ENERGY FIJI LIMITED

# BIDDING DOCUMENT

## Design, Manufacture, Test and Supply of 2 units of Motorized Outdoor 36kV Double Break Disconnectors, Earth Switches and Electrical Accessories for Sawani Substation

## TENDER NO: MR 21/2026

# INVITATION FOR BIDS

**Date:7th February, 2025**
**Tender No: MR 21/2025**

Energy Fiji Limited ("The Employer") invites sealed bids from reputable and suitable Manufacturers and Suppliers for Design, Manufacture, Test and Supply of 2 units of Motorized Outdoor 36kV Double Break Disconnectors, Earth Switches and Electrical Accessories for Sawani Substation.

All bids for the contract shall be submitted on the appropriate forms provided and shall include the completed price schedule, technical schedule and schedules of experience etc. The bid shall be on the basis of a lump sum contract based on firm prices.

Bidders may obtain further information from, and inspect and acquire the bidding documents, at

Design, Manufacture, Test and Supply of 2 units of Motorized Outdoor 36kV Double Break Disconnectors, Earth Switches and Electrical Accessories for Sawani Substation.

Energy Fiji Limited
The Secretary Tender Committee
2 Marlow Street, Suva, FIJI.
Suva

The deadline for submission of bids shall be **1600hrs** (local time) on **Wednesday, 4th March, 2026.**

During evaluation of bids the Authority may invite a bidder or bidders for discussions, presentations and any necessary clarification before awarding the contract price proposal.

# Section 1 - Instructions to Bidders

## A. General

### 1. Scope of Bid

Energy Fiji Limited (hereinafter referred to as "the Employer"), wishes to receive bids for the **Design, Manufacture, Test and Supply of 2 units of Motorized Outdoor 36kV Double Break Disconnectors, Earth Switches and Electrical Accessories for Sawani Substation**, as defined in these bidding documents (hereinafter referred to as "the Works").

### 2. Eligible Bidders

This invitation is open to all Bidders who have sound Financial Background, and have previous experience in handling such projects.

### 3. Eligible Materials, Equipment andServices

The materials, equipment, and services to be supplied under the Contract shall have their origin from reputable companies as specified by EFL 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.

### 4. Qualification of the Bidder

To be qualified for award of Contract, bidders shall:

(a) Submit a written power of attorney authorizing the signatory of the bid to commit the bidder;

### 5. One Bid per Bidder

Each bidder shall submit only one bid either by itself, or as a partner in a joint venture. A bidder who submits or participates in more than one bid will cause all those bids to be rejected.

### 6. Cost of Bidding

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

### 7. Clarification of Bidding Documents

A prospective bidder requiring any clarification of the bidding documents may contact our Supply Chain Office on phone (+679) 3224360 or (+679) 9992400 or email us on tenders@efl.com.fj

### 9. Amendment of Bidding Documents

9.1 At any time prior to the deadline for submission of bids, the Employer 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.

9.2 Any addendum thus issued shall be part of the bidding documents pursuant to Sub-Clause 9.1.

**10. Language of Bid**

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

**11. Bid Form and Price Schedules**

The Bidder shall complete the Bid Form and the appropriate Price Schedules furnished in the bidding documents in the manner and detail indicated therein, following the requirements of Clauses 15.

**12. Bid Prices**

Bidders shall give a breakdown of the prices in the manner and detail called for in the Schedules of Prices.

**12. Bid Currencies**

Prices shall be quoted in the following currencies:

(a) The prices shall be quoted in the Fijian currency and either in the currency of the bidder's home country.

## 13. Validity Period of Tenders

Tenders shall remain valid for acceptance within **90 days** from the date of opening of tenders and a Tenderer shall not withdraw or amend his tender prior to the expiration of the Validity Period.

In exceptional circumstances prior to expiry of the original tender validity period, the company may request the Tenderer for an extension in the period of validity. The request and the response thereto shall be in writing. A tenderer agreeing to the request will not be permitted to amend his tender price.

## 14. Extension of Closing Time for Tenders

The right is reserved to amend the date set for the opening of tenders to any late date. If it is decided to extend the time for submission of tenders all prospective Tenderers to whom tender documents have been issued will be promptly notified.

