



INVITATION TO TENDER

Engineering Design to Carry Out
Lightening Protection and Earthing Study
for 33kV/11kV Wailekutu Zone Substation.

Invitation to Tender No: MR 169/2020



1 Background

Energy Fiji Limited (EFL, formerly Fiji Electricity Authority) is a limited liability company with majority Government of Fiji shareholding. It is supervised by a Board of Directors comprising a Chairman, Deputy Chairman, the Chief Executive Officer of EFL, and representatives of Government of Fiji, Business and Consumer Groups. The Management team of the EFL consists of Chief Executive Officer, Chief Finance Officer, General Manager Human Resources, General Manager Generation, General Manager Network, General Manager Customer Services, Chief Information Officer, General Manager Major Projects & Strategy and General Manager System Planning & Control.

EFL maintains power supply systems on the larger islands Viti Levu, Vanua Levu, Ovalau and Taveuni, which account for some 90% of the country's population.

2 EFL System Arrangement

Viti Levu Interconnected System

The Viti Levu Interconnected System (VLIS) is by far the largest system of the four power systems operated by EFL. The VLIS consists of four hydro power stations and eight thermal power stations, which are linked via 132 kV or 33 kV transmission systems, or 11kV interconnectors.

The Wailoa, Nadarivatu and Wainikasou hydro power stations are located in the centre of the island. 132 kV steel tower transmission lines connect Wailoa and Nadarivatu power stations to the 132 kV backbone transmission network, which spans from Cunningham to Vuda, with switching stations in Wailoa and Nadarivatu.

The Wainikasou hydro power station is connected to the Wailoa switching station via a 33 kV transmission line and a 132/33 kV step-up transformer at Wailoa. The Nagado Power station is connected to the 33 kV sub-transmission network in the Western region of VLIS.

132/33 kV substations are situated at Vuda in Western Region and at Cunningham in Central Region. These are connected to strategically located 33/11 kV zone substations via 33 kV sub-transmission lines or underground cables.

3 Objective of the Assignment

Energy Fiji Energy (EFL) intends to develop its high-voltage transmission network by installing two new 33/11kV transformers at Wailekutu Zone Substation.

The objective of this assignment will be to:

- Carry out lightning protection study for the location of two new transformers and the pads.
- Carry out earthing study of the Wailekutu Zone substation for the location which would include two new transformers.
- Design of lightning mast for the two new transformers if the mast is required.

The site is located along the Queens Road in Lami beside CJ Patel Yard. The site outlay is attached as **Appendix 1**.

4 Scope of Work

LIGHTENING PROTECTION – Lightning protection to be designed as per IEC/BS EN 62305-4 standard for the design, installation and maintenance of surge protection measures (SPM), for the two 33kV/11kV power transformers, able to reduce the risk of permanent failures due to lightning electromagnetic impulse (LEMP).

EARTHING SYSTEMS

The earthing of all equipment and the provision of earthing systems, electrodes and connections shall be in accordance with the recommendations in the “Guide for safety in Substation Grounding” IEEE No. 80 and the requirements of this Chapter.

DESIGN OF EARTHING SYSTEMS

1. The grounding system shall be designed according to the guideline given in ANSI/IEEE Standard 80.
2. The site shall be provided with earth grid of buried conductors designed for an earth fault current specified 31.5kA for duration of 3 second, keeping the step and touch voltages within the limits as recommended in the guide ANSI/IEEE std. 80.
3. The design of earth grid over the area occupied by the new transformer yard and associated apparatus shall be based on a maximum grid spacing of 17m x 15m.
4. The Contractor shall carry out Site tests of the ground resistivity not later than one week after the award of the Contract and his final design of the earthing system shall be submitted for approval.
5. Earthing points shall be provided by the Contractor such that the combined resistance of the earth grid and earthing points does not exceed 1 ohm, however combined resistance shall be considered for acceptance provided that the conditions recommended above are satisfied. It is the Contractor’s responsibility to provide design calculations.
6. Contractor shall clearly specify the type and size of earthing conductor that would be required to construct the earth grid.
7. The contractor shall ensure the design is primarily for the location where the new transformers will be installed as this location does not consist of any earth grid. This new earth grid will be then connected to the existing earth grid of the substation.

