STANDARD BID SOLICITATION DOCUMENT

GOVERNMENT OF GUYANA

Supply, Installation and Commissioning of a 9 kWp Grid-Tied Solar Photovoltaic System and 37 kWh Battery Energy Storage System at the Orealla Health Centre, Region 6

GUYANA ENERGY AGENCY

APPROVED
NATIONAL PROCUREMENT & TENDER ADMINISTRATION

November 10, 2021

GOODS AND RELATED SERVICES (VALUE G$3.0 million to G$15 Million)

Introduction

Preface

This Standard Bidding Solicitation Document (SBSD) has been prepared by the National Procurement and Tender Administration Board (NPTAB) for use by the Procuring Entities for the procurement of goods and services. The procedures and methods presented in this document have been developed on the basis of practical experience and are mandatory for use in the procurement carried out in whole or in part from the state funds in accordance with the provisions of the Procurement Law.

In order to simplify the preparation of the bidding documents for each individual procurement proceeding, the SBSD groups the provisions that are not intended to be changed in "the Instructions to Bidders" and in "the General Conditions of Contract". Data and provisions specific to each procurement and contract should be included in the Bid Data Sheet, the Special Conditions of the Contract, Technical specifications, price schedule, schedule of requirements and the Evaluation Criteria. The applicable forms are listed in the table of contents, below.

Request for additional information can be forwarded to:

Guyana Energy Agency
295 Quamina Street, South Cummingsburg, Georgetown.
Telephone number: 226-0394 or fax 226-5227
gea@gea.gov.gy
www.gea.gov.gy

CONTENTS

INVITATION FOR BIDS (IFB)

1. **The Guyana Energy Agency** hereinafter referred to as "the Procuring Entity", invites eligible bidders to submit their bids for the **Supply, Installation and Commissioning of a 9 kWp Grid-Tied Solar Photovoltaic System and 37 kWh Battery Energy Storage System at the Orealla Health Centre, Region 6** as per the required specifications mentioned in the Bidding Documents

2. **The required period for completion of the work is one hundred and twenty (120) days from the signing of the contract.**

   Bidders are required to visit the site to carry out their own assessment of how the systems will be installed. GEA would contact the entities and request access to the site by the bidders upon the bidder's request. The costs of visiting the site shall be at the bidder's own expense.

3. Interested bidders may obtain further information, inspect the bidding documents and uplift a complete set of the bidding documents from the cashier at the Guyana Energy Agency, 295 Quamina Street, South Cummingsburg, Georgetown at a cost of **two thousand Guyana dollars** (G$2,000) or its equivalent in a freely convertible currency per bid document from Monday to Friday between 09:00 to 15:30 hours from 11th November, 2021. Alternatively, an electronic copy of the Bid Document can be downloaded at **www.gea.gov.gy**.

4. All Bidders should submit their bids together with an original bid security of two percent (2%) of the tendered amount in the form of a Bank guarantee or a bond from an Insurance company licensed by the Bank of Guyana not later than 9:00 hours on the **14th day of December, 2021** at the **National Procurement & Tender Administration Board, Ministry of Finance, 49 Main & Urquhart Streets, Georgetown, Guyana.**

   Clarifications must be submitted in writing to the GEA's email address at gea@gea.gov.gy no later than one week prior to the deadline for bid submission.

4. Bids shall be valid for ninety (90) days after the date of bid opening.

5. Bids shall be opened by the National Procurement and Tender Administration Board in the presence of Bidders' representatives who wish to attend it at 9:00 hours on the **14th day of December 2021** at the address: 49 Main and Urquhart Streets, Georgetown

6. All Bidders are advised to attend a pre-bid meeting to be held on the **23rd day of November, 2021** at **13:30 hours** via zoom, details of which will be provided to all bidders by the procuring entity

APPROVED NATIONAL PROCUREMENT & TENDER ADMINISTRATION

Representative of Procuring entity

Ms. Gayle Best Primo
/Full name/

Annex No.2

INSTRUCTIONS TO BIDDERS

A. Introduction

1. Description of the Procurement

The Procuring Entity identified in the *Bid Data Sheet* intends to procure the goods identified in the *Bid Data Sheet* and in the *Delivery Schedule*.

2. Eligibility and Qualifications of Bidders

2.1 In order to be awarded a procurement contract, Bidders should possess the technical and financial capacity needed to perform the contract, should fulfill their tax and social insurance fund liabilities in Guyana, should not currently be subject to a debarment penalty, and must comply with the specific eligibility and qualification requirements referred to in the *Bid Data Sheet* and *Evaluation Criteria*.

2.2 The bidders should not have conflicts of interest, including involvement in more than one bid in this proceeding, should not be associated nor have been associated in the past, directly or indirectly, with any agency or any of its representative(s), affiliate(s), that have been engaged by the Procuring Entity to provide consulting services at the preparation stage of the bidding documents, technical specifications and other documentation that are subject to be used in the procurement of goods which must be purchased in accordance with the Invitation for Bids. In case when the indicated facts are discovered, the Bidder's bid shall be rejected.

B. Bidding Documents

3. Clarification and Amendment of Bidding Documents

3.1 The Procuring Entity, in not more than three (3) working days, will respond in writing or electronic mail to any request for clarification of the bidding documents to be received in writing or electronic mail not later than seven (7) days before the expiry of a deadline for submission of bids. At the same time, the Procuring Entity's response shall without identifying its source of the request, be distributed to all bidders who have received the bidding documents from the Procuring Entity.

3.2 At any time before the deadline for submission of bids, the Procuring Entity may amend the bidding documents by issuing an Addendum and notifying it to the bidders.

C. Preparation of Bid

4. Language of Bid

4.1 The bid prepared by the Bidder, as well as all correspondence and documents related to that bid and exchanged by the Bidder and the Procuring Entity shall be written in the language specified in the *Bid Data Sheet*.

5. Documents Included in Bid

5.1 The bid prepared by the Bidder should contain the Form of Bid, the Price Schedules and the other documents to be submitted in accordance with these *Instructions to Bidders, Bid Data Sheet* and *Evaluation Criteria*.

6. Bid Price

6.1. Subject to the choice of INCOTERMS as indicated in the *Bid Data Sheet*, the prices given in the *Price Schedule* shall include all transportation costs to the destination point indicated in the Contract, all payments collected, in accordance with the laws of Guyana and delivery related and other costs on performing of contractual obligations.

6.2. The prices offered by the Bidders shall remain fixed during the whole period of Contract performance and shall not be modified in any circumstance.

7. Bid and Payment Currency

7.1 The prices shall be indicated in Guyana Dollars, unless otherwise specified in the *Bid Data Sheet.*

8. Bid Security

8.1 Unless otherwise provided in the *Bid Data Sheet*, the Bidder shall furnish, as part of his bid, an original *Bid Security*, in the form, currency and amount specified in the *Bid Data Sheet* with a validity period for not less than two (2) weeks upon the expiry of the bid validity period and in accordance with the specified form.

8.2 The bid security may be forfeited, if the Bidder:

(a) withdraws his/her bid after it is opened during the period of validity specified in the bid; or,

(b) having been awarded the contract fails:

(1) to sign the contract on the terms and conditions provided in his bid; or

(2) to furnish the *Performance Security*, if required to do so.

9. Period of Validity of Bid

9.1 Bids shall remain in force during the period specified in *the Bid Data Sheet* after the date of bid opening.

10. Format, Signing and Submission of Bid

10.1 The Bidder shall prepare an original bid which shall be completed in writing in indelible ink and shall be signed by the Bidder, or by the person (persons) duly authorized to sign the bid in accordance with the power of attorney, and 2 (two) exact electronic PDF copies of the bid on Flash Drive, to be submitted with the bid. All pages of the bid where

new information, modifications or erasures entered shall be initialed (signed) by the person or persons signing the bid. In the event of discrepancies between them, the original shall prevail.

10.2 The bid shall contain no interlineations, erasures or overwriting, except the cases when the Bidder needs to correct errors which must be initialed by the person or persons signing the bid.

10.3 The Bidder shall seal the Original and Electronic PDF copies of the bid in different envelopes, marking them "**ORIGINAL**" and "**COPIES**", as appropriate ***plus two (2) exact electronic PDF copies on USB Flash Drive***s. The envelopes shall then be sealed in an outer envelope.

10.4 The envelope shall:

(a) be addressed to the **Chairman, National Procurement & Tender Administration Board (NPTAB), Main & Urquhart Streets, Georgetown** (the address specified in the Invitation for Bids);

(b) **bear the Name of the Project (Supply, Installation and Commissioning of a 9 kWp Grid-Tied Solar Photovoltaic System and 37 kWh Battery Energy Storage System at the Orealla Health Centre, Region 6)** the words: "**DO NOT OPEN BEFORE**," (**9:00 hours on December 14, 2021**).

11. Deadline for Submission of Bids

11.1 Bids must be received by the Procuring Entity at the address and within the periods specified in the *Bid Data Sheet.* All bids received by the Procuring Entity upon the expiry of a period established for submission of bids as indicated by the Procuring Entity shall be rejected and returned to the Bidder unopened.

12. Modification and Withdrawal of Bids

12.1 The Bidder may modify or withdraw his bid after the bid's submission, provided that the Procuring Entity will receive a written notice of modification, including substitution or withdrawal of bid until the expiry of established period for submission of bids.

12.2 The Bidder's modification or withdrawal notice shall be prepared, sealed, marked, and sent in accordance with the provisions of ITB Clause 10. In that case the outer and inner envelopes will be additionally marked as "**MODIFICATION**" or "**WITHDRAWAL**", as appropriate. A withdrawal notice may also be sent by email with a subsequent written confirmation not later than the deadline for submission of bids.

D. Opening and Evaluation of Bids

13. Opening of Bids

13.1 The Procuring Entity will open all bids in the presence of bidders' representatives who wish to attend, at the time, on the date, and at the address specified in the *Bid Data Sheet***.** The bidders' representatives who are present shall sign a register evidencing their

attendance.

13.2 The bidders' names, bid prices, including alternatives (if alternatives permitted), information on the presence or absence of required bid security, information on the presence (absence) of tax debts and debts of social insurance payments will be announced at the opening. No bid shall be rejected at the opening, exclusive of late Bids and unidentified Bids to be returned to the Bidder unopened.

13.3 Bids and modifications sent pursuant to ITB Clause 12.2 that are not opened and read out during the bid opening shall not be accepted for further evaluation, regardless of circumstances.

14. Evaluation of Bids

14.1 During the evaluation of bids, the Procuring Entity may, at his discretion, request the Bidder to provide clarification of his bid. The request for clarification and the response thereto shall be made in writing, and in that case no change in price or substance of the bid shall be sought, offered, or permitted.

14.2 The Procuring Entity shall determine the responsiveness of each bid to requirements of the bidding documents. For the purposes of this Clause a substantially responsive bid is one which satisfies all the indicated provisions without a material deviation or reservation.

14.3 The Procuring Entity may regard a tender as responsive if it contains any minor deviations, that do not materially alter or depart from the characteristics, terms and conditions and other requirements of the bid solicitation documents, or if it contains errors or over sights that are capable of being corrected without touching the substance of the tender. To the extent feasible and appropriate, for the purposes of comparing bids, acceptable deviations shall be quantified in monetary terms, and reflected in adjustments to the bid price (for the purposes only of comparison of bids).

14.4 Arithmetical errors shall be rectified in the following manner. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words shall prevail. If the Bidder disagrees with such correction of errors, his bid shall be rejected.

14.5 The Procuring Entity shall evaluate and compare only the bids that are determined to be responsive to the Bid Solicitation Document.

15. Confidentiality and Contacting the Procuring Entity

15.1 No Bidder shall contact the Procuring Entity on any matter related to his bid from the date of bid opening until the date of contract award, except for requests related to clarification of the bid. Information concerning the evaluation of bids is confidential.

15.2 Any effort by the Bidder to influence the Procuring Entity's decision on bid evaluation and comparison, or contract award may result in the rejection of that Bidder's bid and subjected to debarment in accordance with: Regulation 3(1)(b) of the Procurement (suspension and debarment) Regulations 2019.

E. Award of Contract

16. Award Criteria

16.1 Subject to ITB Clause 18, the Procuring Entity will award the Contract to the Bidder whose bid is determined to be substantially responsive to the requirements of the bid solicitation document, and who offered **the Lowest Evaluated Bid**, provided that the Bidder has been determined:
(a) to be eligible pursuant to Clause 2;
(b) to comply with qualification requirements, in accordance with Clause 2, and any technical requirements and evaluation criteria disclosed in the bid solicitation documents.