## 15. Lodgement of Tender

The tender bids SHALL be submitted electronically at the following location https://www.tenderlink.com/efl.

Register your interest and submit a soft copy response by viewing 'Current Tenders' at: https://www.tenderlink.com/efl.

The bid shall be typed and shall be signed by a person or persons duly authorized to sign on behalf of the bidder, as the case may be. All pages of the bid where entries or amendments have been made shall be initialled by the person or persons signing the bid.

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

The bidder shall submit original PDF & AutoCAD copies of the bids & associated drawings in the bid submission link.

## 16. Deadline for Submission of Bids

Bids must be received by the Employer at the address specified above no later than 1600 hours (Fiji Time) Wednesday, 04th March, 2026.

The Employer may, at its discretion, extend the deadline for submission of bids by issuing an addendum in accordance with Clause 9, in which case all rights and obligations of the Employer and the bidders previously subject to the original deadline will thereafter be subject to the deadlines extended.

## 17. Late Bids

17.1 Any bid received by the Employer after the deadline for submission of bids will be rejected.

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

# Section 2

## Employer's Requirements – Part I Scopeof Works

**Design, Manufacture, Test and Supply of 2 units of Motorized Outdoor 36kV Double Break Disconnectors, Earth Switches and Electrical Accessories for Sawani Substation**

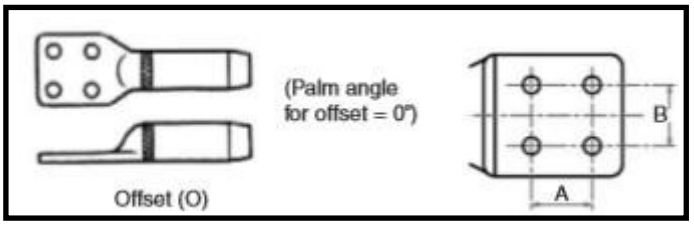
# 1. General Specifications

## 1.1 Scope of Work

The scope of works for contract is for the Design, Manufacture, Test and Supply of three **(1) units of motorized Disconnector with earth switch** and **One (1) unit of Motorized Disconector**, its packaging and shipping (CFR to Suva Port) of the following:

| No. | Quantity | Description | Manufacturer | Unit Rate | Total |
|---|---|---|---|---|---|
| 1 | 1 | Motorized 33kVDisconnector c/w with control box and insulators | | | |
| 2 | 1 | Motorized 33kVDisconnector with Earth Switch c/w with control box and insulators | | | |
| 3 | 2 Sets | -Disconnector Support Structure with supplier design at 100m/s cyclone rated(min height = 2.4m) square tubing 200mm x 200mm x 8mm Base plate 500mm x 500mm x 20mm. All Structures for mounting Disconnector "C" Channel 150mm x 75mm x 8mm. Support Structures shall be from Australian Design & Manufacturing Company. | | | |
| 4 | 1 Lot | Mandatory Spares (Complete Mandatory Manufacturer's Spares List to be provided to EFL)<br><br>Apart from the manufacturer's spares list, EFL will require the following to be part of the list where applicable to your disconnector:<br>1 x motor for Disconnector<br>1 x motor for Earth switch<br>6 x Insulators<br>2 x complete auxiliary switch with contacts<br>2 x blocking solenoid for earth switch manual operating handly<br>2 x blocking solenoid for disconnector manual operating handle<br>2 x heater with thermostat | | | |
| 5 | 1 Lot | Factory Acceptance Testing at Manufacturers Location (Remote) | | | |
| 6 | 12 piece | DIN 50mm X 50mm Triton Palms as shown in figure1 | | | |

Figure 1: offset palms




Spacing of holes: A = 50mm B = 50mm or as per the holes on the disconnector
Diameter of the holes: M14
Palm dimension is to AS2395 standard suitable for Triton Conductor.

The Contractor is to manufacture the items mentioned above as per the design drawings and specifications provided by EFL, and the Standards mentioned herein.