5 Deliverables

Upon the issue of LPO, the Consultant shall submit to EFL a detailed work program outlining time inputs, field visits and the methodology, in MS Project format within one week.

The Consultant will provide a comprehensive lightning protection study and earthing grid study Report, which includes findings and recommendations to the EFL Project Team the executive management group within two weeks.

6 Documentation Requirements

The Consultant shall ensure that all documents produced for the Project are checked for accuracy, completeness and compliance with the Fiji National Building Code, applicable Australian and New Zealand Standards, regulations, by-laws, engineering and drafting standards.



A suitably qualified and experienced person of the relevant discipline shall sign all Detail Design drawings as complete and correct. Appropriate system design certificates shall be provided to support certification to the study carried out. The requirement for certification of installations and provision of as-built drawings by the Contractor shall be included as appropriate in the Detail Design documents.

The Consultant shall ensure that a co-ordination check of completed documents both for the preliminary and detailed lightening protection and earthing study reports has been undertaken prior to issuing final documents. This check shall be programmed into the Consultant's documentation schedule and shall not be grounds for delaying works.

Program

The anticipated program for the review is shown below.

Tender Advertise Date	25/07/2020
Site Visit	28/07/2020
Tender Close	05/08/2020
Evaluation Completed & Submitted	21/08/2020
Engagement of Consultant	21/09/2020
Commencement of Study / Access to Site	30/09/2020
Submission of Draft Report to EFL	04/10/2020
Submission of Final Report	08/10/2020

The above program may vary.

7 Supervision and Reporting

The successful Consultant will report to the Substation Engineer Projects on the way forward.

8 Expertise & Qualification

The Consultant shall:

- Specialise in engineering design of lightening protection and earthing design, or an electrical engineer or of a related field with at least five (5) years' experience.
- Demonstrates integrity and commitment to EFLs values
- Have strong interpersonal and communication skills
- Past experience in carrying out a lightening protection design and earth grid design for a similar project would be an advantage.

9 Fee Proposal

A detailed financial proposal is required. EFL prefers a lump sum contract, including disbursements.

Unit rates for staff and consumables is to be submitted.

The Contract price proposal shall be comprehensive in that, in consideration of the Bidder meeting all obligations, conditions and liabilities under the Contract.

10 Payment Schedule & Terms

The payment schedule will be negotiated with the successful bidder. Bidders must note that advance payment shall require an equivalent sum of bank guarantee with a financial institution approved by EFL.

11 Submission of Proposals/Tenders

Summary of Requirements

Tenderers shall provide the following information as their response to this request for tender. Information shall be contained in a single bound document, Two hard copies of this document shall be provided to the location described stated below, together with one electronic copy on CD or USB memory stick. Electronic submissions will be accepted if a hard copy is received prior to the closing date. The electronic copy can be loaded on Tender link, EFL's electronic tender hosting website, before closing time. The hard copy is to be sent by courier and air way bill number provided. The Bidder is to provide one original hard copy, one copy and one electronic copy on CD or USB memory stick.

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-TECHNICAL & PRICE PROPOSAL", "COPY NO. 1 - TECHNICAL & PRICE PROPOSAL" etc. as appropriate.

The inner and outer envelopes shall

(a) be addressed to:

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

and

(b) bear the following identification:

Bid for engineering design of lightening protection and earthing design for 33/11kV Wailekutu Zone Substation.
Tender Number: **MR 169/2020**

The inner envelope shall indicate the name and address of the Bidder to enable the bid to be returned unopened in case it is declared "late". If the outer envelope is not sealed and marked as above, EFL will assume no responsibility for the misplacement or premature opening of the bid.

Facsimile submissions will not be accepted.