17. Procuring Entity's Right to Vary Quantities at Time of Entering into a Contract

17.1 The Procuring Entity reserves the right, when entering into a contract, to increase or decrease the quantity of goods and related services specified in the Schedule of Requirements, by the percentage indicated in the *Bid Data Sheet***,** no change in the unit price or other conditions shall be made (an increase of quantity **not exceeding *10 percent variation***)

18. Procuring Entity's Right to Accept Any Bid and to Reject All Bids

18.1 The Procuring Entity reserves the right to accept or reject any bid or all bids, and to cancel the bidding process at any time prior to award of contract, without thereby incurring any liability to Bidders and without being required to inform the Bidder or Bidders of reasons of such actions.

19. Notification of Award

19.1. The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the bid validity period.

19.2. The notice of acceptance shall be given to the successful bidder within fourteen (14) days of the award of contract.

19.3. At the same time that the Procuring Entity notifies the successful Bidder in accordance with sub-clause (1), the Procuring Entity will notify all other Bidders of the name of successful Bidder, and his bid price.

20. Signing of Contract and Performance Security

20.1 The Procuring Entity will send the successful Bidder the Form of Contract contained in the bid solicitation document. The successful Bidder shall sign and date the Contract and return it to the Procuring Entity within seven (7) days of receipt of notice of award.

20.2 Together with the signed Contract, the Bidder shall, if required to do so by the *Bid Data Sheet*, furnish the Procuring Entity with a Performance Security in the amount and form specified in the *Bid Data Sheet*.

20.3 If the successful Bidder fails to furnish the performance security, if required to do so, or

within 7 (seven) days fails to return the Contract signed by him, then it shall be a sufficient ground to refuse the award of Contract, and to forfeit the bid security. In that case the Procuring Entity shall award the Contract to the next lowest evaluated Bidder, subject to the right of the Procuring Entity to reject all bids.

21. Settlement of Disputes

21.1 To settle the disputes which may arise during the execution of Contract, the parties shall follow the procedure referred to in the *Bid Data Sheet*.

22. Corrupt and Fraudulent Practices

22.1 The Procuring Entity requires that Bidders observe the highest standards of ethics during the procurement and execution of such contracts. In pursuance of this policy, the Procuring Entity:

(a) will reject the bid if it establishes that the Bidder recommended for award has engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract in question.

(b) refer the matter to the Public Procurement Commission (PPC) in accordance with the provisions of Procurement (Suspension and Debarment) Regulations 2019.

23. Compliances

23.1 Bidder must submit valid certificates of compliances from Guyana Revenue Authority (GRA), National Insurance Scheme (NIS), and VAT registration (*where applicable).*

24. Defects Liability:

24.1 The "Defects Liability Period" for the goods and related services is twelve (12) months from the date of taking over possession or such other period as may be specified in the *Bid Data Sheet*. During this period, the supplier will be responsible for rectifying any defects or replacement of goods free of cost to the Procuring Entity.

Bid Data Sheet (BDS)

The following specific data to clauses of the provisions of *Instructions to Bidders* which supplement or amend the provisions of the *Instructions to Bidders* (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

Item No.	
ITB 1.1	Guyana Energy Agency, 295 Quamina Street, South Cummingsburg, Georgetown, tel:226-0394, gea@gea.gov.gy The subject of the procurement is: ***Supply, Installation and Commissioning of a 9 kWp Grid-Tied Solar Photovoltaic System and 37 kWh Battery Energy Storage System at the Orealla Health Centre, Region 6***
ITB 2.1	To qualify for award of the Contract, the bidders shall meet the qualification requirements set out in the evaluation criteria:
ITB 4.1	Language of Bid shall be **English** Language All submission must be in **English** or translated to English if different. Such translations must be signed and stamped by a registered translator or embassy or consulate
ITB 5.1	The Bidder shall submit the following additional documents in its bid: 1. Evidence of Financial Capability in the amount of 30% of the tendered sum in the form of a bank statement or letter of credit from a commercial bank in the name of the bidder. Letter of Credit must state a figure. The documents must be dated within one month of the bid opening date and be clearly legible. When a photocopy of the letter of credit or bank statement is presented, it must be certified a "true copy of the original' by the issuing company; 2. Submission of a valid business registration or certificate of incorporation, inclusive of list of directors, that is clearly legible. Where bidder is part of an unincorporated joint venture, a legible copy of joint venture agreement is required. Copy of joint venture agreement must state the joint venture partner to which invoice will be paid and contract to be signed. Where bidder is a joint venture company, a legible copy of certificate of incorporation is to be submitted. Each party must submit valid compliance as per items 2 and 3 of the Evaluation Criteria; 3. Written confirmation of authorizing signatory must be provided. For the incorporated company this must be in the form of a Power of Attorney endorsed by a Commissioner of Oaths or Justice of Peace. For a registered business that has appointed an employee to sign the bid, a letter of authorizing signatory must be provided; 4. Valid certificates of compliance from GRA and NIS and VAT registration (only applicable to Bidders resident in the country of the Procuring Entity); 5. Completed litigation form on page 50 of the bidding documents; 6. A letter stating any or no termination or abandonment of projects. The letter must be dated within one month of the bid opening date; 7. Provide documentary evidence that the goods are ISO certified and resistant to Tropical Weather Conditions; 8. Provide documentary evidence that the PV modules comply with IEC 61215 & IEC 62804 for Crystalline Silicon PV Modules (or equivalent) standards, and that

	the inverters are UL 1741 listed; 9. Provide documentary evidence to demonstrate that the Goods offered meet all the technical specifications of the bidding document. Technical literature must include data sheets and specific technical information on each of the items of equipment and components proposed for the photovoltaic system; 10. A detailed schematic design layout for the system (schematic should be NEC 2017 Compliant), including explanatory notes for sizing of equipment and components that comprise the system, and energy production calculations using a PV modelling software; 11. Certificates of product quality (modules and inverters) issued by a recognized laboratory accredited by the International Laboratory Accreditation Cooperation (ILAC) and which must be valid up to the date of commissioning of the system; 12. Documentary evidence that batteries (if applicable) comply with IEC 61427:1999 and the manufacturing process conformed to environmental management standard ISO 14001; 13. An implementation schedule indicating important milestones such as equipment delivery to site, installation, testing and commissioning. Frequent progress reports and work plan are to be provided to the procuring entity as required by the procuring entity during project execution; 14. Bidder must provide audited financial statements for the past three years for incorporated companies. Financial statements must be audited by a Chartered accountant/accountancy firm and include an auditor's note. OR Registered businesses must provide Balance Sheets, Profit and Loss Accounts, and Income and Expenditure Accounts for the past three years. These financial statements must be approved by a Chartered accountant/accountancy firm. The detailed evaluation criteria can be found on *page 45* of the bidding documents.
ITB 6.1	The price quoted by bidders shall be on the basis of CIF to port Georgetown for goods delivered to Guyana including cost for transport to the site (**Orealla Health Centre, Orealla Village, Region 6**)
ITB 7.1	Currency of Bid shall be in **Guyana Dollars**
ITB 8.1	A bid security of two percent (2%) of the tendered sum is required in the form of a Bank guarantee or a bond from an Insurance company licensed by the Bank of Guyana.
ITB 9.1	The period of validity of bid is ninety (90) days.
ITB 11.1	Deadline and place for submission of bids at 9:00 hours on the 14th day of December 2021 *at the address:* ***The National Procurement & Tender Administration Board, Ministry of Finance, Main & Urquhart Streets, Georgetown, Guyana***
ITB 13.1	Time and place for opening of bid: ***9:00 hours on December 14, 2021,*** *at The National Procurement & Tender Administration Board, Ministry of Finance, Main & Urquhart Streets, Georgetown, Guyana*
ITB 17.1	Increase or decrease in the quantity of goods and services not exceeding **10%** in accordance with ITB Clause 17.1
ITB 20.2	The amount of the performance security is 10% of the contract price. Performance

	Security must be in the form of a Bank Guarantee or a bond from an Insurance company licensed by the Bank of Guyana. This shall be valid for the duration of four (4) years after the end of the defect's liability period.
ITB 21.1	Disputes that may arise in the performance of the contract shall be settled in accordance with the applicable Laws of Guyana.
ITB 24.1	The duration of the defect's liability period is **twelve (12) months** following provisional acceptance.

General Conditions of Contract (GCC)

The General Conditions are the Standard General Conditions of Contract. No alteration shall be made on the pages of these Conditions. The Procuring Entity, when amending or supplementing the General Conditions of Contract should do so only in the Special Conditions of Contract. Any amendment or addenda of the General Conditions of Contract shall conform to the legislation of Guyana.

1. Definitions and application

1.1 This Contract lists below the terms that have the following interpretation:

(a) **"Contract"** means the agreement entered into between the Procuring Entity and the Supplier, as recorded in the Form of Contract signed by the parties, including all attachments and appendices thereto and all the documents referenced therein.

(b) **"Contract Price"** means the price payable to the Supplier under the Contract for complete and proper performance of his contractual obligations.

(c) **"Goods"** means the item (s) referred to in the Schedule of Requirements contained in the Bid Solicitation Document.

(d) **"GCC" -** means the General Conditions of Contract contained in this Section.

(e) **"SCC" -** means the Special Conditions of Contract.

(f) **"Procuring Entity"** – means the Procuring entity carrying out the procurement of Goods, specified in the SCC.

(g) **"Supplier"** – means an individual or legal entity, or a combination of any abovementioned forms which operate under the existing agreement as a joint venture and supply the Goods and Services under the Contract.

(h) **"Day"** –means calendar day.

1.2 The General Conditions of Contract shall apply in the procurement of goods; the specific amendment, addition and alteration shall be indicated in the Special Conditions of Contract.

1.3 Warranty requirements are as may be specified in the Special Conditions of Contract.

2. Contract Documents

2.1 Subject to the order of precedence set forth in the Contract Agreement, all documents forming the Contract (and all parts thereof) are intended to be correlative, complementary, and mutually explanatory. The contract shall be read as a whole.

3. Performance Security

3.1 If required by the SCC, within seven (7) days of receipt of notification of award, the successful Bidder shall furnish the Procuring Entity with the performance security the amount and form of which are indicated in the SCC.

4. Packing

4.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to final destination specified in the Contract, and as may be required by the *Special Conditions of Contract*.

5. Delivery, Transportation, Mobilization Advance

5.1 The Supplier must deliver the Goods within the periods and to the Destination point indicated in the Schedule of Requirements and shall provide the documentation indicated in the SCC. Subject to the SCC, transportation of the Goods to the place specified by the Procuring Entity shall be carried out and paid by the Supplier and related costs shall be included in the Contract Price.

6. Payment

6.1 The payment to the Supplier for the Goods delivered shall be made in accordance with the Contract in the form and within the periods specified in the SCC**.**

6.2 If the Procuring Entity does not pay the Supplier the sum due within the periods specified in the Contract, in that case the Procuring Entity shall pay the Supplier [interest at the rate specified or determined pursuant to the *Special Conditions of Contract*].

7. Prices

7.1 Prices established by the Supplier in the Contract for goods delivered shall not vary from the prices quoted by the Supplier in his bid.

8. Assignment

8.1 The Supplier shall not assign, in whole or in part, his obligations under the Contract to a third party for the execution without the Procuring Entity's prior written consent.

9. Delays in the Supplier's Performance and liquidated damages

9.1 Delivery of the Goods shall be carried out by the Supplier, in accordance with the schedule indicated by the Procuring Entity in the *Schedule of Requirements*.

9.2 Except for provided under GCC Clause 13, the delay in the Supplier's performance of his delivery obligations shall render the Supplier liable for payment of liquidated damages in the amount specified in the SCC, unless an extension of time is agreed upon by the parties without application of liquidated damages. Once the maximum deduction specified in the SCC is reached, the Procuring Entity may consider termination of the Contract, in accordance with Clause 10 of the *General Conditions*

of Contract.

10. Termination

10.1 The Procuring Entity, without detriment to any other sanctions of infringement of the provisions of Contract, by written notice of default sent to the Supplier, may terminate this Contract in whole or in part:

(a) if the Supplier fails to deliver the portion or all of the Goods within the periods provided for in the Contract, or within an extension period of that Contract, or to perform any of his obligations under the Contract.

(b) if bankruptcy procedures are applied to the Supplier, or it is declared insolvent.

(c) if the Supplier, in the Procuring Entity's opinion, has engaged in corrupt, fraudulent, collusive or coercive practices when entering into or executing the Contract.

(d) If the Procuring Entity deems that continued implementation of the contract would no longer be expedient from the standpoint of the public interest.

10.2 The notice of termination shall specify the reason of termination, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.

10.3 Notwithstanding clauses 9 and 10.1(d), the Supplier shall not forfeit his performance security, and shall not be liable for payment of liquidated damages, or termination for default, if delay in executing the Contract or failure to perform obligations under the Contract is the result of an event of force majeure. When force majeure arises, the Supplier shall promptly notify the Procuring Entity in writing of such circumstance and its causes.

