bidding documents in respect of the design, manufacture, including procurement and subcontracting (if any), testing and delivery.

Bidders shall give a breakdown of the prices in the manner and detail called for in this bidding document, or any issued addenda.

Bids shall be given on CIF basis. The point of delivery shall be EFL's Navutu Depot in Lautoka. The term CIF shall be governed by the rules prescribed in the current edition of Incoterms, published by the International Chamber of Commerce, Paris.

EFL has a marine insurance cover for items it is required for purchase for its project and operational works. Bidders are required to comment if the marine insurance component is covered in their bids.

## **2.11. Bid Currencies**

Prices shall be quoted in a single currency only.

## **2.12. Bid Validity**

Bids shall remain valid for a period of **120 days** from the date of Deadline for Submission of Bids specified in Sub-Clause 21.1.

## **2.13. Format and Signing of Bids**

The bidder shall provide one electronic copy of the Technical and Financial proposals on EFL's electronic tender hosting website; <https://www.tenderlink.com/efl>

The bid shall contain no alterations, omissions or additions, except those to comply with instructions issued by EFL, or as necessary to correct errors made by the bidder, in which case such corrections shall be initialed by the person or persons signing the bid.

## **2.14. Sealing and Marking of Bids**

Bidders are encouraged to bid via Tender link Portal.

## **2.15. Deadline for Submission of Bids**

Bids must be received by EFL at the address specified above no later than **1600 hours (Fiji Time) 2025**.

EFL may, at its discretion, extend the deadline for submission of bids by issuing an addendum, in which case all rights and obligations of EFL and the bidders previously subject to the original deadline will thereafter be subject to the deadlines extended.

## **2.16. Late Bids**

Any bid received by EFL after the deadline for submission of bids prescribed above will be rejected.

## **2.17. Modification and Withdrawal of Bids**

The bidder may modify or withdraw its bid after bid submission, provided that written

notice of the modification or withdrawal is received by EFL prior to the deadline for submission of bids.

No bid may be modified by the bidder after the deadline for submission of bids.

## **2.18. Rejection of One or All Bids**

EFL reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids, at any time prior to award of Contract, without thereby incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders of the grounds for the rejection.

## **2.19. Process to be Confidential**

- 1.1.1 Information relating to the examination, clarification, evaluation and comparison of bids and recommendations for the award of a contract shall not be disclosed to bidders or any other persons not officially concerned with such process.
- 1.1.2 Any effort by a bidder to influence EFL's processing of bids or award decisions may result in the rejection of the bidder's bid.
- 1.1.3 Lowest bid will not necessarily be accepted as successful bid.

## **2.20. Clarification of Bids**

To assist in the examination, evaluation and comparison of bids, EFL may, at its discretion, ask any bidder for clarification of its bid. The request for clarification and the response shall be in writing, but no change in the price or substance of the bid shall be sought, offered or permitted except as required to confirm the correction of arithmetic errors discovered by EFL in the evaluation of the bids.

## **2.21. Compliance with Specifications**

The tender shall be based on the equipment and work specified and shall be in accordance with the Technical Specification. It should be noted that unless departures from specifications are detailed in Schedules of the Technical Specification, the tender would be taken as conforming to the Specification in its entirety. The Bidder shall tender for the whole of the Works included in the Specification.



### 3. REFERENCES

#### 3.1. Applicable Standard

The item shall be designed, manufactured and tested in accordance with the latest edition of the Standards specified below and all amendments issued prior to the date of closing of tenders except where varied by this specification.

|                   |  |
|-------------------|--|
| AS/NZS 1125       | Conductors in insulated electric cables and flexible cords   |
| AS/NZS 1660       | Test methods for electric cables, cords and conductors   |
| AS/NZS 3808       | Insulating and sheathing materials for electric cables   |
| AS/NZS 4026       | Electric Cables – For underground residential distribution systems   |
| AS / NZS 4325.1   | Compression and mechanical connectors for power cables with copper or aluminum conductors – Test methods and requirements                        |
| AS / NZS 4805     | Accessories for electric cables – Test requirements  |
| IEC 60455-3-8     | Resin based reactive compounds used for electrical insulation - Part 3-8: Specifications for individual materials - Resins for cable accessories |
| AS 1931           | High-voltage test techniques   |
| AS/NZS 1429.1     | Electric cables - Polymeric insulated - For working voltages 1.9/3.3 (3.6) kV up to and including 19/33 (36) kV                                  |
| AS 4169           | Electroplated coatings – Tin and tin alloys (ISO 2093:1986, MOD)   |
| AS 60270          | High-voltage test techniques – Partial discharge measurements  |
| AS 62271.301      | High voltage switchgear and control gear – Dimensional standardization of terminals  |
| EN 50180-1        | Bushings above 1 kV up to 52 kV and from 250 A to 3,15 kA for liquid filled transformers - Part 1: General requirements for bushings             |
| EN 50181          | Plug-in type bushings above 1 kV up to 52 kV and from 250 A to 2,50 kA for equipment other than liquid filled transformers                       |
| ASTM D1603        | Standard Test Method for Carbon Black Content in Olefin Plastic  |
| IEC 60229         | Electric cables - Tests on extruded over sheaths with a special protective function  |
| IEC 60684         | Flexible insulating sleeving   |
| IEC 62329-2       | Heat-shrinkable molded shapes – Part 2: Methods of test  |
| AS / NZS ISO 9001 | Quality management systems - Requirements  |