Submission Requirements

The proposal for carrying out lightening protection and earthing design shall include:

1. A covering letter including the complete name and address of the principal firm including the name and title of person principally responsible for the assignment
2. A detailed methodology including a programme for the works/services. Comments on the TOR can be included to add value to the submission.
3. Lump sum fee for the entire works/services with breakdown for each component
4. Unit rates for all staff proposed to be engaged on the project



5. Bidders are to familiarise themselves with Local Fijian Taxation requirements and clearly identify relevant local taxes that are included in their fees
6. Bidders are to state clearly the currency(s) that is being used in their submission bids
7. Company background and evidence of similar works undertaken by the firm over the last five years including project name, summary of work carried out, contact name and address of clients
8. Background of proposed sub-consultants if any, and their relevant scope of work
9. CV's of personnel that will be engaged in the work including sub-consultants
10. Copies of insurance certificates including any Professional Indemnity Insurance cover are to be submitted
11. Information requirements from EFL, which is to be provided at the commencement of study

Submissions shall be made in English language only.

Closing Date

Submissions close at **4.00pm (Fiji) Time on Wednesday 5th August, 2020** at EFL's Head Office in Suva. Late submissions will not be accepted.

Costs

All costs of preparing the submission shall be borne by the Bidder.

Pre-bid Visit

A pre-bid visit will be undertaken on Tuesday 28th July, 2020. Bidders will be required to meet at the proposed 33/11kV substation site in Wailekutu, Lami at 10.00am.

All costs associated with attending the site visits shall be borne by the Bidder.

12 Evaluation Criteria.

Tenders are to be assessed on the basis of best value for money consistent with the procurement policies and guidelines applicable to this Tender. In Particular, Tenders will be assessed against the following evaluation criteria (in no particular order):

I.	Task Appreciation and Design Methodology	40%
II.	Suitable Experience in similar projects	15%
III.	Key Personnel	15%
IV.	Consulting Fee	30%

Given the importance and complexity of the project, Client shall not be bound to accept the lowest fee, or any proposal. Proponents are required to follow the guidelines for preparation of proposals as listed in section 12.2.

13 Notification and Award

Following EFL board approval, Bidders will be advised, by letter, whether they have been successful or not. Bidders will be able to debrief with the evaluation team should they so request, however the scoring information will not be released to any of the Bidders at any time.

Notwithstanding any other provision of this document, EFL reserves the right to:

- Accept or reject any proposal
- Seek clarification of any aspect or information provided in this document and to seek further information from any party
- Amend the closing date for submission of Tender or any other date referred to or implied in this document
- In whole or in part, suspend or cancel this Invitation for Tender
- Re-advertise this invitation for Tender

14 Confidentiality of Information

The Consultant shall retain ownership of any Intellectual Property already owned by the Consultant or arising from the Services performed under this TOR, but the Consultant grants to the Client a perpetual royalty-free license to use any Intellectual Property which the Consultant owns which is incorporated in the Services or any reports or products provided to the Client as part of the Services. "Intellectual property" means all intellectual property rights including copyright, designs, specifications and know-how. The Client acknowledges that the Consultant has no liability for use of this Intellectual Property for purposes or projects other than the Project defined in this Agreement."

"All information given by the Client to the Consultant shall remain the property of the Client and be treated as confidential and not disclosed to any third party without the prior written consent of the Client."

15 Addenda to Tender

Where EFL finds it necessary to make amendments to or clarify the requirements of the tender documents during the period of tendering, it shall publish these through its tender publishing website.



Each Bidder in the Appendix to Tender shall state the reference number and description of each of the aforesaid Addenda which has been considered during the preparation of the Tender. Time extension for tender submission, due to such changes, will be advised by EFL.

16 Contract Conditions

The contract will be based on FIDIC General Terms and Conditions of FIDIC Client/Consultants Model Services Agreement – 5th Edition 2017 [White Book] – FIDIC [White Book].

17 Insurance

Certificates of insurance including any Professional Indemnity Insurance cover are to be submitted.

18 Inputs/Facilities Provided

All facilities and resources required for the lightning protection and earthing design shall be provided by the successful Bidder.

19 VALIDITY

The Tendered Price is to remain valid for a period of 160 days after the closing date of the tender.