## 1.2 System Particulars

| | 132kV | 33kV | 11kV |
|---|---|---|---|
| Normal System Voltage | 132kV | 33kV | 11kV |
| System Highest Voltage | 145kV | 36kV | 12kV |
| Frequency | 50Hz | 50Hz | 50Hz |
| Earth of Neutral Point | Directly Earthed | Earthed through neutral earthing resistor | Directly earthed |
| Design Symmetrical fault Level | 4500VA | 1125MVA | 250MVA |
| Standard kA rated | 31.5kA | 31.5kA | 25kA |

## 1.3 Quality of Materials and Workmanship

All materials supplied and used by the contractor under this contract shall be new and of the high quality and class most suitable for working under the conditions specified and shall withstand the variations of temperature, atmospheric conditions arising under working conditions without distortion or deterioration or the setting up of undue stresses in any part and also without affecting the strength and suitability of the various parts of the work which they have to perform. All work shall be carried out and completed in a neat and professional manner to the approval of the Employer's Representative.

## 1.4 Standards

IEC, IEEE and AS/NZS Standards are to be adopted in general. Any other national or international standard may be used if such standards are not less exacting than corresponding IEC Standard. In such any instance a copy of the relevant standard should be forwarded. The works shall be in accordance with the following standards:

| Standard | Title |
|---|---|
| AS/NZS 62271.102 | High Voltage switchgear and control gear – Part 102: Alternating current disconnectors and earthing switches |
| AS 1214 | Hot – dip galvanizing coatings on threaded fasteners |
| AS/NZS 60625 | High Voltage Switches – Switches for rated voltages above 1kV and less then 52kV |
| AS 1856 | Electroplated coatings – silver |
| AS 2650 | Common specifications for high voltage AC Switchgear and control gear standards. |
| AS2837 | Wrought Alloy Steels - Stainless steel bars and semi – finished products. |
| AS 4360 | Risk Management |
| AS/NZS ISO 9001 | Quality Management Systems - Requirements |

## 1.5 Service Conditions

The disconnectors will be exposed to the following environmental conditions:

| | |
|---|---|
| Daily averageambient temperature | 32ºC |
| Max. Ambient Temperature | 45ºC |
| Annual average ambient temperature | 30ºC |
| Minimum ambient temperature | 5ºC |

| | |
|---|---|
| Altitude | 50m (site) |
| Humidity | 95% |
| Maximum Wind Speed (under cyclonic conditions) | 90 m/sec - gusting |
| Seismic Level – open ended Richter scale | 8 on the open ended Richter Scale |
| Average rainfall per year | 2663mm |
| Isokeraunic Level | 120 |

**Note:** Moderately hot and tropical climate conductive to rust (saline) and fungus growth. The Climatic conditions are also prone to variations in ambient conditions.. Heavy lightening also occurs during November to March.

## 1.6 Tools and Equipment

The tenderer shall forward a list of tools and equipment required for safe operation and maintenance of the installation and includes the cost of supplying such tools and equipment as part of the tender submission.

## 1.7 Packing

Equipment shall be carefully packed for transportation and shipment in such a manner that it is protected from all dust and climatic conditions during loading, transportation, unloading and subsequent storage in the open.

Equipment shall be suitably packed and protected against vibration, movement and shock which may occur during loading and transport. Particular care in packing shall be taken when the apparatus is transported by road.

Instruments and fragile items shall be packed separately. All items, which include delicate equipment, shall be sealed in polythene sheeting and silica gel desiccant or vapor corrosion preventive shall be inserted within the polythene packing. Straw shall not be used as packing material.

## 1.8 Warranty

The Contractor shall provide warranty for equipment installed, commissioned and workmanship including revised As Built drawing submitted for the Works for a Period of Twenty Four [24] months after delivery of the equipment. For all equipment supplied by third-parties, the contractor is to ensure that the warranties of these equipment are transferred to EFL as the beneficiary. The Contractor warrants to the Employer that all Works performed and completed in respect of the Warranted Works are in accordance with the standards and quality specified in the Contract or if not otherwise specified, the work is according to good trade practice expected in the energy industry.

## 1.9 Programme and Progress of Work

Within seven days of the receipt of the official EFL purchase order the contractor shall submit a programme of work for the entire project up to the delivery. The programme is to conform to the timelines as stipulated in this tender.