Should inconsistencies be identified between standards and/or this specification, the tenderer shall immediately refer such inconsistencies to the EFL for resolution.

## 4. SERVICE CONDITIONS

### 4.1. Environmental Conditions

The 33kV and 11kV cable termination kits and heat shrink insulating tapes shall be designed to withstand the following service conditions.

| Description         |   | Conditions   |
|---------------------|---|--|
| Atmosphere          | : | Saliferous, corrosive and dusty  |
| Ambient Temperature | : | Peak: 40°C<br>24 Hour Average: 30°C<br>Annual Average: 22°C<br>Minimum: 10°C |
| Seismic             | : | To a maximum of 7 on the open-ended<br>Richter Scale                         |

Note: Fiji is situated in a region where cyclones are experienced frequently. All equipment shall be designed and constructed to withstand these extreme conditions.

### 4.2. System Conditions

|                                     | System Voltages |              |
|-------------------------------------|-----------------|--------------|
| Particulars                         | 11kV            | 33kV         |
| Nominal System Voltage              | 11kV            | 33kV         |
| Highest (Equivalent) System Voltage | 12kV            | 36kV         |
| Number of Phases                    | 3               | 3            |
| Impulse Withstand Voltage (peak)    | 28kV            | 70kV         |
| Power Frequency Withstand Voltage   | 95kV (peak)     | 200kV (peak) |

## 5. DESIGN AND CONSTRUCTION

Equipment offered that is found on inspection not to conform to this specification shall be replaced by the vendor at no cost to Energy Fiji Limited.

From the stock list in the introduction above, this technical specification highlights the detailed features of the 33kV and 11kV indoor cable termination kits and Accessories

### 5.1. General Design

All terminations except for separable insulated connectors shall be of the heat-shrink, cold-shrink, or cold-applied polymeric type design, manufactured and tested to meet the requirements of the relevant Standards, including AS/NZS 4805 Parts 1 and 2 or equivalent, and shall be suitable for application to Energy Fiji Limited's (EFL) 33kV and 11kV cables.

In addition to termination kits, 33kV and 11kV heat-shrink insulation tapes shall be provided. The tapes must be type tested and certified to comply with **CENELEC HD 629.1/2 S2 and IEC 60502-4** for their respective voltage classes. **Tenderers shall specify the standards with which their HV tapes comply. If equivalent or alternative standards are used, these must be clearly stated and justified in the submission.**

The separable insulated connectors and accessories forming part of the connector system shall be of the dead-break shielded/screened type with a screen break, manufactured and tested to meet the relevant Standards, including AS 2629. These connectors shall be suitable for connecting particular single core polymeric cables to provide 11kV test points adjacent to substation switchgear.

All termination kits shall be supplied in batches, completely equipped with all required accessories and suitably packaged for storage. Full detailed installation instructions specific to the cables shall be supplied with the Tender and with the termination kits that are subsequently supplied. EFL will approve all instructions for kits that are purchased for use in EFL and a copy of the instructions will be kept for records and the supplier is to supply a copy of the instructions with each kit.

Preference will be shown to the Tender offering bi-metal range taking kits suitable for either aluminum or copper conductors and utilizing screwed connectors with shear head bolts or torque tightened bolts, in lieu of kits containing compression connectors.

All termination kits shall be supplied with the required cleansing solvents, cloth and abrasives. Tenderers shall provide with their tender material safety datasheet for nominated solvents. No unapproved solvents shall be provided without prior agreement of the Purchaser.

If required, sealants shall be supplied to effect seals on terminations and shall be able to accommodate the creep or relaxation that may occur during installation of the accessories or during the normal cyclic loading of the cables. The sealant shall have adhesion properties to maintain hermetic seals at all times between components and the various cable sheath materials and connectors.

Suitable lubricant shall be provided with the kits for separable connectors (elbows, tee connectors and plugs) to facilitate separation of the connector from the bushing or plug socket.

All terminations shall be designed so that a phase cross can be made in the termination without stressing the cable insulation or insulation components.