20 PRICE SCHEDULE

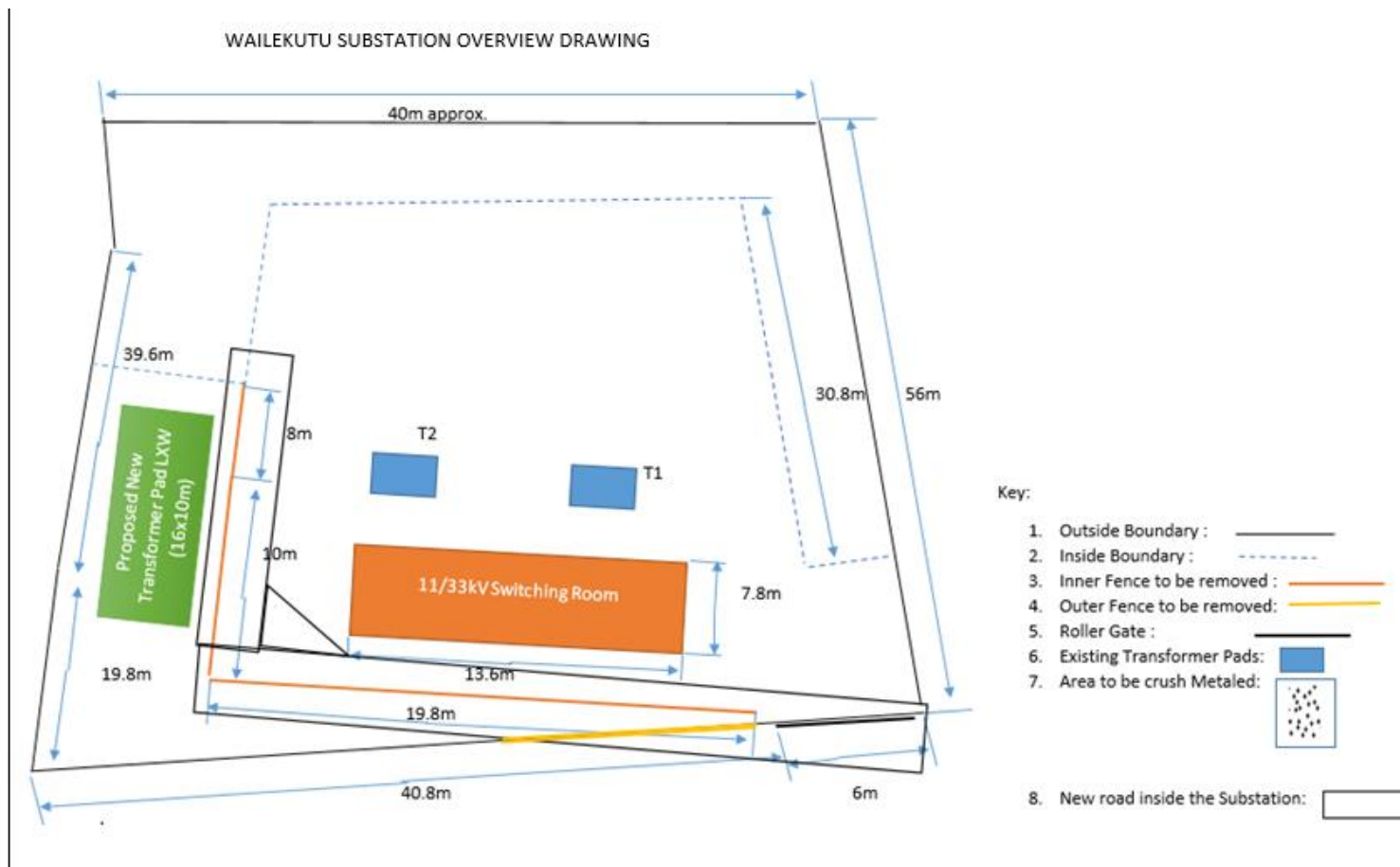
No.	Activity	Price (VIP)
1	Mobilisation and Demobilisation	
2	Lightening Protection Study	
3	Lightening mast Design	
4	Earthing Study	
5	Submit draft report for approval	
6	Final Report	
TOTAL		

21 Enquiries

All enquiries shall be directed to:

Abdul Nasim
Unit Leader Strategic Procurement and Inventories
2 Marlow Street, Suva
Phone: + 679 331 1133
Facsimile:+ 679 331 1882
Email: abduln@efl.com.fj

22 Appendix 1: Site Layout of 33/11kV Substation site in Wailekutu, Lami.





Appendix 2: Condition of Payments

Payments Terms

All payments shall be due and payable by EFL in accordance with the payments terms detailed below.