## 1.10 Ratings

The disconnectors and earth switches shall have thefollowing ratings:

| | | |
|---|---|---|
| Rated Voltage | kV | 36 |
| Rated Frequency | Hz | 50 |
| Continuous Operating Current | A | 1600 |

| | | |
|---|---|---|
| Short time withstand current (1 sec) | kA | 40 |
| Rated peak withstand current | kA | 31.5 |
| Insulation Level (BIL) to earth and between poles (peak) | kV | 170 |
| Insulation Level (BIL) across isolating distances (peak) | kV | 230 |

## 1.11 Inspection and Testing

### 1.11.1 Factory Acceptance Testing

a. Dielectric Tests

b. Temperature Rise Tests

c. Short time withstand current and peak withstand current tests

d. Mechanical endurance test

e. Routine Test Certificates shall be supplied with each batch delivery in accordance to AS 62271.102.

# Section 3

## Specification, Criteria for Evaluation, Work Plan and Pricing

# 1 NOTES ON SCHEDULES

The Schedules are intended to provide the Employer with essential supplementary information in an organized format. Examples of more commonly used Schedules are given herein. Others may be devised and added in accordance with the requirements of the Instructions to Bidders.

All the Schedules are essential for bid evaluation and some in contract execution; they should all be incorporated in the Contract, and appropriate changes introduced with the approval of the Employer or its representative.

The schedules are to be completed and submitted as part of the Technical Proposal and Price Proposal in accordance with the Instructions to Bidders Clause 11, Documents Comprising the Bid. **Bidders whose Bids do not contact the data in the required format will be treated as non-responsive.**

# 2 SCHEDULE OF PRICES & CONDITIONS OF PAYMENT

## *2.1 CONTRACTPRICE*

The Contract Price is comprehensive in that, in consideration of the Contractor meeting all obligations, conditions and liabilities under the Contract, including the Contractor's allowance for the cost of supply of all labor, materials, plant, supervision required to complete the Contract Works, overheads and profit, subject only such adjustment as is provided for the Contract.

## *2.2 PAYMENT TERMS*

1. All payments shall be due and payable by the Employer in accordance with the payments terms detailed below.
2. The payments shall be made on completion of milestones as identified and agreed by both the Employer's Representative and the Contractor.
3. The payments will be made based on the following schedule:

| | Particulars | Milestones | Payment (% of contract price) |
|---|---|---|---|
| 1 | Design review and approval | After Final Design Approval given by EFL | 20% |
| 2 | Shipment | Upon completion of Manufacture and testing supported by bill of lading documents | 30% |
| 3 | Delivery | Upon Delivery to Fiji. Supply of 36kV double break disconnectors and structures and accessories to Fiji | 50% |

# 1 OTHER DOCUMENTS & DRAWINGS TO BE SUBMITTED WITH BID

As a minimum, the following documents & drawings shall be submitted with the Bid.

1. Evidence of Bidder's experience in works similar to this
2. **List of IEC and ASNZ standards**

## GUARANTEED TECHNICAL PARTICULARS OF 33kV DISCONNECTORS & EARTH SWITCHES

### SPECIFICATION

This specification provides for design, engineering, manufacture, stage testing, inspection and testing before dispatch, packing, forwarding and delivery at site of 36 kV class Disconnectors and earth switch complete with all fittings, accessories and associated auxiliary equipment mandatory which are required for efficient and trouble free operation as specified hereunder.

It is not the intent to specify completely herein all details of the design and construction of equipment's. However, the equipment shall conform in all respects to IEC standards of engineering, design and workmanship and shall be capable of performing in continuous commercial operation up to the Bidder's guarantee acceptable to the IEC. The equipment offered shall be complete with all components necessary for its effective and trouble free operation along with associated equipment, interlocks, protection schemes etc., Such components shall be deemed to be within the scope of supply, irrespective of whether those are specially brought out in this specification and/or commercially ordered or not. All similar parts particularly movable ones shall be interchangeable.