10.4 When the contract is terminated in accordance with clause 10.1(d), the Goods that are complete and ready for shipment within twenty-eight (28) days after the Supplier's receipt of notice of termination shall be accepted by the Procuring Entity at the Contract terms and prices. For the remaining Goods, the Procuring Entity may elect:

(a) to have any portion completed and delivered at the Contract terms and prices; and/or

(b) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and Related Services and for materials and parts previously procured by the Supplier.

11. Settlement of Disputes

11.1 If any dispute or disagreement arises between the Procuring Entity and the Supplier for the Contract or in connection with it, the parties shall make every effort to resolve the dispute or disagreement amicably by mutual consultation.

11.2 If during twenty one (21) days, the parties failed to resolve their dispute or disagreement by mutual consultation; either the Procuring Entity or the Supplier may send the other party the notice of intent to commence arbitration, if an arbitration is incorporated in the Contract in the *Special Conditions of Contract* or otherwise agreed by the parties, or in the Court of General Jurisdiction if no arbitration is envisaged, and no arbitration or litigation in respect of that matter may be commenced unless such notice is given.

Any dispute or disagreement in respect of which the notice of intent is sent to commence trial shall be heard by the [Court of General Jurisdiction].

11.3 Notwithstanding any reference to dispute settlement herein, the parties shall continue to perform their obligations under the Contract, unless they agree otherwise.

12. Applicable Law

12.1 The Contract shall be interpreted in accordance with the Laws of Guyana.

13. Formal Communication between the Procuring Entity and the Supplier

13.1 Any notice given by one party to the other pursuant to the Contract shall be in force if it is done in writing and sent at the address of other party in the SCC**.**

13.2 A notice shall be effective when delivered or on the specified date, whichever is later.

14. Taxes and Duties

14.1 The Supplier shall be fully responsible for all taxes, duties, license taxes, etc., levied in accordance with the legislation of Guyana, and subject to the application of INCOTERMS in accordance with the SC

14. Retention

14.1 No retention shall be applied on consumables, but warranties, guarantees and expiry dates to apply.

14.2 Retention on fixed assets shall be determined by the procuring entity on a case-by-case basis.

Special Conditions of Contract (SCC)

The following Special Conditions of Contract shall supplement the General Conditions of Contract. Whenever there is a conflict, the provisions herein shall prevail over those in the General Conditions of Contract.

GCC Clause No.	Special Conditions of Contract
1.1	**Definitions** The Procuring Entity is Guyana Energy Agency, 295 Quamina Street, South Cummingsburg, Georgetown, tel:226-0394, Fax:226-5227, gea@gea.gov.gy. The Supplier is_____ *(indicate full name, legal address, phone, fax and e-mail of Supplier)* The Subject of procurement ***Supply, Installation and Commissioning of a 9 kWp Grid-Tied Solar Photovoltaic System and 37 kWh Battery Energy Storage System at the Orealla Health Centre, Region 6*** **Warranty** The supplier warrants all Goods supplied under the contract are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the contract. The supplier further warrants that all Goods supplied under this contract shall have no defect, arising from design, materials or workmanship or from any act or omission of the supplier that may develop under normal use of the supplied Goods in the conditions prevailing in the country of final destination. 36 months complete system warranty is applicable from provisional acceptance date. A final completion certificate shall be issued upon satisfactory commissioning of the systems.
3.1	**Performance Security** The amount and form of Performance Security is: 10% of the contract price in the form of a Bank Guarantee or a bond from an Insurance company licensed by the Bank of Guyana. The bond shall be valid for four (4) years after the end of the defect's liability period.
4.1	**Packing** The Supplier shall provide such packing of the Goods as is required to prevent damage or deterioration during transit to final destination, as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit.
5.1	**Delivery, Transportation** **The following documentation is to be provided by the Supplier to the Procuring Entity:** (1) Copies of Supplier's invoice indicating a description, quantity, unit price of the Goods and sum total.

	(2) Shipping order, railway receipt or truck receipt. (3) Warranty certificate of Manufacturer or Supplier; (4) Inspection certificate issued by the authorized inspection service, and the supplier's factory inspection report (if any); (5) Certificate of origin; (6) Certificate of conformity (7) Certificate of Quality (8) Two copies of packing list identifying contents of each package, and clearly showing shipping marks, package numbers, kind of package, contents, dimensions and gross weight of each package in kilos; (9) Full set of ocean on-board bills of lading. **The costs of delivery shall be at the Supplier's own expense. The procuring entity will not be responsible for customs clearance of the goods.**
6.1	**Payment** (a) Thirty percent (30%) of the contract price upon the dispatch of supply (or upon proof that the items have been shipped). (b) Twenty percent (20%) of the contract price upon receipt by procuring entity of required items at site. (c) Thirty percent (30%) of the contract price upon the Erection, Commissioning and Successful trial operation. (d) Ten (10%) of the contract price on the successful acceptance test and handing over of project to designated agency (e) Ten (10%) of the contract price after successful completion of first year warranty from the date of commissioning, successful trial operation and handing over of project to designated agency, against a bank guarantee with a validity period of 4 years after successful completion of first year warranty.
9.2	**Liquidated Damages** Applicable rate: 0.05% for untimely execution of order. Maximum deduction: 10% of the delayed works/delivery.
11.2	**Settlement of Disputes** Disputes arising out of or in connection with the Contract shall be settled in accordance with the Laws of Guyana**.**
14.1	**Taxes and Duties** The version edition of INCOTERMS shall be: 2010

Delivery Schedule / Schedule of Requirements

The delivery schedule expressed as days specifies hereafter the date of delivery to destination point. In column "the delivery schedule", the Procuring Entity shall indicate the date from which schedule starts. It should be either the date of award, or the date of signing of Contract, or the date of opening of letter of credit, or the date of confirming the letter of credit (subject to circumstances). The Form of Bid shall specify only reference to that schedule.

Item No.	Brief Description of Goods	Quantity	Place of Delivery	Procuring Entity's Completion Schedule (**120 days** as of signing of the contract)	Bidder's Offered Completion Schedule	
					Earliest Delivery	Latest Delivery
	Supply, Installation and Commissioning of a 9kWp Grid-Tie Solar Photovoltaic System and 37 kWh Battery Energy Storage System at the Orealla Health Centre PV module Mounting structure: Hybrid Inverter Array sub main/ main junction / distribution box Batteries (storage system) Web-based energy monitoring system Cabling and miscellaneous Fire Extinguisher Installation and commissioning materials for PV system (including all materials/components required for interconnection to on-site)	**1** To be determined by bidder	Orealla Health Centre	**120 days**		

TECHNICAL SPECIFICATIONS

1. General

The tender calling for convenient bids is dedicated to identifying and contracting a Supplier and Installer for the following services:

1.1 **Supplying, installing and commissioning of a 9 kWp Grid-Tied Solar Photovoltaic System and 37 kWh Battery Energy Storage System at Orealla Health Centre**,Region 6

1.2 Provide all technical documentations including user and operational manuals to the GEA.

The bidder must include all brochures, certifications, technical specifications, brand, and models of ALL equipment provided in one location in their submission in the following order.

1. **PV modules**
2. **PV Array Mounting Structure**
3. **Array sub main/ main junction / distribution box**
4. **Hybrid Inverter**
5. **Battery Energy Storage System**
6. **Energy Monitoring System**
7. **Schematic Diagram in accordance with NEC 2017 Article 690 and NEC 705**

1.3 Bidders must ensure that all equipment supplied under the contract is new, unused and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.

1.4 Provide 3 years after sales services to GEA. Bidders must provide a statement indicating its acceptance or otherwise of this requirement.

2. Climate and Site Conditions

Altitude	: <1000m above sea-level
Maximum daily mean temperature	: 35° C
Maximum outdoor ambient shade temperature	: 50° C
Minimum outdoor ambient shade temperature	: 15° C
Maximum relative humidity	: 100%
Wind Velocity	: 18 mph
Isokeraunic level	:70
Average Number of days with Rain p.a.	:120
Average Annual rainfall, cm	:150

Orealla

Location coordinates of the Orealla Health Centre: **05°18'41.43" N** and **57°20'3.48"W**

3. Existing Power Supply Conditions

Bidders are required to visit the site to determine appropriate inverter(s) selection and obtain any other information required to prepare their bids.

4. Specification of Required Hardware

4.1 General Remark

It is pointed out that the whole system should be designed in such a way that all components are resistant to climate conditions of the specific sites, specifically against corrosion. Special attention should be made in the equipment selection in such a way that the risk of theft and vandalism is minimized. Bolts and nuts of the PV arrays should be affixed in such a way that theft is minimized.

4.2 Photovoltaic Modules

a) The total solar PV array capacity would not be less than 9 kWp.
b) The Solar PV modules must conform to the latest edition of IEC 61215 / IS14286 for Mono/Poly Crystalline Silicon Terrestrial PV Modules design qualification and the National Electrical Code 2017 Article 690 type approval. The certificate shall be submitted.
c) The capacity of each of the solar module shall not be less than 325 Wp and no negative tolerance from quoted power rating on solar module shall be allowed in any strings of the inverter. The module would be PID resistant.
d) The temperature coefficient of power for the module would be better than -0.45% per° C
e) Module should have visual distinct identification mark based on the measured output in a band of maximum 5 Wp. The glass used for making module shall be 3.2 mm thickness for module up to 60 cell configurations. Each string shall have identical Wp rating Solar PV modules.
f) In addition, the modules must conform to IEC 61730 Part-1 - requirements for construction & Part 2 - requirements for testing for safety qualification or Equivalent IS. Module should also comply to IEC-61701 for salt mist testing.
g) The offered Solar PV module design series as per type certificate must have been in successful operation for at least six months as on date of submission of Bid.
h) Each PV module used must have a Radio Frequency Identification Tag (RFID) capable of withstanding harsh environmental conditions carrying technical details of the Module, but not less than in following manner;
    i. Name of the manufacturer of the PV module and Solar cells, month, and year of manufacture (separately for solar cells and modules) and Country of origin (separately for solar cells and modules).
    ii. IV curve of module, Wattage, I_m, V_m, V_{oc}, I_{sc} of the module
    iii. Unique Serial No and Model No of the module
    iv. Name of the test lab issuing IEC certificate
    v. Other relevant information on traceability of solar cells and module as per ISO 9001 and ISO 14001
i) Solar PV modules used in plant(s)/ system(s) must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years. Warranty certificate mentioning output peak watt capacity shall be duly submitted by the Bidder.
j) The PV modules would comply with the following Codes/Standard (or other Code/Standard, if proven equivalent) as a minimum.

Codes	**Description**
IEC 61215-1:	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1: Test requirements

IEC 61215-1- 1:2021	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1-1: Special requirements for testing of crystalline silicon photovoltaic (PV) modules
IEC 61215-2:2	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 2: Test procedures
IEC 61730 – 1 - 2016	Photovoltaic (PV) module safety qualification – Part 1: Requirements for construction
IEC 61730 – 2 - 2016	Photovoltaic (PV) module safety qualification – Part 2: Requirements for Testing
IEC 61701 – Edition 2.0 2011-12	Salt mist corrosion testing of photovoltaic (PV) modules
IEC 62804 – 1: 2015	Photovoltaic (PV) modules - Test methods for the detection of potential-induced degradation - Part 1: Crystalline silicon

k) **Junction Box**: IP67 or better rating- and would be TUV or equivalent lab certified, would be equipped with bypass diodes.
l) **Documentation:** Factory test reports/ flash reports of Electrical characteristics, namely current voltage (I-V) curves of supplied modules to be provided as per serial number. Also, Current Voltage (I-V) & power-voltage (P-V) performance curves at standard temperatures and irradiance to be provided. Factory test reports/flash reports would be provided in paper and soft format (digital). Also, I-V Curve Report (in hard copy) of individual Solar Module should be pasted at the back sheet of every module. Pasting of the I-V Curve report should be such that it should remain intact till the modules are installed at the site.