The payments shall be made on completion of milestones as identified in the Terms of Reference by EFL.

Payments to be made will fall into two categories.

Payments for work carried out off-shore and hence not subject to GST or VAT, but will be subject to 15% non-resident Withholding tax and will be deducted by Employer.

Payments for work carried out within Fiji (i.e. on-shore), and hence shall be subject to Fiji Income tax legislation for resident company and for non-resident company will also be subject to 15% non-resident Withholding tax and will be deducted by Employer.

Off - Shore Work

All invoices issued for off-shore work shall be expressed in the foreign currency and will be issued using Bidder's Commercial Invoice. No GST or VAT shall be included in the invoice. Payment of the foreign currency shall be paid at the prevailing exchange rate as at the date of payment. The Employer shall pay the invoice amount in foreign currency to each overseas bank account nominated by Contractor within 30 days of receipt of the commercial invoice.

On - Shore Work

All invoices issued for on-shore work pursuant to this Contract shall be expressed in Fiji Dollar currency and will be subject to Fiji income tax. The invoice shall be issued using Bidder's Fijian registered entity letterhead. EFL shall pay the amount agreed to in Fiji dollars including the VAT amount to a local bank account nominated by the Bidder. EFL shall pay the invoiced amounts within 30 days of receipt of the invoice.

The Bidder shall advise EFL details of its Fijian registered entity including the Tax Identification Number given by the Fiji Revenue and Customs Services (FRCS) as soon as possible after the execution of this Agreement.

EFL shall not be responsible to pay invoices issued by the Bidder or its Fijian registered entity if such invoices are not in conformance with the above stated requirements.

If EFL disputes any portion of the amount claimed in an invoice submitted by the Bidder or by its Fijian registered entity, EFL shall notify the Bidder in writing of the reasons for disputing the amount and EFL shall pay that portion of the amount in the invoice that is not in dispute.

The Bidder hereby agrees that payments made by EFL in accordance with this Agreement to the Bidder's Fijian registered entity shall be proper consideration deemed to be received by the Bidder.

All matters relating to taxation such as income tax, withholding tax, provisional tax, PAYE and other tax issues shall be the responsibility of the Bidder. Similarly any superannuation related issues such as FNPF liabilities (where applicable) shall be the responsibility of the Bidder.



TENDER SUBMISSION CHECK LIST

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

Tender Number _____

Tender Name _____

1. Full Company 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)

9. Company Registration Number: _____

(Attach copy of the Business License)

10. FNPF Employer Registration Number: _____

(For Local Bidders only)

11. Contact Person: _____

I declare that all the above information is
correct.

Name:

Position: _____

Sign: _____ Date: _____



Submission of Tender

Two (2) hard copies of the tender bids in sealed envelope shall be deposited in the tender box located at the Supply Chain Office at the EFL Head Office, 2 Marlow Street, Suva, Fiji.

Courier charges for delivery of Tender Document must be paid by the bidders.

This tender closes at 4:00 p.m. (16.00hrs Fiji time) on Wednesday 5th August, 2020.

Each tender shall be sealed in an envelope with the envelope bearing only the following marking:

MR 169/2020
Engineering Design to Carry out Lightning Protection and Earthing Study for
33kV/11kV Wailekutu Zone Substation

The Secretary, Tender Committee
Energy Fiji Limited
Supply Chain Office
Private Mail Bag,
Suva

It must also indicate the name and address of the tenderer on the reverse of the envelope.

All late tenders, unmarked Envelopes and envelopes without bidder's name and address on the reverse on the envelope will be returned to the Tenderers unopened. (Bids via e-mail or fax will not be considered).

The bidders must ensure that their bid is inclusive of all Taxes payable under Fiji Income Tax Act and must have the most current Tax Compliance Certificate.

For further information or clarification please contact our Supply Chain Office on phone (+679) 3224360 or (+679) 9991587.

Bidders are requested to submit a:

- Valid Tax Compliance Certificate
- FNP Compliance Certificate

The Tender Bids particularly the "Price" must be typed and not hand written.

(Tender Submission via email or fax will not be accepted)