### 5.2. Screened Separable Elbow Connection System

Screened Separable Elbow Connectors must comply with the following requirements:

- The connector must have provision for over sheath testing.

- To be able to cater for a wide range of cable cross sections; 185-300sqmm for 11kV and 500-630sqmm for 33kV.
- Silicon rubber insulation.
- To have provision for a capacitive test point in order to determine the circuit energization.
- To be well equipped with accessories such as high compression lugs and links for both 33kV and 11kV.
- Connectors must be compatible with both Copper and Aluminum cables and must come with corresponding lugs.
- Should incorporate the use of double 'T' connections which are to be compatible with standard terminal boxes.
- High durability and shelf life.

#### Technical Data comparison

| Parameter                           | 185-300 sqmm | 500-630 sqmm   |
|-------------------------------------|--------------|----------------|
| Max. system voltage                 | 12kV         | 36kV           |
| Insulation Thickness                | 8mm          | 8mm            |
| For diameter over conductor         | Up to 21.7mm | 28.9 – 34.0 mm |
| For diameter over PE/VPE insulation | Up to 39.5mm | 46.5 – 49 mm   |

### 5.3. Plug-In Termination, Size 3, without Voltage Tap

The Plug-In termination kits must meet the following requirements:

- To be suited for stranded circular Copper or Aluminum conductors.
- To be used for single core cable. (state if 3 core version can be offered)
- No armoring needed
- Effective sealing system (flange seal and/or shrink tubing)
- Indoor application
- Rotatable flange

#### Technical Data comparison

| Parameter                           | 300 sqmm      | 630 sqmm       |
|-------------------------------------|---------------|----------------|
| Max. system voltage                 | 36kV          | 36kV           |
| Insulation Thickness                | 8mm           | 8mm            |
| For diameter over conductor         | 19.5 – 21.7mm | 28.9 – 31.1 mm |
| For diameter over PE/VPE insulation | 36 – 39.5mm   | 46.5 – 49 mm   |

### 5.4. Heat Shrink High Voltage Insulating Tape

The insulating tapes must meet the following requirements:

- Suitable for **11 kV** and **33 kV** applications.
- Compliant with **CENELEC HD 629.1/2 S2** and **IEC 60502-4**.
- IP rating as per **IEC 60529**
- Mechanical performance as per **ISO 37** (tensile  $\geq 8$  MPa, elongation  $\geq 200\%$ ).
- Dielectric strength  $\geq 20$  kV/mm.
- UV, flame, and weather resistant.
- Shelf life  $\geq 5$  years.

#### Technical Data comparison

| Parameter        | 11kV         | 33kV         |
|------------------|--------------|--------------|
| Tensile Strength | $\geq 8$ MPa | $\geq 8$ MPa |
| Elongation       | $\geq 200\%$ | $\geq 200\%$ |

|                       |                    |                    |
|-----------------------|--------------------|--------------------|
| Dielectric Strength   | ≥ 20 kV/mm         | ≥ 20 kV/mm         |
| Operating Temperature | -40 °C to +110 °C  | -40 °C to +110 °C  |
| Shrink Temperature    | 125°C              | 125°C              |
| Flammability          | Self-Extinguishing | Self-Extinguishing |
| Tracking Resistance   | Non-Tracking       | Non-Tracking       |

## 6. PERFORMANCE AND TESTING

### 6.1. Type & Routine Testing

Prior to delivery, the items shall have completed the type, routine and accuracy tests and inspections as required by the relevant international and AS/NZS standards. The passing of such tests shall not prejudice the right of EFL to reject the items if it does not comply with the specification when received or installed.

For the 33kV and 11kV indoor cable termination kits, all testing shall be undertaken as per the requirements stated in AS/NZS 4085 Part 1 and 2, AS/NZS 1600 – All Parts, AS/NZS 4325.1 and IEC61442. It is essential that the cable terminations are capable of withstanding the electrical stress associated with continuous operation at the highest system voltage under the listed environmental conditions.

The 33kV and 11kV heat shrink insulating tapes shall have completed the type, routine and accuracy tests and inspections as required by the relevant international standards, specifically CENELEC HD 629.1/2 S2 and IEC 60502-4. The passing of such tests shall not prejudice the right of EFL to reject the items if it does not comply with the specification when received or installed. For 33kV and 11kV applications, verification testing shall include, but not be limited to, dielectric strength (≥ 20 kV/mm), mechanical performance per ISO 37 (tensile strength ≥ 8 MPa, elongation ≥ 200%), IP rating as per IEC 60529, and verification of UV, flame, and weather resistance properties.

The bidder shall submit evidence showing IEC 17025 compliance. A formal report covering the outcome of the different tests shall be made available to EFL.