4.3 Roof Mounting Structure for PV Modules

a) The mounting arrangement for solar PV modules shall be fixed type mounting structures. The mounting structure materials shall be made of aluminium or aluminium alloy material series of 6000 for Flat/slope Tin roof (0-15 degree), and the minimum thickness of anodic coating grade shall be 25μm (IS: 1868 or relevant international standard) and anchoring/fasteners made of Stainless steel 304. The Solar PV modules supporting members shall be symmetrical rail profiles, and supporting/foundation type shall be Clamp/hook system fixed with existing roof structural members (purlins/beams/rafter). All bolts shall be tightened with designed torque mechanically.
b) The Solar PV Module mounting structures (MMS) shall be designed to withstand the extreme weather conditions in the area. The MMS design analysis and determination of forces, where a computer program is used, the contractor shall submit a write-up on the computer program used and its input and output data for review and approval of the owner or its representative.
c) The structures shall be designed for minimum basic wind speed obtained from the site/country recommendation. They shall be modified to include the effects (Risk level, Terrain roughness & Height of structure, Local topography, Importance factor for the cyclonic region, etc.) to get design wind speed for the chosen structure.
d) The mounting frames and their fixing component shall be designed as per country specific standard followed and acceptable international standard.

e) The standard mounting solution or products for tin rooftop from the reputed manufacturer is preferred.
f) There shall be no requirement for welding or complex machinery at the installation site.
g) The structure should be mounted, taking care of roof structure and proper gasket and sealing should be provided to avoid any water leakage inside the building.
h) Regarding civil structures, the Bidder would take care of the load-bearing capacity of the roof and arrange suitable structures based on the quality of the roof. The total load of the structure (when installed with PV modules) on the roof should be less than 60 kg/m^2
i) Each array structure and every solar module shall have to be grounded properly at two distinct points as per local electricity regulation using a maintenance-free chemical earthing (grounding) kit installed at the ground. All the components of the maintenance free earthing (grounding) kit shall comply with applicable codes and standard.
j) For any civil works required at site, minimum Grade of concrete conforming to IS 456/ equivalent international standard, ordinary concrete & standard concrete. Depth of Supporting foundation on the natural ground level shall be minimum 600 mm, and further details shall be review during detail engineering as per soil profile found.

4.4 Array sub main/ main junction / distribution box

Array sub-main/junction boxes/distribution boxes shall have the following properties:

a) They shall be dust, vermin & waterproof and made of Polycarbonate-Glass Fibre Substance (PCGFS) thermoplastic. The enclosure should be double insulated with protection Class-I as per IEC 61439-1. Material and the protection class shall be marked on the enclosure.
b) The enclosure shall have a transparent front lid for enabling easy visibility.
c) The enclosures shall have IP 65 or better protection in accordance with IEC 60529. Third party conformance certificate is required to be given for IP 65 or better degree of protection.
d) Minimum requirements for fire protection in the event of internal faults: Glow wire test in accordance with IEC 60 695- 2-11 at 960 °C for box and 850 °C for conducting components. Burning Behaviour: Base part of Polycarbonate Enclosure shall be UL94-V-0 compliant and Lid part of PC Enclosure shall be UL94-V-2 compliant
e) The enclosures shall have IK 08 degree of protection for mechanical load.
f) The material used shall be halogen, silicon free conforming to RoHS directive 2002/95/EC. The material of the-enclosure shall be UV stabilized. The enclosure should be chemically resistant to acid, lye, petrol, mineral oil & partially resistant to benzene.
g) The enclosures shall have a rated insulated voltage of minimum 1000 V_{DC} and dielectric strength of minimum 4.65 KV_{DC}.
h) The junction boxes shall have suitable cable entry points on the bottom or side with cable glands of appropriate sizes for both incoming and outgoing cables. Bidder to provide suitable cable entry points fitted with MC-4 make or equivalent field Connectors along-with breather glands in the array junction boxes to prevent overheating and explosions.
i) **Array Junction Box**: The cables from the array strings are be connected to Array Junction Box. Array junction box should have safety item installed in appropriate manner. DC Surge Protecting Device (SPD) Class II (as per IEC 61643-1) with a voltage rating and current rating as required shall be provided. String fuses shall be provided for each of the string coming from Solar Array should be of PV category and dedicated to solar applications and conform to IEC 60269-6 or UL-2579 standards and fuse base shall comply with IEC 60269-1

4.5 Hybrid Inverter

Hybrid inverters should essentially be a solar inverter combined with a battery inverter/charger in one single unit. Inverter should use clever software which can be programmed to determine the most efficient use of available solar energy enabling the storage of excess solar energy in the battery system. Hybrid inverters should be able to function like a common grid-tie solar inverter including battery backup mode/AC coupling and by exporting excess solar energy to the utility grid.

a) The supplied Inverter shall be capable of interfacing with the electrical grid with auto changeover facility between solar powered Inverter AC output and Utility supply. However, since the DG set is already available, provision shall be made to connect the DG set to the load by providing a changeover switch arrangement. Hybrid Solar Inverter should have provision for by-pass arrangement so as to cater load directly through DG set/grid, in case of failure. Typical features shall be:
    i. Intelligent battery management system;
    ii. Versatile - complete for off-grid management as well as grid-tie battery backup/AC Coupling;
    iii. Modular, stackable design;
    iv. Automatically transfers between inverter power and incoming AC power source
    v. Indications of status of operation (e.g. LED)
    vi. Emergency stop switch on the front panel
b) Inverter must adhere to the following Grid connectivity features
    i. Grid Frequency Synchronization range: + 3 Hz or less and -2.3 Hz or more of the existing Grid Frequency of 60 Hz.
    ii. Grid Voltage tolerance: ± 10 %.
    iii. The output of power factor of Hybrid Solar Inverter is suitable for all voltage ranges or sink of reactive power; inverter should have internal protection arrangement against any sustainable fault in feeder line and against the lightning on feeder
c) In addition, the Hybrid Solar Inverter shall also house MPPT (Maximum Power Point Tracker and it shall be integrated in the Hybrid Solar Inverter to maximize energy drawn from the array).
d) Typical technical features of the inverter shall be as follows:
    i. Minimum Inverter capacity shall be 2 kW (Minimum Total capacity 10 kW) for single phase, 0.9 Power factor with a nominal AC output voltage and frequency: 220 V ± 10%, 60 Hz, pure sine wave.
    ii. Switching devices: IGBT, Control Microprocessor /DSP
    iii. Ambient temperature considered: -20ºC to 50ºC, Humidity: 95% Non-condensing
    iv. Protection of Enclosure: IP-20 (Minimum) for indoor: IP-65 (Minimum) for outdoor.
    v. No-load losses: Less than 2% of rated power
    vi. Minimum Euro efficiency shall be 96%
    vii. The Hybrid Solar Inverter shall be equipped with integrated data logger for collecting & recording the hourly data of output status, particularly energy, voltage & frequency and fault logging. It shall monitor Project performance and the data shall be retrievable through external computer
    viii. Indications shall be provided for Input & Output voltage, Frequency, Power output, efficiency of the inverter & charge controller, different status of inverter, kind of fault by LED & audio signal (Buzzer)
    ix. The system shall have protective features of:

- Shut Down on Over Voltage both at input & output Automatic,
- Shut Down on Over Current both at input & output /Load
- Automatic protection against Over Frequency,
- Automatic protection against Surge voltage induced at output due to external source,
- Shutdown on low battery voltage
- Short Circuit Protection by Circuit Breaker and Electronics protection against sustained fault.
- Automatic Protection against lightening faults.
- Protection against DC reverse polarity in the inverter
- The system should have facilities like Remote diagnostics, monitoring and reporting via Internet and GSM.
- All parameters shall be software configurable
- Inverter shall be complaint with local grid code for LVRT, HVRT etc. Bidders are advised to get themselves updated for these requirements of local codes and regulations
- The inverters should comply with following codes and standard:

Codes	**Description**
IEC-61683	Energy efficiency requirements
IEC 61000	Emission/ Immunity requirement
IEEE 519	Recommended practices and requirements for harmonic control in electrical power systems.
IEC 60068	Environmental testing
IEC 62116	Testing procedure—Islanding prevention measures for power conditioners used in grid-connected photovoltaic (PV) power generation systems
IEC 62109-1 & 2	Safety of power converters for use in photovoltaic power systems.
EN 50530	Overall efficiency of grid connected photovoltaic inverters.
IEEE 1547/IEC 61727/ BDEW	Standard for interfacing solar PV plant with utility grid.
Grid Connectivity	Relevant Local regulations and grid code shall be applicable for interfacing of Inverter with the grid.

Local or other international code shall be acceptable, if proven equivalent. Bidders are advised to get themselves updated for local regulation and grid code for grid interfacing of inverter.

e) Five-Year Standard Warranty;

4.6 Energy Storage System (Lithium Technology)

a) The battery shall have minimum energy storage capacity of 37 kWh at 25 °C.
The battery voltage shall be as per associated inverter design.

b) Type of the battery shall be Li-ion preferably Lithium Ferro Phosphate ($LiFePO_4$) with minimum capacity of individual cell as 3.2 V, 40 Ah, while specific energy of battery system shall be minimum 100 Wh/kg.
c) The Battery shall have minimum charging rate of C/4 and discharge rate shall be up to 1C. Battery shall give a trouble-free life of minimum 2500 charge/discharge cycles at C/10 rate at 25 °C.
d) Battery shall be warranted for minimum period of five (5) years.
e) Battery shall be rated for minimum 85% Depth of Discharge.
f) The thermal runway shall be minimum 150 °C.
g) The battery shall operate trouble free with operation temperature ranging from -5 to 60 °C.
h) The Cell and Battery should conform to latest IEC 62133-2012 or BIS specifications and should have been certified with NABL/IEC accredited test centre/laboratory as per IEC/ BIS standard IEC 62133, IEC 61960 & UL1642 for Safety of $LiFePo_4$ battery.
i) The battery shall be provided with Battery Management System (BMS) to ensure the proper charging and discharging of each cell of battery with proper protection of battery when temperature is reaching beyond battery permissible limits.
j) The battery shall be supplied with all its enclosure/stand and all other accessories to make system complete and functional.
k) Continuous battery life and state of health monitoring shall be provided.
l) Battery Protection Panel (BPP) has to be installed between Charge Controller and Battery Bank as safety measure and battery protection. HRC Fuse and DC MCCB has to be installed with BPP.

4.7 Energy Management System

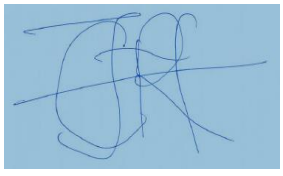
The energy storage management system shall be capable of (but not limited to) the following:

- State of Charge (SOC) management/tracking
- PV curtailment
- Charging and discharge rates
- ESS monitoring (power, voltages, current, etc.)
- Active/Reactive power input/output
- Active/Reactive power import/export limiting
- Frequency response capable
- Data logging
- 3 years Warranty

4.8 Schematic Diagram

- A detailed system schematic design layout of all components and how they interconnect with each other **MUST** be provided in accordance with NEC 2017 Article 690. Drawings provided **MUST** be electrical schematic drawings and show all components and their respective rating (e.g. wires and circuit breaker sizes). The contractor is responsible for all interconnections, including the connection of all the buildings to the PV system. This should be done through a mini-grid configuration. All the hardware required for successful interconnection must be provided by the contractor.

- **The contractor is required to have a laminated copy of the system schematic installed at the location where the system components are sited (size: Minimum 11”L x 17”W)**



4.9 Cabling

a) Adequate quantity of Cables along with pipes and accessories shall be provided. The cables used in the system should be PVC or XLPE insulated FRNC armoured Copper/aluminium conductor. Cables of various sizes as per load requirement for connecting all the modules/arrays to Junction Boxes and from Junction Boxes to DC distribution box and from DC distribution box to inverter, and from inverter to the building distribution box, as applicable for proper functioning of the system.
b) Cables for use at the DC-side of PV system shall meet the requirements of EN-50618 or other equivalent standard.
c) Suitable industrial Grade B rigid conduits shall be provided for cables connecting Solar PV array with Hybrid Solar Inverter. All cable entry to and from Inverter must be able to prevent access of rodents, termites and other insects into the Hybrid Solar Inverter.
d) The permissible voltage drop from the Solar PV Module to the Hybrid Solar Inverter shall not be more than 2% of peak power voltage of source.
e) All electronic connections should be properly terminated, soldered and/or sealed from outdoor and indoor elements. Relevant codes and operating manuals must be followed.
f) Extensive wiring and terminations (connection points) for all Solar PV components is needed
g) Cables and wires used for the interconnection of solar PV modules shall be provided with solar PV connectors (MC4 or equivalent) and couplers.
h) All cables and conduit pipes shall be clamped to the rooftop, walls and ceilings with thermo-plastic clamps at intervals not exceeding 50 cm. The minimum DC cable conductor size shall be 4.0 mm^2 copper and shall be compatible with reference to the current flowing from Solar Module Junction Box till Power Conditioning Unit. The minimum AC cable conductor size shall be 4.0 mm^2 copper for up to 10 kWp and 16.0 mm^2 for above 10 kWp required standard size.
i) The following colour coding shall be used for cable wires:
DC positive: RED (the outer PVC sheath can be black with a red line marking) **DC negative**: BLACK, AC single phase: Phase: RED; neutral: BLACK, **AC three phase**: Phases: RED, YELLOW, BLUE; neutral: BLACK Earth wires: GREEN or YELLOW with GREEN strip.
j) Cables and conduits that must pass through walls or ceilings shall be taken through a PVC pipe sleeve.
k) All cable ties shall be UV resistant.
l) The Cable should be so selected that it should be compatible up to the life of the solar PV panels i.e., 25 years.

