

**BIDDING DOCUMENT**

**REQUEST FOR PROPOSAL (RFP)**

**SOLARIZATION OF DISTRICT HEAD  
QUARTER (DHQ) HOSPITAL, DERA GHAZI  
KHAN**

**Single Stage Two Envelope  
(In-line with PPRA Rules)**

**Issued on: August 16, 2019**



**Punjab Energy Efficiency & Conservation Agency,  
Energy Department, Govt. of the Punjab, Lahore**





## Invitation for Bids

Dated: August 16, 2019

1. Punjab Energy Efficiency and Conservation Agency (PEECA), Lahore now invites sealed bids from eligible bidders, for the Solarization of District Head Quarter (DHQ) Hospital, Dera Ghazi Khan.

The detailed scope of work is provided in Section III Schedule of Requirements Part-I.

2. Bidding shall be conducted through Open Competitive Bidding (Single Stage-Two Envelope) procedures specified in the PPRA rules 2014 (Amended), and is open to all eligible bidders as defined in the bidding document.
3. Interested eligible bidders may obtain bidding documents and further information from the office of PEECA.
4. The provisions in the Instructions to Bidders and in the General Conditions of Contract are the provisions of the Bidding Documents.
5. Sealed Bids must be delivered to the above office **on or before 11:00 AM on September 09, 2019** and must be accompanied by a **Bid Security of PKR 1 Million** in the form of Bank Guarantee/Demand Draft/CDR/Pay Order as per PPRA Rule 27 which states *"The procuring agency may require the bidders to furnish a bid security not exceeding five per cent of the estimated price."*
6. **Bids will be opened in the presence of bidders' representatives who choose to attend at 11:30 AM in the Office of PEECA, on the same date i.e. September 09, 2019.**
7. The bidders are requested to give their best and final prices as no negotiations are permissible as per PPRA Rules and regulations.
8. Taxes will be deducted as per applicable government rules. NTN and Sales Tax registration certificate must be provided.
9. For obtaining any further information or clarifications, please contact the person named below:

### Chief Energy Economist

Punjab Energy Efficiency and Conservation Agency (PEECA)  
48 A, (Second Floor) Ghalib Road, Block C II,  
Gulberg III, Lahore  
For queries: [peeca.qu@energy.punjab.gov.pk](mailto:peeca.qu@energy.punjab.gov.pk)  
[Ph: 042-99268362-3](tel:042-99268362-3)



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## **Part-I**

### **Section I. Instructions to Bidders**

#### **A. Introduction**

- 1. Source of Funds**
  - 1.1 The Procuring Agency named in the Bid Data Sheet has received budget from the Government of Punjab. The Procuring Agency intends to apply a portion of the proceeds of this budget to eligible payments under the contract for which this Invitation for Bids is issued.
- 2. Eligible Bidders**
  - 2.1 This Invitation for Bids is open to all contractors, except as provided hereinafter.
  - 2.2 Bidders should not be associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the Procuring Agency to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of supply and installation to be procured under this Invitation for Bids.
  - 2.3 Government-owned enterprises may participate only if they are legally and financially autonomous, if they operate under commercial law, and if they are not a dependent agency of the Government.
  - 2.4 Bidders shall not be under a declaration of blacklisting by any Government department or Punjab Procurement Regulatory Authority (PPRA).
- 3. Eligible Goods and Services**
  - 3.1 All goods and related services to be supplied under the contract shall have their origin in eligible source countries, defined in the *Bid Data Sheet (BDS)*, and all expenditures made under the contract will be limited to such goods and services.
  - 3.2 For purposes of this clause, “origin” means the place where the goods are mined, grown, or produced, or the place from which the related services are supplied. Goods are produced when, through manufacturing, processing, or substantial and major assembly of components, a commercially recognized product results that is substantially different in basic characteristics or in purpose or utility from its components.
  - 3.3 The origin of goods and services is distinct from the nationality



of the Bidder.

3.4 The specification of the goods required is provided in the Technical Specification.

**4. Cost of Bidding**

4.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Procuring Agency named in the Bid Data Sheet, hereinafter referred to as “the Employer,” will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

**B. The Bidding Documents**

**5. Content of Bidding Documents**

5.1 The supply and installation required, bidding procedures, and contract terms are prescribed in the bidding documents. In addition to the Invitation for Bids, the bidding documents include:

- (a) Instructions to Bidders (ITB)
- (b) Bid Data Sheet
- (c) Schedule of Requirements
- (d) Technical Specifications
- (e) Bid Submission Form
- (f) Price Schedules
- (g) Contract Form
- (h) Performance Security Form
- (i) General Conditions of Contract (GCC)
- (j) Special Conditions of Contract (SCC) and
- (k) The Integrity Pact

5.2 The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding documents. Failure to furnish all information required by the bidding documents or to submit a bid not substantially responsive to the bidding documents in every respect will be at the Bidder’s risk and may result in the rejection of its bid.