### AUXILIARY POWER SUPPLY:

The equipment offered under this specification shall be suitable for the following auxiliary power supplies.

| | | |
|---|---|---|
| a) | Power Devices (like drive motors) | 110V DC supply. |
| b) | AC control and protective devices, lighting fixtures, space heaters. | 240V AC supply at 50Hz. |
| c) | DC alarm, control and protective devices | 110 VDC 2-wire |

**PRINCIPAL PARAMETERS:**

The equipment covered in this specification shall meet the technical requirements listed below:

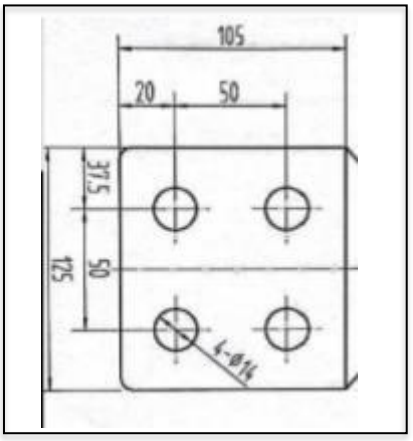
| **Technical Parameters** | |
|---|---|
| System Voltage | 33kV |
| System Highest Voltage | 36kV |
| Rated Frequency (Hz) | 50Hz |
| System Neutral Earthing | Solidly Earthed |
| No. of Phases (Poles) | 3 |
| Temperature Rise | As per relevant IEC Standard |
| Safe Duration of overload | 150% of rated current - 5 minutes |
| | 120% of rated current – 30 minutes |
| Type of Disconnect | DB |
| Rated normal current (Amp rms) | 1600A |
| Rated short time withstand current (kA rms) of MS & EB for 1 sec duration | 37.5kA |
| Rated dynamic withstand current (kA) | 80kA |
| Rated short circuit making current of EB (kA peak) | 100kA |
| Basic insulation level:<br>1.2/50 micro-sec lightning impulse withstand voltage(+ ve or - ve polarity) | 170 |
| Across isolating distance One terminal subjected to lightning impulse (kVp) and opposite terminal subjected to power frequency (kV rms) voltage (as per IS) Rated 1 minute power frequency withstand voltage ( kV rms ) | 195 |
| Across isolating distance | 100 |
| To earth and between poles | 70 |
| Min. creepage distance of support and rotating insulator (mm) | 900 |
| Phase to Phase spacing for installation<br>(mm) | 1220 |
| Minimum clearances: | |
| Phase to earth | 320 |
| Phase to Phase | 350 |
| Height of centre line of terminal pad above ground level (mm) | 2800 |
| Rating of auxiliary contacts | 10 A at 110V DC with breaking capacity of 2 A DC with time constant not less than 20 ms. |
| Seismic acceleration horizontal | 0.3g |
| Operating time | 12 second or less |
| Rated mechanical terminal load<br>Rated magnetizing/ capacitive current make/break (Amps/rms)<br>RIV at 1 MHz & 1.1 X rated phase to earth voltage (micro volts) | as per relevant standards |

**GENERAL TECHNICAL REQUIREMENTS:**

The 36 kV shall be double break disconnectors. Complete disconnectors with all the necessary items for successful operation shall be supplied including but not limited to the following:

- Disconnectors assembled with Disconnector blades (main and earth), complete base frame,linkages, operating mechanism complete etc.
- The three poles of the 36 kV Disconnector covered by this specification will be gang operated with one central cabinet for the required electrical devices mounted therein.
- Material of Earthing blades and contacts shall be same as those of main blades and contacts.Cross sectional area of Earthing blades and contacts shall not be less than 50% of cross sectional area of main blades and contacts. The Earthing blades shall have the same short time current rating (thermal and dynamic) as that of main blades.
- The current density in the current carrying parts of the Disconnector shall in no case exceeds the following values:
  For Copper : 2A/sq.mm
  For Aluminum: 1A/sq.mm
- Support insulators for all types of Disconnector shall be of solid core type except for 33 kV Disconnectors where in post insulators shall be used.
- The insulator shall be made of homogeneous and vitreous porcelain of high mechanical and di-electric strength. Profile of the insulator shall also conform to IEC-815. Insulator shall have a minimum cantilever strength of 6 KN.
- The casting shall be free from blow holes, cracks and such other defects.
- All the ferrous metal parts shall be hot dip galvanized smoothly as per IEC (as amended upto date), The coating on the metal parts shall withstand minimum four one minute dips in copper sulphate solution as per IEC-168.
- The mounting on the Disconnector where the palms will be connected shall be like what is shown in figure 2

Figure 2: Disconnector mounting



**OPERATING MECHANISM:**

Each 36 kV disconnectors and earth switch shall be remote controlled motorized from the control room. Provision shall be made for local motor control also. Operating mechanism shall also be equipped with local manual operating device intended for emergency operation when motor operating mechanism becomes inoperative. Additional electromagnetic type interlock shall be provided so as to prevent the operation of Disconnector manually or electrically when the corresponding circuit breaker is ON.