4.10 Monitoring System

The installation shall provide real-time **web-based** electric energy meter, power Meter, data logger and appropriate current transformers to record electric consumption of the building from the solar energy produced by the solar PV system and also provide a combined recording of all inverters/circuits loads. It should provide:

- Graphical and Numerical real-time energy information and long-term reports (total power demand of the building including from the utility (if any) and solar, total energy consumption of the building from the utility (if any) and solar, total power generated by the solar system, total energy produced by the solar system, net energy, avoided carbon dioxide emissions);
- Historic Data;

Data export via push or pull with an open data API.
- No service contracts
- Warranty 3 years
- **Must** have at least one (1) ethernet styled registered jack (RJ) 45 data port.

The mounting structure must be able to absorb and transfer the mechanical loads to the support structure of the roof and ensure no damage is done on the existing roof.

4.11 Earthing and lightening protections

a) The SPV system shall be provided with lightning & overvoltage protection. The entire space occupying the SPV array shall be suitably protected against Lightning by deploying required number of Lightning Arrestors. Lightning protection shall be provided as per IEC 62305 /IS 2309 standard. The protection against induced high voltages shall be provided by the use of metal oxide varistors (MOVs) based surge protection device and suitable earthing such that induced transients find an alternate route to earth.

b) Each array structure of the PV yard shall be grounded/earthed properly as per IEC 62305/IS 2309 standard. IEEE 80/IS: 3043- 1987 or any local or international code may be accepted, if proven equivalent. In addition, the lighting arrester/masts shall also be earthed inside the array field as per IEC 62305/IS 2309. Earth resistance shall not be more than 5 ohms. It shall be ensured that all the earthing points are bonded together to make them at the same potential.

c) Separate earthing shall be provided for Lightening arrestor, SPV Module, Mounting Structure, all DC electric circuits, AC circuits and Inverter. In each array every module should be connected to each other with copper wires, lug teethed washers.

d) For safety purpose, it shall be ensured during installation that the earthing is capable of taking care of leakage current.

e) Earthing System shall connect all non –current carrying metal receptacles, electrical boxes, appliance frames, chassis and PV module mounting structures in one long run. The earth strips should not be bolted. Earthing GI strips shall be interconnected by proper welding.

4.12 Fire Extinguisher

- Can be of type: Carbon Dioxide, Dry Chemical, Clean Agent or Dry Powder
- 20 pounds (lbs.)
- Class C rated
- Operation type (P.A.S.S)

5. Specification of Required Services

5.1 Scope of Work

a) Bidder shall provide one number solar PV based solarisation system/equipment and related services as per the technical specification sheet. This shall include design, engineering, manufacture, fabrication, assembly, pre-shipment testing at manufacturer's works, proper packing for transportation, transportation along-with transit insurance, delivery at plant site, unloading, storage, installation, interconnection with related equipment, calibration, testing, commissioning to a fully operational condition as covered under this specification.

b) Bidder shall also provide provision of remote monitoring for the system, training of intended beneficiaries and discharge of guarantee & warranty as covered under this specification.

c) Bidder shall also provide all material, equipment and services which may not be specifically stated in the specifications but are required for completeness of the equipment/systems furnished by the Bidder and for meeting the intent and requirement of the project/specification. The work shall be consistent with the latest practices and shall be following all applicable international codes, standards, guidelines, and safety requirements in-force on the date of award in the country.

5.2 Provenness Criteria

The solarisation equipment of equivalent or above capacity as proposed for this project should have been working in field successfully for at least one year. Bidder shall provide documents for the installed project like: order copy, technical Page specification/data sheet of the supplied system, user certificate for satisfactory operation.

5.3 General Requirements

a) The Bidder shall carry out Shadow Analysis at the site and accordingly design the layout considering optimal usage of space, material, and labour.

b) The Bidder shall check the roof strength and its adequacy for mounting the solar panels. Bidder shall also check all the spaces/room/facilities where solar plant equipment is to be installed. Bidder shall provide necessary details and interact with concerned user/beneficiary/agency or visit site for better understanding for the same.

c) During system erection/commissioning, Bidder shall carry out the inspection for the existing electrical network and internal distribution system of the building to ensure safe interface between the newly installed system and existing system.

d) Bidder shall connect the newly installed solar system to existing Mains/ACDB for interfacing with internal electrical loads of Project's License's network/electrical loads.

e) Metering of the energy supply from supplied solar plant to grid (if connected) will not be in scope of the Bidder.

f) The installed system shall be electrically safe to use, without the danger of electrical shock. Adequate provision of protection from lightning and equipment earthing shall be done and protection shall be provided to detect faults like earthing/short-circuit and bring the system to safe stage.

g) The electrical system shall conform to the local electricity acts and laws.

h) Adequate nos. of Danger Board and Signage to be provided and installed at the time of erection and commissioning. Display boards of Dos and Don'ts to be provided.

i) All the components should have a name plate with its capacity mentioned on it.

j) Provision for display of contact details of officials responsible for O&M and any emergency should be made.

k) Water supply during erection and commissioning shall be provided by the Beneficiary from the nearest source. Bidder shall make necessary arrangement for using the water for its erection and commissioning activities.

l) Bidder shall install a water pipe line near the PV modules for ease of module cleaning work. Beneficiary shall ensure that sufficient water pressure is maintained in the pipe line.

m) Cleaning and Water Washing Arrangement for Solar PV Modules

- An appropriate Solar PV Module cleaning & water washing system complete GI/PVC pipes, valves, hose pipes, wipers, mops etc. shall be provided for regular cleaning and water-washing of the rooftop Solar PV modules.
- Minimum two sets of Microfibre based cleaning tool is to be provided for each rooftop location.
- Drainage for this system shall be arranged by the bidder.

n) Power supply required during erection and commissioning shall be provided by the Bidder its erection and commissioning activities.

o) Liaison with the concerned statutory authorities in the country, as applicable for all the Project related approvals shall be the responsibility of the Procuring Entity. The Bidder shall provide all inputs, information and documents for the same.

p) Security, safety, watch, and ward of all materials at sites shall be the responsibility of the Bidder. Safety management to be strictly complied with by the Contractor/Bidder throughout implementation activity.

q) All local labour, employment, and other issues shall be handled independently by the Bidder.

r) Waterproofing of the roof disturbed/pierced for installation of system, shall be done by the Bidder.

s) Bidder shall propose all the equipment of the system as per the standard range of the manufacturer. In case the standard manufacturing rating is less than the required rating as per the specification, the Bidder shall offer higher rated equipment in manufacture standard range at no extra cost to the owner. Equipment over rating of a manufacturer standard rating through project specific modifications will normally will not be acceptable.

Bidders are required to visit the selected site to determine the best possible locations for the complete system, voltage and phase requirements for inverters and to become acquainted with the site for the installation of the system. ***A detailed schematic diagram is required, showing system layout and include all interconnection equipment and points of connection for DC, AC, lightning and grounding protection.***

The successful bidder shall be required to provide all necessary infrastructure for mounting/positioning the solar modules, inverters, controllers, energy storage system, switch gears and busbars. All infrastructure constructed must be structurally sound, secure and provide protection and adequate ventilation for the equipment installed.

The successful bidder is also responsible for connecting the building to the installed solar PV system. The end user voltage should be $110/120V_{AC}$.

5.4 System Operation

a) The system must be configured in an AC or DC coupled configuration or a combination of the two. The solar PV system shall be the primary source of energy for the building.

b) Electricity generated from the PV arrays shall be used for real-time consumption, and recharging of the battery energy storage system.

c) The battery energy storage system should provide the primary function of allowing the maximum use of energy stored during the periods when solar energy is not available (at

nights). It should be capable of providing rapid response when the intermittent source cannot meet the energy requirement of the consumers.

d) The PV system should be capable of power generation scheduling for specified or predetermined periods of the day. Thus, the daily operation of the PV system shall be automated to turn ON and OFF power based on a predetermined schedule.

5.5 Installation

- All installations are to be conducted in accordance with **NEC 2017 Article 690** which covers solar PV systems installation, protection (AC, DC and lightning) and grounding, Chapter 3 of the NEC 2017 which covers wiring method and materials, and **Article 705 for** interconnection to the grid. **The Contractor is required to connect the PV system in a Grid-tie configuration. All labels/markings are to be provided by the contactor in accordance with the NEC 2017 Article 690 requirements.**

- The Government Electrical Inspectorate (GEI) requires that all solar installations must be provided with effective independent grounding/earthing systems. The contractor is therefore required to install a separate grounding rod that when tested has ground resistance value of 25 ohms or less. The minimum size copper grounding rod to be use is 5/8 inches (diameter) x 8 feet (length) for the solar PV installation.

- **The GEI also requires that the contractor applies and pay for an independent inspection certificate of the completed installation.** This inspection certificate is required by the GEA before a final completion certificate could be issued.

- The contractor is responsible for ensuring that the monitoring system is connected via wireless fidelity (Wi-Fi) or cable to the existing network of the building (if any). All materials required for this task must be provided by the contractor.

- For all hybrid inverter installation, a main circuit breaker 1.25 times the size of the rated output (kW) of the Hybrid inverters is required to be supplied and installed near the existing electrical distribution panels of the building.

- Damages to internal and external walls e.g. any holes, cuts or any actions/activities resulting in the defacing of the building during installation, must be repaired (neatly covered with appropriate moulding, paint or filling material) and returned to the original state at the expense of the contractor.

- The contractor is also responsible for interconnecting the inverter/hybrid inverter for systems featuring energy storage to the electrical distribution supply at the building. All materials required for this task must be provided by the contractor.

- The Balance of System (BOS) items/components of the Solar PV plant(s)/system(s) deployed must conform to the latest edition of IEC/equivalent BIS Standards

5.6 Delivery of Equipment to Installation Sites

The Bidder is fully responsible for organising and guaranteeing timely delivery and transport of the equipment to the installation site.
The Bidder is requested to present detailed information on the schedule of delivery and transport modalities of the equipment to the project site. Close coordination with responsible staff from the procuring entity is recommended. The Bidder is requested to consider site conditions having a potential influence on delivery and installation.

5.7 Transfer of Ownership

An Acceptance Inspection will be organised by the Procuring Entity and in presence of the Seller will allow for the issuance of a certificate to transfer ownership to the Purchaser.

5.8 Warranty

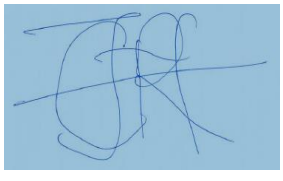
a) Warranty for components shall be as provided by the manufacturer or as specified in the technical specifications e.g., PV module(s) will be warranted for a minimum period of 10 years from the date of supply
b) Warranty for Electrochemical battery: The warranty of electrochemical battery, including software's and spare (if any) shall be provided for a minimum period of 5 years from the date of commissioning. Any repaired, replaced or re-performed activity under the above stipulated warranty period shall be the liability of Bidder without any charge.
c) Standard Warranty for first year from the date of commissioning shall be part of the equipment cost. The work done/material supplied would be warranted for satisfactory operation and against any defect in material and workmanship, controllers, and other balance of equipment's as per scope of work
d) Extended warranty of four years after one year of standard warranty from the date of commissioning shall be quoted separately and the same shall be part of total cost. The work done/material supplied would be warranted for satisfactory operation and against any defect in material and workmanship including Luminaries, controllers, and other balance of equipment as per scope of work.
e) The eligible Bidder shall ensure that the system can be made functional within three days from the communication of breakdown of the system during the warrantee period. If the Bidder is not able to address the issue within three days due to reasons attributable to Bidder, damages and not as penalty shall be recovered at USD $50 for each day of delay per incident. The Bidder will maintain adequate spares with its authorized representative/sub Bidder/local service partner to restore the system in stipulated time as mentioned above. The names and contact details of officials of Bidder should be mentioned at the appropriate location at the installation site, preferably at the front portion of the Hybrid Solar Inverter
f) Bidder shall provide details of its organisational set up for warranty and extended warranty discharge.

5.9 After Sales Service

The Seller must provide a local after-sales service of no less than 3 years.

5.10 Training

Bidder would provide online training in English to approx. 10-15 relevant officials/ stakeholders identified by the country, before supply of equipment for proper storage, handling and erection and commissioning activities about the solution.
An offline Training on the various aspects of design, operation, and maintenance of the system shall be provided by the Bidder at site to identified members from the country at the time of commissioning.



Bidder must provide comprehensive user and O&M manuals for the equipment including safety manuals in adequate number of soft and hard copies. Minimum two hard copies in English language shall be provided. Soft copies will also be in English.