The various categories of products included in this specification have different test and performance requirements. Some of these requirements are in accordance with certain European and AS/NZS Standards. Where the products offered have been tested to different industry standards, the supplier shall detail the differences between the two standards, and provide a copy of the relevant parts of the standard to which the products have been tested.

Full technical information shall be provided in support of all the products offered. Where sufficient information is not provided to allow a full technical appraisal of a product, and the tenderer does not furnish such information or respond to EFL's requests for such information within a reasonable timeframe, the product involved will be regarded as technically un-assessable and will not be given any further consideration for the purpose of this tender.

Test certificates shall be provided by a NATA (or equivalent) certified testing laboratory. The testing laboratory must be certified for testing to the relevant standard for the offered products. In addition, a copy of the testing laboratories certification shall be provided. All test reports and supporting evidence shall be provided in English.

Bidders can provide type test certificates in accordance to equivalent international standards. However, this must be stated clearly in the Tender bid.

Where items of a similar design to that previously tested is offered, consideration may be given to accepting previous type test reports. Tenderers are requested to substantiate their claims of equivalent type test performance with written engineering evaluation, where full Type Test documentation is not submitted for each of the items offered. Such evaluation must provide all relevant details so that EFL can establish the validity of existing type tests.

## **6.2. Type Testing**

Type tests shall be defined as those tests which are to be carried out to prove the design, process of manufacture and general conformity of the materials to this specification.

The supplier shall provide copies of valid and current type test reports and certificates for all of the type tests that are specified in the specifications and that have previously been performed.

Wherever the referenced test procedures or the technical specifications call for visual inspection for damage, the test report shall include a full description of observed status of the sample. (Visually inspected samples shall also be color photographed and copies of color photographs shall be included in type test report).

## **6.3. Routine Testing**

Routine tests are intended to eliminate defective units and shall be carried out during the manufacture of indoor termination kits and insulating tapes. These are to be conducted in accordance to the relevant standard and copies of test certificates for each item shall be submitted with the offer.

## **6.4. Acceptance Tests**

The EFL may carry out acceptance test on product to prove it conforms to the requirements of this Specification. Any product showing evidence of failure to comply with the requirements of this specification will be liable to rejection.

## **6.5. Witnessing of Tests**

The bidders shall make allowance for witnessing of routine tests on a batch of cable termination kits and Accessories for both 33kV and 11kV by two EFL Engineers at least once during the contract period. The return-air travel, accommodation, meals and other expenses related to routine test witnessing shall be borne by the bidder.

The Supplier shall give EFL not less than four (4) weeks' notice of when each and every type test will be carried out. Such witnessing shall be required once in the contract period, upon purchase of the first unit. A copy of the inspection and test plan shall be submitted to EFL with the bid submission, which shall be used in the factory.

**Note: The Factory Acceptance Testing (FAT) is a mandatory requirement by EFL.**

## **6.6. Test Certificates**

Two certified copies of all test results shall be supplied to EFL for every product that will be supplied under the contract.

## **6.7. Compliance**

The Supplier shall state in writing that their offer complies with the relevant Standards and this specification. If the Supplier is offering product manufactured to an equivalent standard, full details of that standard must be given including a copy written in English.

## **7. RELIABILITY**

### **7.1. Service Life**

Bidders are required to comment on the reliability of the termination kits and the performance of the materials offered for a service life of 35 years under the specified system and environmental conditions in clause 3.

### **7.2. Evidence in Support of Reliability**

Where the specified guaranteed service life is less than 35 years suppliers are required to provide comment and submit evidence in support of the reliability and performance claimed including detailed information on Failure Mode and Effect Analysis.

## **8. ENVIRONMENTAL CONSIDERATIONS**

Suppliers are required to comment on the environmental soundness of the design and the materials used in the manufacture of the items offered. In particular, comments should address such issues as recyclability and disposal at end of service life and also disposal of packaging material.

## **9. PACKAGING AND MARKING**

### **9.1. Packaging**

All items are to be supplied separately packaged in robust cardboard boxes. These boxes shall allow for access (by EFL's acceptance personnel) so that the termination kits and Accessories may be easily removed for inspection and then repacked and sealed for storage.

### **9.2. Marking**

All pallets must be of suitable quality to withstand a minimum of twenty- four (24) months exposure to all types of weather conditions during outdoor storage without deterioration.

The following shall be clearly marked on the coils:

1. Manufacture's name
2. Manufacture's part reference number
3. EFL stock code
4. Compliance standards
5. Batch number
6. Item description
7. Package weight



## 10. QUALITY REQUIREMENTS

Tenderers are required to submit evidence that the design and manufacture of the 33kV and 11kV indoor cable termination kits are in accordance with AS/NZS ISO 9001 and shall include the Capability Statement associated with the Quality System Certification.