**6. Clarification of Bidding Documents**

6.1 A prospective Bidder requiring any clarification of the bidding documents may notify the Employer in writing or by email at the Employer’s address indicated in ITB Clause 19.1. The Employer will respond in writing to any request for clarification of the bidding documents which it receives no later than **three (3) days** prior to the deadline for the submission of bids prescribed in the Bid Data Sheet. Written copies of the Employer’s response (including an explanation of the query but without identifying the



source of inquiry) will be sent to all prospective bidders that have received the bidding documents.

- 7. Amendment of Bidding Documents**
- 7.1 At any time prior to the deadline for submission of bids, the Employer, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, may modify the bidding documents by amendment.
- 7.2 All prospective bidders that have received the bidding documents will be notified of the amendment in writing or by email, and will be bidding on them.
- 7.3 In order to allow prospective bidders reasonable time in which to take the amendment into account in preparing their bids, the Employer, at its discretion, may extend the deadline for the submission of bids.

### **C. Preparation of Bids**

- 8. Language of Bid**
- 8.1 The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Employer shall be written in the language specified in the Bid Data Sheet. Supporting documents and printed literature furnished by the Bidder may be in same language.
- 9. Documents Comprising the Bid**
- 9.1 The bid prepared by the Bidder shall comprise the following components:
- (a) a Bid Form and a Price Schedule completed in accordance with ITB Clauses 10, 11, and 12;
  - (b) documentary evidence established in accordance with ITB Clause 13 that the Bidder is eligible to bid and is qualified to perform the contract if its bid is accepted;
  - (c) documentary evidence established in accordance with ITB Clause 14 that the goods and ancillary services to be supplied by the Bidder are eligible goods and services and conform to the bidding documents; and
  - (d) bid security furnished in accordance with ITB Clause 15.

- 10. Bid Form**
- 10.1 The Bidder shall complete the Bid Form and the appropriate Price Schedule furnished in the bidding documents, indicating



the goods to be supplied, a brief description of the goods, their country of origin, quantity, and prices.

## 11. Bid Prices

- 11.1 The Bidder shall indicate on the appropriate Price Schedule the unit prices (where applicable) and total bid price of the supply and installation it proposes for solarization under the contract.
- 11.2 Prices indicated on the Price Schedule shall be **inclusive of all applicable taxes**.
- 11.4 The Bidder's separation of price components in accordance with ITB Clause 11.2 above will be solely for the purpose of facilitating the comparison of bids by the Employer and will not in any way limit the Employer's right to contract on any of the terms offered.
- 11.5 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account, unless otherwise specified in the Bid Data Sheet. A bid submitted with an **adjustable price quotation** will be treated as nonresponsive and will be rejected, pursuant to ITB Clause 24.

## 12. Bid Currencies

- 12.1 Prices shall be quoted in **Pak Rupees**.

## 13. Documents Establishing Bidder's Eligibility and Qualification

- 13.1 Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid, documents establishing the Bidder's eligibility to bid and its qualifications to perform the contract if its bid is accepted.
- 13.2 The documentary evidence of the Bidder's eligibility to bid shall establish to the Employer's satisfaction that the Bidder, at the time of submission of its bid, is eligible as defined under ITB Clause 2.
- 13.3 The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted shall establish to the Employer's satisfaction:
- (a) that, in the case of a Bidder offering to solarize under the contract using Goods which the Bidder did not manufacture or otherwise produce, the Bidder has been duly authorized by the goods' Manufacturer or producer to use the Goods in Pakistan;
  - (b) that the Bidder has the financial and technical necessary to perform the contract;



- (c) that, in the case of a Bidder not doing business within Pakistan, the Bidder is or will be (if awarded the contract) represented by an Agent in that country equipped, and able to carry out the Contractor's maintenance, repair, and spare parts-stocking obligations prescribed in the Conditions of Contract and/or Technical Specifications; and
- (d) that the Bidder meets the qualification criteria listed in the Bid Data Sheet.