Manual operating mechanism through crank and reduction gear shall be provided for the earth switch which too will be gang operated. The operation of earth switch which too will be gang operated.

The operating mechanism shall provide quick, simple and effective operation. The motor operated type operating mechanism shall be suitable for remote operation of all three poles simultaneously as well as local manual operation through crank and reduction gear. The design of manual operation shall be such that one man shall be able to operate the Disconnector without undue effort with about 20 (twenty) revolutions of the crank. The operating mechanism shall be suitable to hold the dis-connector in CLOSE OR OPEN position and prevent operation by gravity, wind, short circuit forces, seismic forces, vibration, shock, accidental touching etc.,

Limit switches for control shall be fitted on the Disconnector shaft within the cabinet to sense the open and close positions of the Disconnector and earth switches.

It shall not be possible, after final adjustment has been made, for any part of the mechanism to be displaced at any point in the travel sufficient enough to cause improper functioning of the Disconnector when the Disconnector is opened or closed at any speed. All holes in cranks, linkage etc., having moving pins, shall be drilled to fit accurately so as to maintain the minimum amount of slack and lost-motion in the entire mechanism.

A **"local/remote" selector switch** and a set of **open/close push buttons** shall be provided on the control cabinet of the Disconnector to permit its operation through local or remote push buttons.

Each motor operated mechanism shall be subjected to blocked rotor test.

**CONTROL CABINET:**

The control cabinet of the operating mechanism shall be made out of 12 SWG (2.642 mm thick aluminum plate or casting. Hinged door shall be provided with pad locking arrangement. Sloping rain hood shall be provided to cover all sides. 15 mm thick neoprene or better type of gaskets shall be provided to ensure degree of protection of at least IP:65. The cabinet shall be suitable for mounting on support structure with adjustment for vertical alignment. Details of these arrangements shall be furnished along with the tender.

Note: The mounting of the control cabinet shall be supplied which can be either mounted on the concrete pad or the disconnector support structure.

**MOTOR:**

The motor shall be suitable for 110V DC Supply with variations as specified in this specification. It shall be totally enclosed type if mounted outside the control cabinet. The motor shall withstand without damage stalled torque for at least three times the duration of tripping device.

**GEAR:**

The Disconnector may be required to operate occasionally, with considerably long idle intervals. Special care shall be taken for selection of material for gear and lubrication of gears to meet this requirement. The gears shall be made out of aluminum bronze or any other better material and lubricated for life with graphite or better quality non draining and non hardening type grease. Wherever necessary automatic relieving mechanism shall be provided. Complete details of components, material, grade, self lubricating arrangement, grade of lubricants, details of jig, fixtures and devices used for quality

check, shall be furnished by the Bidder in his offer.

**LIMIT SWITCH:**

Limit switches shall be of reputed make. Auxiliary switch shall not be used as limit switch. Details of make, rating and type of limit switch shall be furnished in the offer.

**OVERLOAD AND SINGLE PHASING PREVENTER:**

Suitable relay/device shall be provided to prevent overloading of the motor. Single phase preventer shall be provided to operate on open circuiting of any phase and shall trip off the motor. Complete details of the devices shall be furnished in the offer.

**CONTACTOR:**

The contractor shall be suitable for making and breaking stalled motor current. The contractor coil shall be suitable for 110 V D.C. Two numbers of contractors shall be provided for each motor for OPEN and CLOSE operation respectively. Make, type, rating and details of the contractor shall be furnished in the offer.

**AUXILIARY SWITCH:**

Each operating mechanism box shall be equipped with ten numbers of NC and ten numbers of NO auxiliary switches

**TERMINAL BLOCK AND WIRING:**

Each operating mechanism shall be provided with 110 V grade stud type terminal block having washers, nuts & check nuts. All auxiliary switches, interlocks and other terminals shall be wired up to terminal block. The terminal block shall have at least 20% extra terminals. All wiring shall be carried out with 110 V grade insulated 2.5 $mm^2$ copper wires.