Bidders shall supply **heat-shrink high-voltage insulation tapes** suitable for 33kV and 11kV systems, which shall be tested and certified in accordance with internationally recognized standards to ensure reliable **electrical insulation and mechanical performance** under service conditions.

If the Tenderer is a non-manufacturing supplier, the documentary evidence shall include the quality system certifications of both the supplier and the manufacturer.

## 11. PRODUCT WARRANTY PERIOD

The bidders are required to provide the warranty period as part of the proposal. A minimum warranty period of twenty-four (24) months from time of dispatch from factory shall be provided.

## 12. INFORMATION TO BE PROVIDED BY THE BIDDER

### 12.1 Documentation to be supplied with the tender

To enable the EFL to fully evaluate the 33kV and 11kV indoor cable termination kits and Accessories offered (in addition to the completed Specification Requirement and Guaranteed Performance schedule), the bidder shall submit the following information with their tender: **(Note these are mandatory requirements)**

- List showing similar equipment supplied to or on order for other utilities in Australia or New Zealand or the Oceania region for the past 5 years
- Typical arrangement drawings and full details of the dimensions
- Type test certificates as per Clause 5.1
- End of service life disposal methods
- Evidence of Quality Management Systems used in the manufacturing process
- Evidence of Health, Safety and Environmental plans
- Evidence of financial ability to provide the level of service and support
- Origin of materials used in the manufacturing process
- Names and resumes of key team members who will be assigned to work with EFL upon successful award of the three-year supply contract (if bidder is successful)

Bidders may be asked to provide additional information during the tender assessment period or following award of the contract.

### 12.2 Drawings & Information to be submitted by the Successful Tenderer

All information to be supplied under this specification shall be in the English language and all drawings shall be dimensioned in metric units in accordance with AS ISO 1000. Where a drawing is dimensioned in imperial units, the equivalent metric units shall be shown in brackets adjacent to it.

#### **A. 33kV and 11kV indoor cable termination kits**

When requested by the Purchaser, the Supplier shall:

- Provide within two (2) weeks of the date of the formal execution of the Standing Order, a comprehensively detailed program of works indicating timing for all activities required to achieve contract performance.
- Within six (6) weeks from the date of the formal execution of the Standing Order, the Supplier will provide three copies of drawings and information necessary to enable the Purchaser to examine the general design and arrangement.

The Purchaser will comment on drawings supplied under this contract in relation to how the equipment interfaces with the Purchaser's design, construction, operation, maintenance and other requirements.

Comments about drawings by the Purchaser will not in any way absolve the Supplier of responsibility for the safety and reliability aspects of the plant or equipment supplied. The Supplier will amend the drawings as directed and resubmit them to the Purchaser within one (1) week.

In the event of the Supplier proceeding with work before such comment has been given in writing, any necessary alterations and modifications will be carried out at the Tenderer's own expense.

Drawings will include a fully dimensioned general arrangement drawing.

If the drawings submitted for approval require modification by either the Supplier or the Purchaser, the Supplier shall carry out the modifications and submit the modified drawings for comment. This procedure shall continue until the Purchaser notifies the Supplier that the drawings are acceptable.

When requested by the Purchaser, the Supplier shall supply no later than four weeks prior to the date of dispatch of the equipment from the supplier the following:

- Final copies of all drawings listed in this section of the specification.
- Final Inspection and Test Plan covering at minimum the manufacturing and packaging procedures.
- Certified copies of test reports called for in this specification verifying compliance with this specification.

#### **B. 33kV and 11kV Heat Shrink High Voltage Insulating Tape**

The successful tenderer shall submit, for EFL's review and approval, complete technical documentation for all 33kV and 11kV heat-shrink HV insulation and sealing tapes prior to delivery.

This shall include product datasheets, standards compliance certificates (IEC, AS/NZS, ISO 37, or equivalent), type and routine test reports from a NATA or equivalent accredited laboratory, and manufacturer's installation instructions covering surface preparation, overlap, and application techniques.

Tenderers shall also provide quality assurance records, safety data sheets, and packaging information detailing tape dimensions, reel length, and labeling to ensure protection during transport and storage.

### **12.3 Samples**

When requested, production samples of each item shall be submitted with the offer.

Each sample shall be delivered freight free (Cost, Insurance, and Freight (CIF)), suitably packaged and labelled with the following information:

- Name of supplier and this contact number
- Tender number
- Any supporting data on features or characteristics

### **12.4 Training**

Training material in the form of drawings, instructions and/or audio visuals (in CD format) are required to be provided for the items accepted under the tender. The Tenderers shall allow the cost of production and delivery of training material in the tendered prices.