**14. Documents  
Establishing  
Goods'  
Eligibility and  
Conformity to  
Bidding  
Documents**

- 14.1 Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid, documents establishing the eligibility and conformity to the bidding documents of all goods and services which the Bidder proposes for solarization under the contract.
- 14.2 The documentary evidence of the eligibility of the goods and services shall consist of a statement in the Price Schedule of the country of origin of the goods and services offered which shall be confirmed by a **certificate of origin**.
- 14.3 The documentary evidence of conformity of the goods and services to the bidding documents may be in the form of literature, drawings, and data, and shall consist of:
  - (a) a detailed description of the technical and performance characteristics of the goods and are compliant with the technical specifications as provided in the Section IV of Part 1 as Technical Specifications.
  - (b) an item-by-item commentary on the Employer's Technical Specifications demonstrating **substantial responsiveness** of the goods and services to those specifications, or a statement of deviations and exceptions to the provisions of the Technical Specifications.
- 14.4 For purposes of the commentary to be furnished pursuant to ITB Clause 14.3(c) above, the Bidder shall note that standards for workmanship, material, and equipment, as well as references to brand names or catalogue numbers designated by the Employer in its Technical Specifications, are intended to be descriptive only and not restrictive. The Bidder may substitute alternative standards, brand names, and/or catalogue numbers in its bid, provided that it demonstrates to the Employer's satisfaction that the substitutions ensure substantial equivalence to those





designated in the Technical Specifications.

## 15. Bid Security

- 15.1 Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid, a bid security in the amount specified in the Bid Data Sheet.
- 15.2 The bid security is required to protect the Employer against the risk of Bidder's conduct which would warrant the security's forfeiture, pursuant to ITB Clause 15.7.
- 15.3 The Bank Guarantee shall be in **PKR** and must be **valid for thirty (30) days beyond the validity of bid.** (Format annexed)
- 15.4 Any bid not secured in accordance with ITB Clauses 15.1 and 15.3 will be rejected by the Employer as nonresponsive, pursuant to ITB Clause 24.
- 15.5 Unsuccessful bidders' bid security will be discharged or returned as promptly as possible but not later than thirty (30) days after the expiration of the period of bid validity prescribed by the Employer pursuant to ITB Clause 16.
- 15.6 The successful Bidder's bid security will be discharged upon the Bidder signing the contract, pursuant to ITB Clause 32, and furnishing the performance security, pursuant to ITB Clause 33.
- 15.7 The bid security may be forfeited:
- (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Bid Form; or
  - (b) in the case of a successful Bidder, if the Bidder fails:
    - (i) to sign the contract in accordance with ITB Clause 32;  
**or**
    - (ii) to furnish performance security in accordance with ITB Clause 33.

## 16. Period of Validity of Bids and Duration

- 16.1 Bids shall remain valid for the period specified in the Bid Data Sheet after the date of bid opening prescribed by the Employer, pursuant to ITB Clause 19. A bid valid for a shorter period shall be rejected by the Employer as nonresponsive.
- 16.2 In exceptional circumstances, the Employer may solicit the Bidder's consent to an extension of the period of validity. The



request and the responses thereto shall be made in writing (or by email). The bid security provided under ITB Clause 15 shall also be suitably extended. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request will not be required nor permitted to modify its bid, except as provided in ITB Clause 16.3.

16.3 In the case of fixed price contracts, if the award is delayed by a period exceeding sixty (60) days beyond the expiry of the initial bid validity, the contract price will be adjusted by a factor specified in the request for extension.

16.4 Total duration of assignment is mentioned in the Bid Data Sheet.

### **17. Format and Signing of Bid**

17.1 The Bidder shall prepare an original and the number of copies of the bid indicated in the Bid Data Sheet, clearly marking each “ORIGINAL BID” and “COPY OF BID,” as appropriate. In the event of any discrepancy between them, the original shall govern.

17.2 The original and the copy or copies of the bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to bind the Bidder to the contract. All pages of the bid, except for un amended printed literature, shall be initialed by the person or persons signing the bid.

17.3 Any interlineation, erasures, or overwriting shall be valid only if they are initialed by the person or persons signing the bid.

17.4 The Bidder shall furnish information as described in the Form of Bid on commissions or gratuities, if any, paid or to be paid to agents relating to this Bid, and to contract execution if the Bidder is awarded the contract.