5.11 Commissioning

The Solar rooftop system is deemed to be commissioned after the completion of all the facilities pertaining to scope of work of as per the specification. Acceptance Test for the Roof top Solar PV System The Acceptance test shall be conducted at site and witnessed by Beneficiary representative. Based upon the result, site representative deputed by country will accept the system. The month wise target Performance Ratio (PR) shall be determined during initial/engineering stage based on the Bidder's technical proposal. The target PR (>75%) shall be supported by energy estimation tool e.g. PVSyst, PVSol. The value of PR shall be determined as follow:

$$PR\ (\%) = \frac{\text{AC Yield (kWh)} \times 100}{\text{Installed Capacity (kWp)} \times (\text{Measured Global Inclined Insolation (kWh/m}^2\text{) during the period/kW/m}^2)}$$

The assumptions for calculating Acceptance Tests are as follow

- Temperature as per latest version from PVSyst for determining standard value of PR
- Soiling loss=3%
- LID=2%
- Cable loss=1.5%
- Thermal Loss Factor (Uc, Uv)= Uc-24 Watts/m2-K Uv-2.0 Watts/m^2-K PAN and OND file have to be furnished by the Bidder. In case same is not available, PAN and OND file of equivalent product may be taken

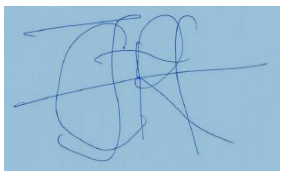
1. For the purpose of measuring Global Horizontal Insolation (GHI), a pyranometer shall be installed by the Bidder on returnable basis, mounted at the plane of the module,
2. For energy calculation during acceptance test, energy meter of inverter shall be used.
3. Measuring instruments to record on site data will include a pyranometers (with sensitivity of 7μV/(W/m^2)), temperature sensor and a signal converter.
4. The Bidder will be responsible to conduct the Acceptance test only after achieving the physical completion
5. If failed to achieve the guaranteed performance levels, the contractor will at its own cost rectify all the defects identified during the test and take necessary steps/efforts to pass the PR test within the stipulated time span. Subsequent to rectification the PR will be restarted.
6. The test shall be conducted for a period of 60 minutes having GHI more than 600 W/m^2 and the Measured PR shall be determined as per the actual generation.
7. In case the measured PR is less than target PR, then Bidder has to rectify first, else
8. Bidder has to install additional module string equivalent to the percentage shortfall of PR. Or In case there is no scope of any additional of module string, equivalent amount shall be adjusted from the contract value as

$$\text{Applicable I.D} = \frac{(\text{Target PR of the Month} - \text{Measured PR}) \times \text{Contract Value}}{(\text{Target PR of the Month})}$$

Commissioning would also encompass inspection and testing the solar PV system after installation and certifying that it operates as expected and is installed according to the design plans and complies with NEC 2017 Articles 690 and 705.

5.12 Defects Liability

The defects liability period for the goods and related services is twelve (12) months following provisional acceptance of the system. During this period, the contractor will be responsible for rectifying any defects free of cost to the Procuring Entity.



SUPPLIER'S BID

TO: _____
(Name and address of Procuring Entity)
Dear Sir / Madam,

Having examined the bidding documents including Annexes and Addenda No _____ *[specify numbers]*, the receipt of which is hereby acknowledged, we offer to execute the ***Supply, Installation and Commissioning of a 9 kWp Grid-Tied Solar Photovoltaic System and 37 kWh Battery Energy Storage System at the Orealla Health Centre*** in accordance with the Contract conditions attached herein for the total amount of _____,_____
The Value Added Tax (VAT) for our bid is
…….
(amount in words and figures). ***Goods and services purchased using donor funds are zero rated; however only imported goods and services are zero rated when purchased using government funds*)**

The Price of our bid, excluding VAT is
…… …… …… *(insert the total bid price in words and figures, in Guyana dollars as per details given in the price schedule attached)*

Alternative bids (at the Employer's request):
Also, we offer to execute the works pursuant to alternative bids for the amount of _____ GYD

(a) We, including all subcontractors, regarding any part of the Contract, in accordance with the bidding documents, have no conflict of interests pursuant to subclause 2 (i) of the Instructions to Bidders;

(b) We, including all subcontractors, regarding any part of the Contract, in accordance with the bidding documents, have not been declared by the authorized State body on procurement to be ineligible, or are not ineligible, in accordance with the legislation of Guyana.

We undertake, if our Bid is accepted, to supply the Goods, in accordance with a delivery schedule given in the Schedule of Requirements.

If our Bid is accepted, we undertake to furnish the Performance security in the form of _____ to the amount of _____, comprising _____% of the Contract Price in order to execute the Contract properly and within the time period(s) specified in the Bidding Documents.

We hereby confirm that this bid shall be valid during _____ days starting from the date established for bid opening, and it shall be binding until the expiry of the indicated period.

We understand that you are not bound to accept the lowest or any bid you receive.

Dated the_____ day of _____ 202__.

Duly authorized to sign the Bid for and on behalf of
_____(*name of Supplier*)

_____ _____ _____
(*Full name)* *(Title)* *(Signature and seal)*

PRICE SCHEDULE

Item No.	Brief description of goods	Quantity	Unit price	Total price	Total Cost including delivery
	Supply, Installation and Commissioning of a 9 kWp Grid-Tied Solar Photovoltaic System *and 37 kWh Battery Energy Storage System* at the Orealla Health Centre PV module Mounting structure: Hybrid Inverter Batteries Web-based energy monitoring system Cabling and miscellaneous Fire Extinguisher Installation and commissioning materials for PV system (including all materials/components required for interconnection to on-site)				

Please note that the procuring entity will not be responsible for customs clearance of the goods.

Duly authorized to sign for and on behalf of

_____

(*name of Bidder*)

_____ _____ _____

(*Full name)* *(Title)* *(Signature and seal)*

SUPPLY CONTRACT FOR GOODS

THIS CONTRACT made the _____ day of _____ 202__ between ***Guyana Energy Agency*** (hereinafter referred to as "the Procuring Entity"), on the one hand, and_____ *[name of Supplier]* from _____ *[city and country of Supplier]* (hereinafter referred to as "the Supplier"), on the other hand have come to an Agreement on the following:

The Procuring Entity has announced bid for procurement of goods and services, namely ***Supply, Installation and Commissioning of A 9 kWp Grid-Tied Solar Photovoltaic System and 37 kWh Battery Energy Storage System at the Orealla Health Centre*** and has accepted the Supplier's bid for the supply of indicated goods and services to the sum of _____ *[Contract Price in words and figures]* (hereinafter referred to as "the Contract Price").

THIS CONTRACT WITNESSES AS FOLLOWS:

1. In this Contract, the terms and expressions have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.

2. The following documents shall form the Contract and shall be deemed its integral part, viz.:
   (a) Procuring Entity's Notification of Award;
   (b) Bid and Price Schedule submitted by Bidder;
   (c) Schedule of Requirements;
   (d) Technical Specifications;
   (e) General Conditions of Contract;
   (f) Special Conditions of Contract;
   (g) Other documents included in the Contract documents;

3. This Contract shall prevail over all other Contract documents. In the event of any discrepancy or inconsistency within the Contract documents, then the documents shall prevail in the order listed above.

4. In consideration of the payments to be made by the Procuring Entity to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Procuring Entity to provide the Goods and Services, and remedy defects therein in conformity in all respects with the provisions of the Contract.

5. The Procuring Entity hereby agrees to pay the Supplier in consideration of the delivery of the Goods and Services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS of the aforesaid, the parties hereto have caused this Contract to be executed in accordance with the legislation of Guyana the day and year first above written in the beginning of the document.

Signed and Sealed _____ *[Full name and title of Procuring Entity's representative]*

Signed and Sealed _____ *[Full name and title of Supplier's representative]*

BID-SECURING DECLARATION

[The Bidder shall fill in this Form, if applicable pursuant to BDS.]

Date of Bid Submission (*day/month/ year)*:
RTB, MTB Reference No. (*number of bidding process)*:
Alternative No. (*insert identification No. if this is a Bid for an alternative)*:

To: ……***Guyana Energy Agency***…… *[insert complete name of Procuring Entity]*

We, the undersigned, declare that:

1. We understand that, according to your conditions, bids must be supported by a Bid-Securing Declaration.

2. We accept that we will automatically be suspended from being eligible for bidding in any contract with the Procuring Entity for the period of time of two (two) years starting from the date of the award of contract if we are in breach of our obligation(s) under the bid conditions, because we:

   (a) Have withdrawn our Bid during the period of bid validity specified by us in the Bidding Data Sheet; or

   (b) Having been notified of the acceptance of our Bid by the Procuring Entity during the period of bid validity, (i) fail or refuse to execute the Contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the ITB.

3. We understand this Bid Securing Declaration shall expire if we are not the successful Bidder, upon the earlier of (i) our receipt of a copy of your notification of the name of the successful Bidder; or (ii) twenty-eight days (28) after the expiration of our Bid.

Signed: …….. *[insert signature of person whose name and capacity are shown]* In the capacity of ……. (Insert *legal capacity of person signing the Bid Securing Declaration]*

Name: …….. (insert complete name of person signing the Bid Securing Declaration)
Duly authorized to sign the bid for and on behalf of:
…… *[insert complete name of Bidder]*

Dated on _____ day of _____, _____*insert date of signing]*

BID SECURITY
(Bank Guarantee or Insurance Bond)

Whereas _____ *[name of Bidder]* (hereinafter referred as "the Bidder") is ready to submit his bid dated _____ *[date of bid submission]* for the ***Supply, Installation and Commissioning of a 9 kWp Grid-Tied Solar Photovoltaic System*** **and 37 kWh Battery Energy Storage System** ***at the Orealla Health Centre*** *[name and/or description of goods]* (hereinafter referred as "the Bid"),

KNOW ALL PEOPLE, that WE _____ *[name of Bank / Surety]* from _____ *[name of country]*, having our registered office at the address _____ *[address of Bank / Surety]*, (hereinafter referred as "the Bank"), are bound to _____ *[name of Procuring Entity]* to the sum of _____, by which payment to the indicated Procuring Entity shall be made in whole and in a timely manner; the Bank is bound on behalf of its name, its successors and authorized persons. This is to confirm that the license issued to the Bank shall provide for activity on issuance of the guarantee, and the person(s) signing that guarantee is entitled to act on behalf of the Bank, and if the approval of Board of Directors, or of General Stockholders Meeting is required, it is already received and there is no other approval required.

THE CONDITIONS of this obligation are as follows:

1. If the Bidder:
   (a) Withdraws their Bid during the period of bid validity specified by the Bidder on the Form of Bid; or
2. If the Bidder having received notice from the Procuring Entity that their bid is accepted within the period of bid's validity:
   (a) fails or rejects to sign the Contract at the request of; or
   (b) fails or rejects to furnish the performance security in accordance with the Instructions to Bidders;

We undertake to pay the Procuring Entity the above sum upon receipt of their first written request, without needing the Procuring Entity to show grounds or reasons of that request, provided that the sum requested by the Procuring Entity is due to him because of the occurrence of one or two or both conditions, specifying the condition or conditions occurred.

This guarantee shall remain in force during _____ days inclusive following the expiry of the bid validity period, and any request in respect thereof should reach the Bank not later than the abovementioned date.

_____ _____ _____
(Full name of Bank / Surety representative) *(Title)* *(Signature and seal)*

Dated on «____» day of _____202__.

Address of the Bank / Surety issuing guarantee:
_____

Manufacturer's Authorization

The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer. The Bidder shall include it in its bid, if so indicated in the ***BDS.****]*

Date of Bid Submission*(day/ month/ year):*
IFB No:*[insert number of bidding process]*
Alternative No.:[*insert identification No if this is a Bid for an alternative]*

To: _____ *[insert complete name of Purchaser]*

WHEREAS

We _____ *[insert complete name of Manufacturer]*, who are official manufacturers of _____*[insert type of goods manufactured]*, having factories at _____ [insert full address of Manufacturer's factories], do hereby authorize _____ *[insert complete name of Bidder]* to submit a bid the purpose of which is to provide the following Goods, manufactured by us _____*[insert name and or brief description of the Goods]*, and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with Clause 1.3 of the General Conditions of Contract, with respect to the Goods offered by the above firm.