The training materials should include but not be limited to the following topics:

- Handling
- Storage
- Application
- Installation
- Maintenance
- Environmental performance
- Electrical performance
- Mechanical performance
- Disposal

**Offers of vendors who fail to furnish above particulars shall be rejected.**

### **13 SPECIAL TOOLS, GAUGES & ACCESSORIES**

Bidders are advised that the Purchaser and Contractors to the Purchaser have a wide range of general equipment and special tools available to complete the installations.

Separate details, including price, of any special tools, gauges or accessories that are identified as being necessary for installation and ongoing maintenance procedures must be submitted by the bidders.

Tools, gauges and accessories that are available from normal commercial outlets should not be included.

## 14 APPENDIX

### 14.1 Price Schedule

Bidders are required to complete the following price schedule and submit with the offer. EFL requires the bidding prices to be in CIF incoterms.

| No. | Stock Code | Item Description  | Unit Price (CIF) | Currency of bid |
|-----|------------|---|------------------|-----------------|
| 1   | New Code   | Screened Separable Elbow Connection System<br>(11kV-185-300sqmm cable)  |                  |                 |
| 2   | New Code   | Screened Separable Elbow Connection System<br>(33kV -500-630sqmm cable) |                  |                 |
| 3   | New Code   | Plug-In Termination, Size 3, without Voltage Tap<br>(36kV - 300sqmm)    |                  |                 |
| 4   | New Code   | Plug-In Termination, Size 3, without Voltage Tap<br>(36kV - 630sqmm)    |                  |                 |
| 5   | New Code   | Heat shrink insulating tapes( $\geq 11$ kV)                             |                  |                 |
| 6   | New Code   | Heat shrink insulating tapes( $\geq 33$ kV)                             |                  |                 |
| 7   | New Code   | Cable termination tool kit for Plug in Terminations.                    |                  |                 |
| 8   | New Code   | Cable termination tool kit for Elbow terminations.                      |                  |                 |

**Bidders are required to:**

1. Clearly specify the currency of the bid.
2. Provide a complete list of all items/components included with the tool kit.

## 14.2 Technical Schedule

### 14.2.1 33kV and 11kV Indoor Cable Termination Kits

| Particulars                          | Unit                      | Requirement               | Bidder's Response                          |                       |  |                    |
|--------------------------------------|---------------------------|---------------------------|--|-----------------------|--|--------------------|
|                                      |                           |                           | Screened Separable Elbow Connection System |                       | Plug-In Termination, Size 3, without Voltage Tap |                    |
|                                      |                           |                           | 11kV<br>(185-300sqmm)                      | 36kV<br>(500-630sqmm) | 36kV<br>(300 sqmm)                               | 36kV<br>(630 sqmm) |
| General                              |                           |                           |  |                       |  |                    |
| Name of manufacturer                 |                           | Bidder to state           |  |                       |  |                    |
| Country of manufacture               |                           | Bidder to state           |  |                       |  |                    |
| Origin of materials                  |                           | Bidder to state           |  |                       |  |                    |
| Type Offered                         | Cold / Heat / Pre-moulded | Bidder to state           |  |                       |  |                    |
| Shelf Life                           | Years                     | Bidder to state           |  |                       |  |                    |
| Technical Data - System requirements |                           |                           |  |                       |  |                    |
| Rated Voltage                        | kV                        | Bidder to state           |  |                       |  |                    |
| 15 minute dry A.C. Voltage Withstand | 15 min at 2.5 Uo (15kV)   | No breakdown or flashover |  |                       |  |                    |
| 5 minute dry A.C. Voltage Withstand  | 5 min. at 4.5 Uo (27kV)   | No breakdown or flashover |  |                       |  |                    |
| 15 minute dry D.C. Voltage Withstand | 15 min at 4 Uo (24kV)     | No breakdown or flashover |  |                       |  |                    |
| Partial Discharge – maximum          | 1.73 Uo (10kV)            | 10 pC max.                |  |                       |  |                    |