**NAME PLATES:**

Disconnectors and Earthing switches and their operating devices shall be provided with a name plate. The name plate shall be weather proof and corrosion proof. It shall be mounted in such a position that it shall be visible in the position of normal service and installation. It shall carry the following information duly engraved or punched on it.

**Disconnectors Base:**

| | |
|---|---|
| Name of Manufacturer | : |
| Manufacturer's serial number | : |
| Rated voltage | : |
| Rated normal current | : |
| Rated short time current (rms) | : |
| And duration | : |
| Rated short time peak current (kAp) | : |
| Weight | : |

**Earthing Switch:**

| | |
|---|---|
| Name of Manufacturer | : |
| Type Designation | : |
| Manufacturer's serial number | : |
| Rated voltage | : |
| Rated short time current (rms) | : |
| And duration | : |
| Rated short time peak current (kAp) | : |

**PADLOCKING DEVICE:**

All Disconnectors and Earthing switches shall be provided with 12mm holed padlocking device to permit locking of the Disconnector and Earthing switch in both fully open and fully closed positions. Power driven Disconnector and Earthing switch shall be arranged to be interlocked

electrically also.

**EARTHING:**

Flexible braided copper connections shall be provided between rotating earth blades and the frame which shall have a cross-section of at least 150 $mm^2$ and shall be tinned or suitably treated against corrosion.

The frame of each disconnector and Earthing switch shall be provided with two reliable Earthing terminals for connection to the Earthing conductor/flat and also clamping screws suitable for carrying specified short time current. Flexible ground connections shall be provided for connecting operating handle to the Earthing flat. The diameter of clamping screw shall be at least 12 mm. The connecting point shall be marked with earth symbol.

**TYPE TESTS:**

The equipment offered should be type tested. Test reports should not more than seven years old reckoned from date of bid opening in respect of all the tests carried out in accredited laboratories (based on ISO/IEC) by a reputed accredited.

- Insulation level test
- Temperature rise test
- Rated peak withstand current and rated short time withstand current test
- Short circuit making capacity test of earthing switch.
- Operation and mechanical endurance test.

**ROUTINE TESTS:**

- As per quality assurance program (QAP).
- Power Frequency withstand voltage dry test of maincircuit.
- Voltage test on control auxiliary circuits.
- Measurement of resistance of maincircuit.
- Mechanical operating test.

**LIST OF DRAWINGS AND DOCUMENTS:**

The Bidder shall furnish two sets of following drawings along with his offer:

**a)** General outline and assembly drawings of the dis-connector operating mechanism, structure, insulator and terminal connector.

**b)** Sectional views and descriptive details of items such as moving blades, contacts, armscontact pressure, contact support bearing housing of bearings, balancing of heights, phase coupling pipes, base plate, operating shaft, guides.

**c)** Name plate.

**d)** Schematic drawing along with detailed write-up.

**e)** Wiring diagram.

**f)** Marked erection prints identifying the component parts of the Disconnector as shippedwith assembly drawings.

**g)** Detailed dimensions and description of all auxiliaries.

**h)** Detailed views of the insulator stacks, metallic, operating mechanism, structure, interlocks, spare parts etc.,

| No | Description | Bidder's response |
|---|---|---|
| 1. | Type/Installation | |
| 2. | Manufacturer's Name & Country of Manufacture | |
| 3. | Standards according to which the Disconnector are Manufactured | |
| 4. | Maximum design voltage at which the Disconnector can operate (kV) | |
| 5. | Frequency (Hz) | |
| 6. | Rated Voltage (kV ) | |
| 7. | Maximum current that can be safely interrupted by the Disconnector | |
| | i. Inductive (A X % of PF) | |
| | ii. Capacitive (A X % of PF) | |
| 8. | Continuous current rating nominal apps | |
| 9. | Under the following conditions | |
| | Rate short time current (kvp) | |
| | i. For 3 seconds (kA rms) | |
| | ii. For 1 seconds (KA rms) | |
| | iii. Rate peak short time current (kvp) | |
| 10. | Max. Temp. Rise of current carrying parts when carrying rated current continuously (deg.C) | |
| 11. | Insulation levels | |
| | i. Impulse withstand voltage (kV Peak) Phase to earth | |

