



ENERGY FIJI LIMITED

BIDDING DOCUMENT

**DESIGN AND SUPPLY OF 33KV
OUTDOOR BUSBARS COMPLETE WITH
POST MOUNT INSULATORS AND PALM
LUGS**

TENDER NO: MR 251/2018

INVITATION FOR BIDS

Date: 30TH June, 2018
Tender No: MR 251/2018

The ENERGY FIJI LIMITED (“The Employer”) invites sealed bids from reputable and suitable Bidders for the Design and Supply of 33kV Outdoor busbars complete with post insulators and palm lugs for its Sawani, Wailekutu and Deuba Substations.

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 and Supply of Outdoor 33kV bus bars complete with post insulators and palm lugs

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, 25th July, 2018.**

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

Section 1 - Instructions to Bidders

1. Scope of Bid The ENERGY FIJI LIMITED (hereinafter referred to as "the Employer"), wishes to receive bids for the Design and Supply of 33kV Outdoor bus bars complete with post insulators and palm lugs for its Sawani, Wailekutu and Deuba Substations as defined in these bidding documents (hereinafter referred to as "the Works").

The successful bidder will be expected to supply the items within 4 months from the date of commencement of the Works.

2. Eligible Bidders This Invitation to Bid is open to bidders who have sound financial background and have previous experience in handling such civil projects.

Bidders shall provide such evidence of their continued eligibility satisfactory to the Employer as the Employer shall reasonably request.

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

2. Eligible Materials, Equipment and Services The materials, equipment, and services to be supplied under the Contract shall have their origin from reputable companies from various countries and all expenditures made under the Contract will be limited to such materials, equipment, and services. At the Employer's request, bidders may be required to provide evidence of the origin of materials, equipment, and services.

3. Qualification of the Bidder To be qualified for award of Contract, bidders shall submit proposals regarding work methods, scheduling and resourcing which shall be, provided in sufficient detail to confirm the bidder's capability to complete the works in accordance with the specifications and the time for completion.

4. 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.

6. Sealing and Marking of Bids The bidder shall seal the original copy of the technical proposal, the original copy of the price proposal and each copy of the technical proposal and each copy of the price proposal in separate envelopes clearly marking each one as: "ORIGINAL-PROPOSAL", and "COPY PROPOSAL", etc. as appropriate.

The bidder shall seal the original bids and each copy of the bids in an inner and an outer envelope, duly marking the envelopes as "ORIGINAL" and "COPY".

The inner and outer envelopes shall be addressed to the Employer at the following address: Tuvitu Delairewa

General Manager Commercial
Energy Fiji Limited,
2 Marlow Street, Suva, FIJI.
Phone: 679 3224 185
Facsimile: 679 331 1882
Email: TuvituD@efl.com.fj
And

bear the following identification:

- Bid for: Design and Supply of 33kV Outdoor bus bars complete with post insulators and palm lugs
- Bid Tender Number: MR 251/2018
- DO NOT OPEN BEFORE Wednesday, 26th July, 2018

7. 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, 25th July, 2018.

The Employer may, at its discretion, extend the deadline for submission of bids by issuing an addendum, 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.

8. Late Bids

Any bid received by the Employer after the deadline for submission of bids prescribed in Clause 23 will be rejected and returned unopened to the bidder.

9. 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 the Employer prior to the deadline for submission of bids.

The bidder's modification or withdrawal notice shall be prepared, sealed, marked and delivered in accordance with the provisions of Clause 22, with the outer and inner envelopes additionally marked "MODIFICATION" or "WITHDRAWAL", as appropriate. A withdrawal notice may also be sent by fax but must be followed by a signed confirmation copy.

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

10. Employer's Right to Accept any Bid and to Reject any or all Bids

Notwithstanding Clause 34, the Employer 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 Employer's action.

11. Notification of Award

Prior to expiration of the period of bid validity prescribed by the Employer, the Employer will notify the successful bidder by fax, confirmed by registered

letter, that its bid has been accepted. This letter (hereinafter and in the Conditions of Contract called the "Letter of Acceptance") shall name the sum which the

Employer will pay the Contractor in consideration of the execution, completion and maintenance of the Works by the Contractor as prescribed by the Contract (hereinafter and in the Conditions of Contract called "the Contract Price").