|   |                          |                           |  |  |  |  |
|---|--------------------------|---------------------------|--|--|--|--|
| Maximum system voltage  |                          | 24kV - 42kV               |  |  |  |  |
| Creepage Distance   | mm                       | Bidder to state           |  |  |  |  |
| Detailed Instructions to suit type and voltage included in kits | Yes / No                 | Bidder to state           |  |  |  |  |
| Impulse Level   | 95kV                     | No breakdown or flashover |  |  |  |  |
| Continuous current rating                                       |                          | 800A - 1250A              |  |  |  |  |
| Dynamic short circuit   |                          | 125kA                     |  |  |  |  |
| <b>Technical Data - Lugs</b>                                    |                          |                           |  |  |  |  |
| Type of Lug   | Mechanical / Compression | Bidder to state           |  |  |  |  |
| Lug Manufacturer  |                          | Bidder to state           |  |  |  |  |
| (Compression Lug Only) Across Flat Distance of the Die          | mm                       | Bidder to state           |  |  |  |  |
| Lug Conductor diameter range                                    | mm                       | Bidder to state           |  |  |  |  |
| Tail Lengths  | mm                       | Bidder to state           |  |  |  |  |
| <b>Technical Data - Insulation</b>                              |                          |                           |  |  |  |  |
| Colour of housing / Sheds                                       |                          | Bidder to state           |  |  |  |  |
| Insulation thickness for diameter over conductor                |                          | Bidder to state           |  |  |  |  |
| Insulation thickness for diameter over PE/VPE insulation        |                          | Bidder to state           |  |  |  |  |
| Cable insulation diameter range                                 | mm                       | Bidder to state           |  |  |  |  |

|   |          |   |  |  |  |  |
|---|----------|---|--|--|--|--|
| Terminal insulation available to suit all switchgear cable sizes, plus compatible with cable termination components | Yes / No | Bidder to state                               |  |  |  |  |
| Terminal insulation removable and reusable for testing of switchgear  | Yes / No | Bidder to state                               |  |  |  |  |
| <b>Cable Termination</b>  |          |   |  |  |  |  |
| Labour estimate to complete termination   | hours    | Bidder to state                               |  |  |  |  |
| Sealing system  |          | Bell flange seal / shrink tubing or any other |  |  |  |  |
| Protecting sleeving or armor  |          | Bidder to state                               |  |  |  |  |
| Connector cross section range   |          | Bidder to state                               |  |  |  |  |
| <b>Packaging</b>  |          |   |  |  |  |  |
| Pack Size   |          | Bidder to state                               |  |  |  |  |
| Pack Mass   | kg       | Bidder to state                               |  |  |  |  |



### 14.2.2 33kV and 11kV Heat Shrink Insulating Tapes

| No. | Section                  | Sub-Criteria                   | Requirements  | 11kV | 33kV |
|-----|--------------------------|--------------------------------|---|------|------|
| 1   | Standards Compliance     | 11 kV and 33kV Class Standards | CENELEC HD 629.1 S2 / IEC 60502-4                         |      |      |
| 2   | Voltage Rating           | Rated Voltage                  | Suitable for $\geq 11$ kV and up to 33 kV (specify class) |      |      |
|     |                          | Test Certificates              | Independent lab certificates for each voltage class       |      |      |
| 3   | Operating Temperature    | Continuous Operating           | -40 °C to +110 °C   |      |      |
|     |                          | Shrink Temperature             | $\geq 120$ °C   |      |      |
| 4   | Shrink Ratio             | Minimum Shrink Ratio           | $\geq 3:1$  |      |      |
|     |                          | Uniform Shrinkage              | No cracking after recovery                                |      |      |
| 5   | Physical Properties      | Tensile Strength               | $\geq 8$ MPa  |      |      |
|     |                          | Elongation at Break            | $\geq 200\%$  |      |      |
|     |                          | UV & Weather Resistance        | Required  |      |      |
|     |                          | Flame Retardant                | Required  |      |      |
| 6   | Electrical Properties    | Dielectric Strength            | $\geq 20$ kV/mm   |      |      |
|     |                          | Corona & Tracking Resistance   | Required  |      |      |
| 7   | Dimensions               | Roll Length                    | Meters  |      |      |
|     |                          | Width Options                  | Millimeters   |      |      |
| 8   | Adhesive / Sealing Layer | IP rating as per IEC 60529.    | Approx. IP67  |      |      |
|     |                          | Water Absorption               | $\leq 0.2\%$  |      |      |

|    |                     |                |  |  |  |
|----|---------------------|----------------|--|--|--|
| 9  | Packaging & Marking | Labelling      | Manufacturer, batch no.,<br>manufacturing date |  |  |
| 10 | Commercial Factors  | Delivery Terms | CIF  |  |  |