Signed: _____*[insert signature(s) of authorized representative(s) of the Manufacturer]*

Name:_____ *[insert complete name(s) of authorized representative(s) of the Manufacturer]*

Title:_____ *[insert title]*

Duly authorized to sign this Authorization on behalf of: _____*[insert complete name of Bidder]*

Dated on _____ day of _____, _____ *[insert date of signing]*

PERFORMANCE SECURITY
(Bank Guarantee/ Performance Bond)

TO: _____***Guyana Energy Agency***_____
[Name of Procuring Entity]

WHEREAS _____*[name of the Supplier]* (hereinafter called "the Supplier") has undertaken, in accordance with the Contract No. _____*[Contract number]* dated _____ 202_ to ***Supply, Install and Commission a 9 kWp Grid-Tied Solar Photovoltaic System and 37 kWh Battery Energy Storage System at the Orealla Health Centre*** *[description of Goods and Services]* (hereinafter called "the Contract"),

AND WHEREAS it has been stipulated by you in the said Contract that the Supplier shall furnish you with a [Bank Guarantee or Performance Bond from an insurance company licensed by the Bank of Guyana] the sum specified therein as a security for compliance with the Supplier's obligations under the Contract,

AND WHEREAS we have agreed to furnish the Supplier with a security,

THEREFORE WE hereby confirm that we are the Guarantors and are responsible to you on behalf of the Supplier, up to a total of _____*(amount of security in words and figures)* and, we undertake to pay you, on your first request notifying of the Contractor's default with the Contract, and without cavil or argument, any sum or sums within the above limits, as aforesaid, without your needing to show grounds or reasons of your request or the sum specified therein.

Any modification or addition, or amendment in the terms of Contract which may be made by the Procuring Entity and the Supplier by Additional Agreement shall in no way release us from obligations under the Guarantee, and we waive any notice of modification, addition, or amendment. This guarantee shall be valid until full completion of the Contract Conditions by the Supplier. Also, we confirm that the license issued to the Bank shall provide for activity on issuance of a bank guarantee, and the person signing the guarantee is entitled to act on behalf of the Bank / Surety, and if the approval of Board of Directors or of General Stockholders Meeting is required, it is already received, and there is no other approval required

This guarantee shall be valid till the _____day of _____ 202_.

_____ _____
_____
(Full name of Bank / Surety's representative) (Title) (signature and seal)

Dated on _____ day of _____202___.

Address of the Bank / Surety issuing guarantee: _____

Letter of Acceptance

(Letterhead paper of Procuring Entity)

_____ (date)

To: _____

(Name of Supplier)

_____

(address of Supplier)

We hereby notify you that your bid dated the _____ day of _____202__, for the supply of goods _____ (*description of goods*) up to a total of_____

(amount in figures and words)

as amended and modified in accordance with the Instructions to Bidders is hereby accepted by our agency.

Simultaneously, we send you the Form of Contract and request you, pursuant to Clause 20.1 of the Instructions to Bidders, during seven (7) days to sign and date the Form of Contract and return it at our address. Jointly with the signed Contract, we request you to furnish the performance security, in accordance with ITB Clause 20.2.

You hereby entrusted to start supply of the Goods, in accordance with the terms and conditions of a Contract.

Name of Agency _____

Full name and Title _____

Signature of Authorized Representative _____

Annex: The Contract

Affidavit of Authorization

TO:_____ *[name of Procuring Entity]*

WHEREAS _____ *[name of Supplier]*, who is the Supplier _____*[name and/or description of goods]*.

do hereby authorize _____ *[name and address of Supplier's Representative]* to submit the Bid, and sign the Contract based on I*nvitation for Bids* for the abovementioned goods to be supplied by us, and

_____

[Full name, title, signature for and on behalf of Supplier]

Dated on _____ day of _____202___. (seal)
(date)

Note: *The affidavit of authorization must be drafted on a letterhead of the Supplier and signed by a Commissioner of Oats or Justice of Peace. The Bidder shall include this authorization in his Bid.*

EVALUATION AND QUALIFICATION CRITERIA

No.	DESCRIPTION	PASS/FAIL
1.	Submission of a **valid** business registration or certificate of incorporation that is **clearly legible. Incorporated companies must submit a list of directors.**	
2.	Submission of a **valid** NIS compliance certificate in the name of the business as per business registration. **Document must be clearly legible.**	
3.	Submission of a **valid** GRA compliance certificate in the name of the business as per business registration. **Document must be clearly legible.**	
4.	**Completed and signed** supplier's bid page (36).	
5.	Completed and signed price schedule must be submitted.	
6.	**Completed and signed** delivery schedule page (*19*) or **statement of agreement** to supply goods/services **within the period specified in the delivery schedule**.	
7.	Provision of **documentation detailing the technical specifications** for the items listed in the Schedule of Requirement page (*19*) or **evidence to show that the goods match the Technical Specifications** as detailed on page (20).	
8.	A bid security of two percent (2%) of the tendered sum is required in the form of a Bank guarantee or a bond from an Insurance company licensed by the Bank of Guyana.	
9.	Demonstrate experience and technical capacity by providing **documentary evidence** that shows the completion of a minimum of two (2) contracts of similar size and scope to the Project over the lastfive (5) years. Bidder must **provide copies of contracts** with previous clients. Bidder must also demonstrate the experience of completing contracts of a **minimum value of G$3,000,000 for each year over two (2) years.**	
10.	Evidence of financial capacity, in the name of the bidder, representing ***30%*** of the bid price. Financial Capacity must be evidence in the form of a **bank statement or Line of credit from a bank or Insurance company licensed by the Bank of Guyana**. **The line of credit must state a figure**. The document must be **dated within one month** of the bid opening date and be **clearly legible**. When a photocopy is presented, it must be certified a 'true copy of original' by the issuing company.	
11.	Bidder must provide a letter of Authorization for the Procuring Entity to seek reference from the bidder's Bank **relating to the financial capacity evidence supplied**. The document must be **dated within one month** of the bid opening date and be **clearly legible**.	
12.	Written confirmation of authorizing signatory must be provided. This must be in the form of an **Affidavit of Authorization and endorsed by a Commissioner of Oaths or Justice of Peace.**	
13.	Bidder must provide **audited financial statements** for the **past three years for incorporated companies**. Financial statements must be **audited by a Chartered accountant/accountancy firm** and **include an auditor's note.** **OR** **Registered businesses** must provide **Balance Sheets, Profit and Loss Accounts, and Income and Expenditure Accounts** for the **past three years** .These financial statements must be **approved by a Chartered accountant/accountancy firm**. The financial analysis would include: Current ratio: >1 for each year of the last 3 years; Net worth: +ve and minimum of 20% of bid value; Average annual turnover: GYD$ 2million.	
14.	The Bidder shall provide accurate information on the related bidding form as provided on page 50 about any litigation or arbitration resulting from contracts completed or on-going under its execution over the last five years. **<u>Pending Litigation</u>**: All pending litigation shall in total not represent more *than 50*% of the Bidder's net worth and shall be treated as resolved against the bidder. **If bidder has pending**	

	litigation representing more than the stated percentage, the bid will not be considered. **Litigation History**: Non-performance of a contract did not occur as result of supplier's default since 1st January, *[2018].* **If bidder has a history of nonperforming contract the bid will not be considered.**	
15.	Bidder must provide a letter stating **any or no terminated or abandonment of projects**. The letter must be **dated within one month** of the bid opening date.	
16.	Provision of valid manufacturer's authorization or authorized distributor letter	
	Technical Requirements	
17.	**Photovoltaic Modules** • The total solar PV array capacity would not be less than 9 kWp. • The Solar PV modules must conform to the latest edition of IEC 61215 / IS14286 for Mono/ poly Crystalline Silicon Terrestrial PV Modules design qualification and type approval. The certificate shall be submitted. • The capacity of each of the solar module shall not be less than 325 Wp and no negative tolerance from quoted power rating on solar module shall be allowed in any strings of the inverter. The module would be PID resistant. • The temperature coefficient of power for the module would be better than -0.45% per ℃ • Module should have visual distinct identification mark based on the measured output in a band of maximum 5 Wp. The glass used for making module shall be 3.2 mm thickness for module up to 60 cell configurations. Each string shall have identical Wp rating Solar PV modules. • In addition, the modules must conform to IEC 61730 Part-1 - requirements for construction & Part 2 - requirements for testing for safety qualification or Equivalent IS. Module should also comply to IEC-61701 for salt mist testing. • The offered Solar PV module design series as per type certificate must have been in successful operation for at least six months as on date of submission of Bid. • Each PV module used must have a Radio Frequency Identification Tag (RFID) capable of withstanding harsh environmental conditions carrying technical details of the Module, but not less than in following manner; o Name of the manufacturer of the PV module and Solar cells, month, and year of manufacture (separately for solar cells and modules) and Country of origin (separately for solar cells and modules). o IV curve of module, Wattage, I_m, V_m, V_{oc}, I_{sc} of the module o Unique Serial No and Model No of the module o Name of the test lab issuing IEC certificate o Other relevant information on traceability of solar cells and module as per ISO 9001 and ISO 14001 • Solar PV modules used in plant(s)/ system(s) must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years. Warranty certificate mentioning output peak watt capacity shall be duly submitted by the Bidder. • The PV modules would comply with the following Codes/Standard (or other Code/Standard, if proven equivalent) as a minimum.	

Codes	**Description**
IEC 61215-1:	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1: Test requirements
IEC 61215-1- 1:2021	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1-1: Special requirements for testing of crystalline silicon photovoltaic (PV) modules
IEC 61215-2:2	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 2: Test procedures
IEC 61730 – 1 - 2016	Photovoltaic (PV) module safety qualification – Part 1: Requirements for construction
IEC 61730 – 2 - 2016	Photovoltaic (PV) module safety qualification – Part 2: Requirements for Testing
IEC 61701 – Edition 2.0 2011-12	Salt mist corrosion testing of photovoltaic (PV) modules

	IEC 62804 – 1: 2015 | Photovoltaic (PV) modules - Test methods for the detection of potential-induced degradation - Part 1: Crystalline silicon • **Junction Box**: IP67 or better rating- and would be TUV or equivalent lab certified, would be equipped with bypass diodes. • **Documentation:** Factory test reports/ flash reports of Electrical characteristics, namely current voltage (I-V) curves of supplied modules to be provided as per serial no. Also, Current Voltage (I-V) & power-voltage (P-V) performance curves at standard temperatures and irradiance to be provided. Factory test reports/flash reports would be provided in paper and soft format (digital). Also, I-V Curve Report (in hard copy) of individual Solar Module should be pasted at the back sheet of every module. Pasting of the I-V Curve report should be such that it should remain intact till the modules are installed at the site.	
18.	**Mounting Structure for PV Modules** a) The mounting arrangement for solar PV modules shall be fixed type mounting structures. The mounting structure materials shall be made of aluminium or aluminium alloy material series of 6000 for Flat/slope Tin roof (0°-15°), and the minimum thickness of anodic coating grade shall be 25 µm (IS: 1868 or relevant international standard) and anchoring/fasteners made of Stainless steel 304. The Solar PV modules supporting members shall be symmetrical rail profiles and supporting/foundation Type shall be Clamp/hook system fixed with existing roof structural members (purlins/beams/rafter). All bolts shall be tightened with designed torque mechanically b) The Solar PV Module mounting structures (MMS) shall be designed to withstand the extreme weather conditions in the area. The MMS design analysis and determination of forces, where a computer program is used, the contractor shall submit a write-up on the computer program used and its input and output data for review and approval of the owner or its representative. c) The structures shall be designed for minimum basic wind speed obtained from the site/country recommendation. They shall be modified to include the effects (Risk level, Terrain roughness & Height of structure, Local topography, Importance factor for the cyclonic region, etc.) to get design wind speed for the chosen structure. d) The mounting frames and their fixing component shall be designed as per countryspecific standard followed and acceptable international standard. e) The standard mounting solution or products for tin rooftop from the reputed manufacturer is preferred. f) There shall be no requirement for welding or complex machinery at the installation site. g) The structure should be mounted, taking care of roof structure and proper gasket and sealing should be provided to avoid any water leakage inside the building. h) Regarding civil structures, the Bidder would take care of the load-bearing capacity of the roof and arrange suitable structures based on the quality of the roof. The total load of the structure (when installed with PV modules) on the roof should be less than 60 kg/m2 i) Each array structure and every solar module shall have to be grounded properly at two distinct points as per local electricity regulation using a maintenance-free chemical earthing (grounding) kit installed at the ground. All the components of the maintenance free earthing (grounding) kit shall comply with applicable codes and standard. j) For any civil works required at site, minimum Grade of concrete conforming to IS 456/ equivalent international standard, ordinary concrete & Standard concrete. Depth of Supporting foundation on the natural ground level shall be minimum 600 mm, and further details shall be review during detail engineering as per soil profile found.	
19.	**Array sub main/ main junction / distribution box** Array sub-main/junction boxes/distribution boxes shall have the following properties: a) They shall be dust, vermin & waterproof and made of Polycarbonate-Glass Fibre Substance (PCGFS) thermoplastic. The enclosure should be double insulated with protection class-I as per IEC 61439-1. Material and the protection class shall be marked on the enclosure. b) The enclosure shall have a transparent front lid for enabling easy visibility.	