| | | |
|---|---|---|
| | ii. Power frequency withstand voltage (kV rms) Phase to earth | |
| 12. | Minimum creepage distance of support & rotating insulators | |
| 13. | Minimum clearance in air | |
| | i. Between Poles (mm) | |
| | ii. Between live parts and earth (mm) | |
| | iii. Between live parts when switch is | |
| | open a) On the same pole (mm) | |
| | b) Between adjacent poles (mm) | |
| 14. | Current density at the minimum cross-section of | |
| | i) Moving blade (Amps/Sq.mm) | |
| | ii) Terminal Pad | |
| | iii) Contacts | |
| | iv) Terminal connector | |
| 15. | Design and construction of | |
| | i. No. of Insulators as per pole | |
| | ii. No. of Breakers per pole | |
| | iii. Type of closing/operating mechanism (Horizontal/Vertical break straight etc.) | |
| | iv. Contacts | |
| | a) Material and Grade | |
| | b) Cross sectional area in Sq.mm | |
| | v. Moving Blades | |
| | a) Material and Grade | |
| | b) Cross sectional area in Sq.mm | |
| | vi. Contact support | |
| | a) Material and size of Channel/Block | |
| | b) Material and size of plate | |
| | vii. Turn and Twist mechanism | |
| | a) Material and size of clamps | |
| | b) Material and size of springs | |
| | c) Whether springs are encased | |
| | viii. Bearings | |
| | a) Material and size of housing | |
| | b) No. of bearings, location and size | |
| | ix. Type of interlock | |
| | x. Down pipe size and class | |
| | xi. Type of universal/swivel joint | |
| | a) Between bearing and down pipe | |
| | b) Between down pipe and operating mechanism | |
| | xiii. Terminal connectors | |
| | a) Clamp body Alloy compositions Area at min. cross -section | |
| | b) Temperature ruse when carrying rated current at $50^0$C ambient (deg.C) | |
| | c) Type of washers used | |
| | d) Bolts and nuts size Alloy composition | |
| | e) Weight of each type of clamps (kg.) | |
| | xiv. Origin and Manufacturer of the insulators | |

# Section4
## WORK PROGRAM

# 1 Work Plan

The Contractor is required to state the commencement and completion dates for different components of the project schedule given below. The Contractor is required to also submit a Gantt chart showing the timelines.

| Milestone | Timeline |
|---|---|
| 1. Receipt of Official Purchase Order | |
| 2. Submit marked up Design Drawings | |
| 3. Procurement of Materials | |
| 4. Build of Equipment | |
| 5. Factory Testing | |
| 6. Packaging | |
| 7. Shipping | |
| **8.** Delivery | |

# Section5
## PRICING

# PRICE AND PAYMENT SCHEDULE

The prices below are to be inclusive of shipping, CFR to Suva Port.

Currency of Tendered Price: _____

| No. | Quantity | Description | Manufacturer | Unit Rate | Total |
|---|---|---|---|---|---|
| 1 | 1 | Motorized 33kVDisconnector c/w with control box and insulators | | | |
| 2 | 1 | Motorized 33kVDisconnector with Earth Switch c/w with control box and insulators | | | |
| 3 | 2 Sets | Disconnector Support Structure with supplier design at 100m/s cyclone rated(min height = 2.4m) square tubing 200mm x 200mm x 8mm Base plate 500mm x 500mm x 20mm. All Structures for mounting Disconnector "C" Channel 150mm x 75mm x 8mm. Support Structures shall be from Australian Design & Manufacturing Company. | | | |
| 4 | 1 Lot | Mandatory Spares (Complete Mandatory Manufacturer's Spares List to be provided to EFL)<br><br>Apart from the manufacturer's spares list, EFL will require the following to be part of the list where applicable to your disconnector:<br>1 x motor for Disconnector<br>1 x motor for Earth switch<br>6 x Insulators<br>2 x complete auxiliary switch with contacts<br>2 x blocking solenoid for earth switch manual operating handly<br>2 x blocking solenoid for disconnector manual operating handle<br>2 x heater with thermostat | | | |
| 5 | 1 Lot | Factory Acceptance Testing at Manufacturers Location (Remote) | | | |
| 6 | 12 piece | DIN 50mm X 50mm Triton Palms as shown in figure1 | | | |

## 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: _____**(For 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 Wednesday 4th March, 2026.**

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

**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.**