### 14.3 Submission Requirements

All tenderers are required to complete and submit a copy of the submission requirements with their bid submissions. **(Note these are mandatory requirements).**

| Requirements  | Response from Bidders |
|---|-----------------------|
| Validity of bid (120 days required) (Yes/No)  |                       |
| List of test reports/certificates provided. (As per Clause 5)   |                       |
| Minimum warranty period offered for this product  |                       |
| Price review period   |                       |
| Minimum order quantity  |                       |
| Completed price and technical schedules (14.2) (Yes/No)   |                       |
| The bidding pricing to be in CIF incoterm.  |                       |
| Currency of bid.  |                       |
| Lead time of delivery after tender award.   |                       |
| Disposal method after service life.   |                       |
| Complete dimensional drawings of: <ul style="list-style-type: none"> <li>1. General jointing instructions</li> <li>2. General terminating instructions</li> </ul> |                       |
| Factory Acceptance Test   |                       |
| Training  |                       |
| <b>Material safety datasheet to be provided for all items</b>   |                       |
| The bidder to include the following as part of the bid:   |                       |
| Company profile, financial capability statement   |                       |
| Company registration details  |                       |
| Company financial capability statement  |                       |
| Reference list of customers the same product is supplied to and contact details for reference check   |                       |
| If the bidder is the manufacturer, the ISO certification shall be provided  |                       |
| If the bidder is only the supplier of the product, then both the manufacturer and supplier ISO certifications shall be provided                                   |                       |

Name of Tenderer: \_\_\_\_\_

Signature of Tenderer: \_\_\_\_\_

Date: \_\_\_\_\_

## **Important Instructions for Bid Submission**

Description: Dear Valued Suppliers,

This is a reminder to all suppliers to ensure that your bid submissions are made under the registered name of your business, as per your official business registration. This is important to avoid any confusion related to business identity. If there have been any changes to your business name or registration details, kindly update the information accordingly in your TenderLink user profile.

For local suppliers, please double-check your pricing calculations, including both the detailed breakdown and the total bid amount. Also, clearly indicate whether your prices are inclusive or exclusive of VAT. The prices should be received on your company letter heads, or put a company stamp.

For overseas suppliers, kindly state the currency in which you intend to submit your bid, along with the applicable Incoterm. This will assist us in accurately analyzing your submission.

Before submitting your bid, please ensure that all required documents have been uploaded to avoid incomplete submissions. Please upload valid Tax compliance, Valid FNPF Compliance and Valid FNU Levy Compliance for local bidders.

Lastly, please ensure that the Tender Submission Checklist is completed in full, including:

Company name: \_\_\_\_\_

Names of directors: \_\_\_\_\_

Contact phone number: \_\_\_\_\_

Email address: \_\_\_\_\_

These details are essential for us to reach out for any required clarifications.

Kindly ensure that you upload your tenders at least one hour before the closing time to avoid any last-minute internet or technical issues.

Thank you for your cooperation.

Kind regards,  
EFL Supply Chain

## TENDER CHECKLIST

***The Bidders must ensure that the details and documentation mention below must be submitted as part of their tender Bid***

Tender Number \_\_\_\_\_

Tender Name \_\_\_\_\_

1. Full Company / Business Name: \_\_\_\_\_

**(Attach copy of Registration Certificate)**

2. Director/Owner(s): \_\_\_\_\_

3. Postal Address: \_\_\_\_\_

4. Phone Contact: \_\_\_\_\_

5. Fax Number: \_\_\_\_\_

6. Email address: \_\_\_\_\_

7. Office Location: \_\_\_\_\_

8. TIN Number: \_\_\_\_\_

**(Attach copy of the VAT/TIN Registration Certificate - Local Bidders Only (Mandatory))**

9. FNPF Employer Registration Number: \_\_\_\_\_ **(Local Bidders only)**  
**(Mandatory)**

10. **Provide a copy of Valid FNPF Compliance Certificate (Mandatory- Local Bidders only)**

11. **Provide a copy of Valid FRCS (Tax) Compliance Certificate (Mandatory Local Bidders only)**

12. **Provide a copy of Valid FNU Compliance Certificate (Mandatory Local Bidders only)**

13. Contact Person: \_\_\_\_\_

I declare that all the above information is correct.

Name: \_\_\_\_\_

Position: \_\_\_\_\_

Sign: \_\_\_\_\_

Date: \_\_\_\_\_

## **Tender submission**

Bidders are requested to upload electronic copies via Tender Link by registering their interest at: <https://www.tenderlink.com/efl>

**EFL will not accept any hard copy submission to be dropped in the tender box at EFL Head Office in Suva.**

**This tender closes at 4.00pm (1600hrs) on 1<sup>st</sup> October, 2025.**

For further information or clarification please contact our Supply Chain Office on phone **(+679) 3224360 or (+679) 9992400** or email us on [tenders@efl.com.fj](mailto:tenders@efl.com.fj)

**The bidders must ensure that their bid is inclusive of all Taxes payable under Fiji Income Tax Act. Bidders are to clearly state the percentage of VAT that is applicable to the bid prices.**

The lowest bid, will not necessarily be accepted as the successful bid.

**The Tender Bids particularly the “Price” must be typed and not hand written.**

**Any request for the extension of the closing date must be addressed to EFL in writing three (3) working days prior to the tender closing date.**

**Tender Submission via email or fax will not be accepted.**