The notification of award will constitute the formation of the Contract. Upon the furnishing by the successful bidder of a performance security, the Employer will promptly notify the other bidders that their bids have been unsuccessful

**12. Signing of
Contract
Agreement**

At the same time that he notifies the successful bidder that its bid has been accepted, the Employer will send the bidder the Form of Contract Agreement provided in the bidding documents, incorporating all agreements between the parties.

Within 7 days of receipt of the Form of Agreement, the successful bidder shall sign the Form and return it to the Employer.

**13. Corruptor
Fraudulent
Practices**

The Employer requires that the Contractor observe the highest standard of ethics during the procurement and execution of such contracts. In Pursuance of this policy, the Employer:

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
 - (i) "corrupt practice" means behavior on the part of officials in the public or private sectors by which they improperly and unlawfully enrich themselves and/or those close to them, or induce others to do so, by misusing the position in which they are placed, and it includes the offering, giving, receiving or soliciting of anything of value to influence the action of any such official in the procurement process or in contract execution; and
 - (ii) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Employer, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Employer of the benefits of free and open competition;
- (b) will reject a proposal for award if it determines that the bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;

Furthermore, bidders shall be aware of the provision stated in Sub-Clause 1.16 and Sub-Clause 15.5 of the Conditions of Contract, Part II - Conditions of Particular Application.

Section 2

Employer's Requirements
Scope of Works

SCOPE OF WORKS

1. GENERAL DESCRIPTION

The scope of works for contract is for design, manufacture, testing at manufacturer's work, packing, shipping (CIF to Suva Port) of 33kV bus bars complete with post insulators and palm lugs.

Design and supply of 33kV outdoor busbars , post insulators and palm lugs.

No.	Quantity	Description
1	15	33kV Aluminum Tubular round Busbar (3,000A rated 40kA) - Diameter 100mm & Thick 10mm With all lugs, fittings for mounting on post insulators, and end caps. 15 x 6 meter single piece lengths, no joints. Bidder to provide specification and drawings. Each busbar to have 3 x 125mm x 125mm, hole center 50mm x 50mm (4 holes) busbar palm inline welded to it. Each end of the bus bar to have busbar end palm (L – Type) welded with hole center 50mm x 50mm (4 holes). Each bus bar shall have 2 sets of bays.
2	3	33kV Aluminum Tubular round Busbar (3,000A rated 40kA) - Diameter 100mm & Thick 10mm With all lugs, fittings for mounting on post insulators, and end caps. 3 x 9 meter single piece lengths, no joints. Bidder to provide specification and drawings. Each busbar to have 3 x 125mm x 125mm, hole center 50mm x 50mm (4 holes) busbar palm inline welded to it. Each end of the bus bar to have busbar end palm (L – Type) welded with hole center 50mm x 50mm (4 holes). Each bus bar shall have 3 sets of
3	48	36kV Bus-bar Solid Core porcelain Post insulators, bidder to provide specification
4	270	Palm lugs 125mm X 125mm, 240mm ² , hole center 50mmX50mm, 1600A, 31,5kA for Neon Conductor, bidder to provide specification and drawings.
5	15	Compression run palm tap (closed) 125mm X 125mm, 240mm ² , hole center 50mmX50mm, 1600A, 31,5kA for Neon Conductor, bidder to provide specification and drawings.
6	15	Compression run palm tap (open) 125mm X 125mm, 240mm ² , hole center 50mmX50mm, 1600A, 31,5kA for Neon Conductor, bidder to provide specification and drawings.
7	As per above supply	Nut, bolts and fitting to connect bus bar to post insulator, stainless steel nut and bolts for palms. Structural nuts and bolts to be from Relay Australia (Structural 8.8 grade). All stainless steel nuts and bolts for palm to palm connections to be corona free.
8	32 sets	Bus bar steel structure minimum height 3.5 m Steel tubing 200mm X 200mm thickness 10mm complete with cross bar channel thickness 75mm X 50mm 8mm Base plates with thickness 350mm x 350mm x 20mm Associated channel 8mm thick to mount the post insulators for bus bar cradles. The bus bar cradle insulators needs to be directly bolted to the bus bar top plates
9	1,200	Stainless steel corona free bolts and nuts, M12mm X 65mm complete with 6mm X 2 washers and nut of 10mm thickness