	c) The enclosures shall have IP 65 or better protection in accordance with IEC 60529. Third party conformance certificate is required to be given for IP 65 or better degree of protection. d) Minimum requirements for fire protection in the event of internal faults: Glow wire test in accordance with IEC 60 695- 2-11 at 960 ℃ for box and 850 ℃ for conducting components. Burning Behaviour: Base part of Polycarbonate Enclosure shall be UL94-V-0 compliant and Lid part of PC Enclosure shall be UL94-V-2 compliant e) The enclosures shall have IK 08 degree of protection for mechanical load. f) The material used shall be halogen, silicon free conforming to RoHS directive 2002/95/EC. The material of the-enclosure shall be UV stabilized. The enclosure should be chemically resistant to acid, lye, petrol, mineral oil & partially resistant to benzene. g) The enclosures shall have a rated insulated voltage of minimum $1000V_{DC}$ and dielectric strength of minimum 4.65 KV_{DC}. h) The junction boxes shall have suitable cable entry points on the bottom or side with cable glands of appropriate sizes for both incoming and outgoing cables. Bidder to provide suitable cable entry points fitted with MC-4 make or equivalent field Connectors along-with breather glands in the array junction boxes to prevent overheating and explosions. i) **Array Junction Box:** The cables from the array strings are be connected to Array Junction Box. Array junction box should have safety item installed in appropriate manner. DC Surge Protecting Device (SPD) Class II (as per IEC 61643-1) with a voltage rating and current rating as required shall be provided. String fuses shall be provided for each of the string coming from Solar Array should be of PV category and dedicated to solar applications and conform to IEC 60269-6 or UL-2579 standards and fuse base shall comply with IEC 60269-1	
20.	**Hybrid Inverter** Hybrid inverters should essentially be a solar inverter combined with a battery inverter/charger in one single unit. Inverter should use clever software which can be programmed to determine the most efficient use of available solar energy enabling the storage of excess solar energy in a battery system. Hybrid inverters should be able to function like a common grid-tie solar inverter including battery backup mode and by exporting excess solar energy to the utility grid. a) The supplied Inverter shall be capable of interfacing with the electrical grid with auto changeover facility between solar powered Inverter AC output and Utility supply. However, since the DG set is already available, provision shall be made to connect the DG set to the load by providing a changeover switch arrangement. Hybrid Solar Inverter should have provision for by-pass arrangement so as to cater load directly through DG set/grid, in case of failure. Typical features shall be: i. Intelligent battery management system; ii. Versatile - complete for off-grid management as well as grid-tie battery backup/AC Coupling; iii. Modular, stackable design; iv. Automatically transfers between inverter power and incoming AC power source v. Indications of status of operation (e.g. LED) vi. Emergency stop switch on the front panel b) Inverter must adhere to the following Grid connectivity features i. Grid Frequency Synchronization range: + 3 Hz or less and -2.3 Hz or more of the existing Grid Frequency of 60 Hz. ii. Grid Voltage tolerance: ±10 %. iii. The output of power factor of Hybrid Solar Inverter is suitable for all voltage ranges or sink of reactive power; inverter should have internal protection arrangement against any sustainable fault in feeder line and against the lightning on feeder c) In addition, the Hybrid Solar Inverter shall also house MPPT (Maximum Power Point Tracker and it shall be integrated in the Hybrid Solar Inverter to maximize energy drawn from the array). d) Typical technical features of the inverter shall be as follows: i. Minimum Inverter capacity shall be 2 kW (Minimum Total capacity 10KW) for single phase, 0.9 Power factor with a nominal AC output voltage and frequency: 220V +/- 10%, 60 Hz, pure sine wave.	

ii. Switching devices: IGBT, Control Microprocessor /DSP
iii. Ambient temperature considered: -20℃ to 50℃, Humidity: 95 % Non-condensing
iv. Protection of Enclosure: IP-20(Minimum) for indoor: IP-65(Minimum) for outdoor.
v. No-load losses: Less than 2% of rated power
vi. Minimum Euro efficiency shall be 96%
vii. The Hybrid Solar Inverter shall be equipped with integrated data logger for collecting & recording the hourly data of output status, particularly energy, voltage & frequency and fault logging. It shall monitor Project performance and the data shall be retrievable through external computer
viii. Indications shall be provided for Input & Output voltage, Frequency, Power output, efficiency of the inverter & charge controller, different status of inverter, kind of fault by LED & audio signal (Buzzer)
ix. The system shall have protective features of:
- Shut Down on Over Voltage both at input & output Automatic,
- Shut Down on Over Current both at input & output /Load
- Automatic protection against Over Frequency,
- Automatic protection against Surge voltage induced at output due to external source,
- Shutdown on low battery voltage
- Short Circuit Protection by Circuit Breaker and Electronics protection against sustained fault.
- Automatic Protection against the lightening fault
- Protection against DC reverse polarity in the inverter
- The system should have facilities like Remote diagnostics, monitoring and reporting via Internet and GSM.
- All parameters shall be software configurable
- Inverter shall be complaint with local grid code for LVRT, HVRT etc. Bidders are advised to get themselves updated for these requirements of local codes and regulations
- The inverters should comply with following codes and standard:

Codes	**Description**
IEC-61683	Energy efficiency requirements
IEC 61000	Emission/ Immunity requirement
IEEE 519	Recommended practices and requirements for harmonic control in electrical power systems.
IEC 60068	Environmental testing
IEC 62116	Testing procedure—Islanding prevention measures for power conditioners used in grid-connected photovoltaic (PV) power generation systems
IEC 62109-1 & 2	Safety of power converters for use in photovoltaic power systems.
EN 50530	Overall efficiency of grid connected photovoltaic inverters.
IEEE 1547/IEC 61727/ BDEW	Standard for interfacing solar PV plant with utility grid.
Grid Connectivity	Relevant Local regulations and grid code shall be applicable for interfacing of Inverter with the grid.

Local or other international code shall be acceptable, if proven equivalent.
Bidders are advised to get themselves updated for local regulation and grid code for grid interfacing of inverter.

e) Five-Year Standard Warranty

21. **Energy Storage System (Lithium Technology)**

a) The battery shall have minimum energy storage capacity of 37 kWh at 25 ℃.
The battery voltage shall be as per associated inverter design.

	b) Type of the battery shall be Li-ion preferably Lithium Ferro Phosphate ($LiFePO_4$) with minimum capacity of individual cell as 3.2V, 40 Ah, while specific energy of battery system shall be minimum 100 Wh/kg c) The Battery shall have minimum charging rate of C/4 and discharge rate shall be up to 1C. Battery shall give a trouble-free life of minimum 2500 charge/ discharge cycles at C/10 rate at 25°C. d) Battery shall be warranted for minimum period of five (5) years. e) Battery shall be rated for minimum 85% depth of Discharge f) The thermal runway shall be minimum 150°C g) The battery shall operate trouble free with operation temperature ranging from -5 to 60 °C h) The Cell and Battery should conform to latest IEC 62133-2012 or BIS specifications and should have been certified with NABL/IEC accredited test center/ laboratory as per IEC/ BIS standard IEC 62133, IEC 61960 & UL1642 for Safety of $LiFePo_4$ battery. i) The battery shall be provided with Battery Management System (BMS) to ensure the proper charging and discharging of each cell of battery with proper protection of battery when temperature is reaching beyond battery permissible limits j) The battery shall be supplied with all its enclosure/ stand and all other accessories to make system complete and functional. k) Continuous battery life and state of health monitoring shall be provided Battery Protection Panel (BPP) has to be installed between Charge Controller and Battery Bank as safety measure and battery protection. HRC Fuse and DC MCCB has to be installed in BPP	
22.	**Cables** Meets required technical specifications.	
23.	**Monitoring System** The installation shall provide real-time **web-based** electric energy, power meter and appropriate current transformers to record electric consumption of the building and solar energy produced and provide a combined recording of all inverter/circuits. It should provide: • Graphical and Numerical real time energy information (total power consumed, total energy consumption, net energy); • Graphical and Numerical renewable energy monitoring (solar power generated, solar energy produced, avoided carbon dioxide emissions); • Historic Data; • Data export via push or pull with an open data API.	
24.	**Earthing & Lightening Protection** Meets required technical specifications.	
25.	**Design Diagram** • Provide detailed schematic design layout of the proposed AC coupled installation including all connections; explanatory notes for sizing of equipment and components that comprise the system, and energy production calculations. **Design complies to NEC 2017 Articles 690 and 705**	
26.	**Installation** • All installations are to be conducted in accordance with NEC 690 requirements, which cover installation, protection, and grounding of solar PV systems. • Grid interconnection requirements are met (if any) • Earthing system requirements are met • Monitoring system connection to existing facility. • Hybrid inverter circuit breaker requirement met (if any). • **BOS** components of the Solar PV plant(s)/system(s) deployed must conform to the latest edition of IEC/equivalent BIS Standards	
27.	Product **Manual** and Label for each equipment are provided • Voltage/wattage/current • Model number • Serial number • Certification • Manufacturer's brand	

28.	Submission of bidder's statement indicating its acceptance or otherwise in offering Local after sales service of no less than three (3) years. Bidder must state the nature of service that will be provided.	
29.	Provide statement on availability of spare parts from purchaser's country	
30.	Provide statement on complete system warranty offered. At least three (3) years warranty on complete system is required.	
31.	Warranty: Two types of warranty have to be offered by the Bidder: a) Warranty for components shall be as provided by the manufacturer or as specified in the technical specifications e.g., PV module(s) will be warranted for a minimum period of 10 years from the date of supply b) Warranty for Electrochemical battery: The warranty of electrochemical battery, including software's and spare (if any) shall be provided for a period of 5 years from the date of commissioning. Any repaired, replaced or re-performed activity under the above stipulated warranty period shall be the liability of Bidder without any charge. c) Standard Warranty for first year from the date of commissioning shall be part of the equipment cost. The work done/ material supplied would be warranted for satisfactory operation and against any defect in material and workmanship, controllers, and other balance of equipment's as per scope of work. d) Extended warranty of four years after one year of standard warranty from the date of commissioning shall be quoted separately and the same shall be part of total cost. The work done/ material supplied would be warranted for satisfactory operation and against any defect in material and workmanship including Luminaries, controllers, and other balance of equipment as per scope of work. e) The eligible Bidder shall ensure that the system can be made functional within three days from the communication of breakdown of the system during the warrantee period. If the Bidder is not able to address the issue within three days due to reasons attributable to Bidder, damages and not as penalty shall be recovered at USD 50 for each day of delay per incident. The Bidder will maintain adequate spares with its authorized representative/sub contractor/local service partner to restore the system in stipulated time as mentioned above. The names and contact details of officials of Bidder should be mentioned at the appropriate location at the installation site, preferably at the front portion of the Hybrid Solar Inverter. f) Bidder shall provide details of its organisational set up for warranty and extended warranty discharge.	
32.	Submission of an implementation schedule indicating important milestones such as equipment delivery to site, installation, testing and commissioning of system. Frequent progress reports and work plan are to be provided to the Procuring Entity as required by the procuring entity during project execution.	

Award of contract

The contract will be awarded to the Bidder who is substantially responsive to the bid document and who has offered the lowest bid price.

Pending Litigation Format				
☐ No pending litigation in accordance with Evaluation Criteria # *14*				
Year of dispute	**Amount in dispute (currency)**	**Outcome as Percentage of Net Worth**	**Contract Identification**	**Total Contract Amount (current value, currency, exchange rate and USD equivalent)**
[*insert year*]	[*insert amount*]	[*insert percentage*]	• Contract Identification: [*indicate complete contract name, number, and any other identification*] • Name of Purchaser: [*insert full name*] • Address of Purchaser: [*insert street/ city/ country*] • Matter in dispute: [*indicate main issues in dispute*] • Status of dispute: [*indicate if it is being treated under Arbitration or being dealt with by the Judiciary*]	[*insert amount*]

3. Litigation History

Litigation History Format		
☐ No court/arbitral award decisions against the Bidder since 1st January 2018, in accordance with Evaluation Criteria # 14		
Year of award	**Contract Identification**	**Total Contract Amount (current value, currency, exchange rate and USD equivalent)**
	•	
[*insert year*]	• Contract Identification: [*indicate complete Contract name, number, and any other identification* • Name of Purchaser: [*insert full name*] • Address of Purchaser: [*insert street/city/country*] • Matter in dispute: [*indicate main issues in dispute*] • Party who initiated the dispute: [*indicate "Purchaser" or "Supplier"*] • Status of dispute: [*indicate if it is being treated by under Arbitration or being dealt with by the Judiciary*]	[*insert amount*]