Note: All material provided should be designed at 100m/s cyclone rated. All nuts, bolts, fittings to be suitable for outdoor use and be rust free for the duration of its usable life. Details of these the fittings to be provided with bid. All structural nuts and bolts shall be HD galvanised 8.8, whereas all primary HV connections shall be with 316 stainless bolts and nuts, corona free.

The Contractor is to manufacture the items mentioned above as per the design drawings and specifications provided by EFL, and the Standards mentioned herein. All steel structures have to be certified with AS/NZ Engineering Institution and provide us with all necessary documentation.

2. System Particulars

	132kV	33kV	11kV
Normal Sysytem Volateg	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	4500MVA	1125MVA	250MVA
Standard kA rated	31.5kA	31.5kA	31.5kA

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.

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 an instance a copy of the relevant standard should be forwarded. The works shall be in accordance with the following standards:

Standard	Title
AS/NZS 62271.301	High Voltage switchgear and control gear – Part 301: Dimensional standardization of terminals.
AS1154.1	Insulator and conductor fittings for overhead power line. Performance, material, general requirements and dimensions
IEC 61238-1 2 nd edition	Compression and mechanical connectors for power cables with copper or aluminium conductors- Part 1: Test methods and requirements.
AS/NZS 1531	Conductors – bare overhead- Aluminium and Aluminium Alloy
AS 1866	Aluminium and Aluminium alloys- Extrude rod, bar, solid and hollow shapes
AS 1665	Welding of aluminium structures
AS/NZS 4680	Hot – dip galvanizing (zinc) coatings on fabricated ferrous articles
AS 4360	Risk Management
AS/NZS ISO 9001	Quality Management Systems - Requirements

5. Service Conditions

The bus bar and associated products will be exposed to the following environmental conditions:

Daily average ambient temperature	32°C
Max. Ambient Temperature	45°C
Annual average ambient temperature	30°C
Altitude	20m
Humidity	95%
Seismic Level – open ended Richter scale	7 on the open ended Richter Scale
Average rainfall per year	2663mm
Isokeraunic Level	50

6. Packing

Equipment shall be carefully packed for transport and shipment in such a manner that it is protected from all dust and climatic conditions during loading, transport, 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.

7. Warranty

The supplier shall provide warranty for equipment for a Period of Forty Eight [48] 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.

8. Time line for supply

The supplier must be able to supply the items within 5 months from date of issue purchase order.

9. Ratings

The bus bar, palm and drop out fuse assembled shall have the following ratings:

Rated Voltage	kV	36
Rated Frequency	Hz	50
Continuous Operating Current	A	3000
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

10. Testing

The Following test should accompany the tender of the respective items in the bid.

- 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

Form of Proposals and Appendices

SECTION 3

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 13, Documents Comprising the Bid. **Bidders whose Bids do not contact the data in the required format will be treated as non-responsive.**

1. CONTRACT PRICE

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. PAYMENTS 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	Advance Payment		Nil
2	Supply	Upon Delivery to Fiji supply of 33kV outdoor bus bar, palm lugs, post insulators and drop out fuse assembly	90%
3	Retention	12 Months after issuing of performance certificate	10%

3. SCHEDULE OF PRICES & CONDITIONS OF PAYMENT

3.1 CONTRACT PRICE

The prices below are to be inclusive of shipping, CIF to Suva Port. Currency of Tendered Price:

No.	Quantity	Description	Supplier	Unit Rate	Total(CIF to Fiji)
1	15	33kV Aluminum Tubular round Busbar (3,000A rated 40kA) - Diameter 100mm & Thick 10mm With all lugs, fittings for mounting on post insulators, and end caps. 15 x 6 meter single piece lengths, no joints. Bidder to provide specification and drawings. Each busbar to have 3 x 125mm x 125mm, hole center 50mm x 50mm (4 holes) busbar palm inline welded to it. Each end of the bus bar to have busbar end palm (L			
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8	32 sets	Bus bar steel structure minimum height 3.5 m Steel tubing 200mm X 200mm thickness 10mm complete with cross bar channel thickness 75mm X 50mm 8mm Base plates with thickness 350mm x 350mm x 20mm Associated channel 8mm thick to mount the post insulators for bus bar cradles. The bus bar cradle insulators needs to be directly bolted			
9	1,200	Stainless steel bolts and nuts, M12mm X 65mm complete with 6mm X 2 washers and nut of 10mm thickness			
10	2 sets	Die set for the conductor "Neon"			
Total					

Note: All prices to be in the currency of the supplies country. CIF price to provided.

Section 3

Drawings and Literature

1 OTHER DOCUMENTS & DRAWINGS TO BE SUBMITTED WITH BID

As a minimum and mandatory, the following documents & drawings shall be submitted with the Bid for Evaluation.

1. Specification and drawings of 33kV Aluminium Busbar 100mm, 3000A, 40kA
2. Specification and drawings of palm terminals for Neon conductor, terminals for the bus bar (details of welding as per proposed design)
3. Specification and Drawings of post insulators
4. Specification and drawings of bolts and nuts
5. Specification and drawings of compression die set
6. Installation instructions and guidelines
7. Evidence of Bidder's experience in works similar to this
8. List of ASNZ and IEC standards, Bus bar welding standards
9. Manuals and guidelines for the equipment's
10. Equipment specifications

COMPLIANCE CHECKLIST

Compliance – the following documents are to be provided with the tender bid:

No.	Compliance	Check(v)
1	Valid FRCS tax compliance certificate. (for local bidders)	
2	Valid FNPF certificate of Compliance. (for local bidders)	
3	Previous list of similar work experience.	
6	Business registration details.	

Bidders are to ensure that the above item are included as part of their bid. Failure to provide documentation for the above will disqualify the bid.

Name of Authorized Person	
Signature of the Bidder	
Company Stamp	
Date	

No.	Criteria for Evaluation	Weighting	Score Range		
			10 – 8	7 - 4	3 - 0
1	Comprehensiveness of proposed Electrical and Mechanical design	15	All the design details are addressed as that would be expected in an ideal proposal.	Relevant design details are addressed in terms of design as that compared to an ideal	Extent of consideration placed into design is significantly less than that expected in a reasonable proposal. Most of the items stated in specifications are
2	Aluminum Bus bar and insulators	15	Specification and Drawings submitted	Partial	No Submission
5	Palm Terminals	15	Specification and Drawings submitted	Partial	No Submission
9	Delivery period and timeline	5	Delivery period is within 20 weeks	Delivery period is within 20 - 24 weeks	Delivery period would exceed 24 weeks
	Total	50%			

Tender Submission - Instruction to bidders

It is mandatory for Bidders to upload a copy of their bid in the TENDER LINK Electronic Tender Box no later than **4:00pm, on Wednesday 25th July, 2018.**

To register your interest and tender a response, view 'Current Tenders' at: <https://www.tenderlink.com/efl>

For further information contact The Secretary Tender Committee, by e-mail TDelairewa@efl.com.fj

In additional, hard copies of the tender, one original and one copy must be deposited in the tender box located at the EFL Head Office, 2 Marlow Street, Suva, Fiji no later than **4:00pm, on Wednesday 25th July, 2018** - Addressed as

Tender – MR 251/2018 – Design and Supply of 33kV Outdoor busbars complete with post insulators and palm lugs

**The Secretary Tender Committee
ENERGY FIJI LIMITED
Head Office
Suva
Fiji**

- **Hard copies of the Tender bid will also be accepted after the closing date and time provided a soft copy is uploaded in the e-Tender Box and it is dispatched before the closing date and time.**
- Tenders received after 4:00pm on the closing date of Wednesday **25th July, 2018** will not be considered.
- Lowest bid will not necessarily be accepted as successful bid.
- **It is the responsibility of the bidder to pay courier chargers and all other cost associated with the delivery of the hard copy of the Tender submission.**