### **D. Submission of Bids**

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

18.1 The Bidder shall seal the original and each copy of the bid in separate envelopes, duly marking the envelopes as “ORIGINAL” and “COPY.” The envelopes shall then be sealed in an outer envelope.

18.2 The inner and outer envelopes shall:

- (a) be addressed to the Employer at the address given in the Bid Data Sheet; and



(b) bear the title of procurement Activity indicated in the Bid Data Sheet, the Invitation for Bids (IFB) title and number indicated in the Bid Data Sheet, and a statement: “DO NOT OPEN BEFORE,” to be completed with the time and the date specified in the Bid Data Sheet, pursuant to ITB Clause 2.2.

18.3 The inner envelopes shall also indicate the name and address of the Bidder to enable the bid to be returned unopened in case it is declared “late”.

18.4 If the outer envelope is not sealed and marked as required by ITB Clause 18.2, the Employer will assume no responsibility for the bid’s misplacement or premature opening.

**19. Deadline for Submission of Bids**

19.1 Bids must be received by the Employer at the address specified under ITB Clause 18.2 no later than the time and date specified in the Bid Data Sheet.

19.2 The Employer may, at its discretion, extend this deadline for the submission of bids by amending the bidding documents in accordance with ITB Clause 7, in which case all rights and obligations of the Employer and bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

**20. Late Bids**

20.1 Any bid received by the Employer after the deadline for submission of bids prescribed by the Employer pursuant to ITB Clause 19 will be rejected and returned unopened to the Bidder.

**21. Modification and Withdrawal of Bids**

21.1 The Bidder may modify or withdraw its bid after the bid’s submission, provided that written notice of the modification, including substitution or withdrawal of the bids, is received by the Employer prior to the deadline prescribed for submission of bids.

21.2 The Bidder’s modification or withdrawal notice shall be prepared, sealed, marked, and dispatched in accordance with the provisions of ITB Clause 18. A withdrawal notice may also be sent by email, but followed by a signed confirmation copy, postmarked not later than the deadline for submission of bids.

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



21.4 No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Bid Form. Withdrawal of a bid during this interval may result in the Bidder's forfeiture of its bid security, pursuant to the ITB Clause 15.7.

### **E. Opening and Evaluation of Bids**

#### **22. Opening of Bids by the Employer**

22.1 The Employer will open all bids in the presence of bidders' representatives who choose to attend, at the time, on the date, and at the place specified in the Bid Data Sheet. The bidders' representatives who are present shall sign an attendance sheet evidencing their presence.

22.2 The bidders' names, bid modifications or withdrawals, bid prices, discounts, and the presence or absence of requisite bid security and such other details as the Employer, at its discretion, may consider appropriate, will be announced at the opening. No bid shall be rejected at bid opening, except for late bids, which shall be returned unopened to the Bidder pursuant to ITB Clause 20.

22.3 Bids (and modifications sent pursuant to ITB Clause 21.2) that are not opened and read out at bid opening shall not be considered further for evaluation, irrespective of the circumstances. Withdrawn bids will be returned unopened to the bidders.

22.4 The Employer will prepare minutes of the bid opening.

#### **23. Clarification of Bids**

23.1 During evaluation of the bids, the Employer may, at its discretion, ask the Bidder for a clarification of its bid. The request for clarification and the response shall be in writing, and no change in the prices or substance of the bid shall be sought, offered, or permitted.

#### **24. Preliminary Examination**

24.1 The Employer will examine the bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the bids are generally in order.

24.2 Arithmetical errors will be rectified on the following basis. 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 the Contractor does not accept the correction of the errors, its bid will be rejected, and its bid security may be forfeited. If there is a discrepancy between words and figures, the amount in words will prevail.

24.3 The Employer may waive any minor informality, nonconformity, or irregularity in a bid which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any Bidder.

24.4 Prior to the detailed evaluation, pursuant to ITB Clause 25 the Employer will determine the substantial responsiveness of each bid to the bidding documents. For purposes of these Clauses, a substantially responsive bid is one which conforms to all the terms and conditions of the bidding documents without material deviations. Deviations from, or objections or reservations to critical provisions, **such as** those concerning **Bid Security** (ITB Clause 15), **Applicable Law** (GCC Clause 30), and **Taxes and Duties** (GCC Clause 32), will be deemed to be a material deviation. The Employer's determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.

24.5 If a bid is not substantially responsive, it will be rejected by the Employer and may not subsequently be made responsive by the Bidder by correction of the nonconformity.

## 25. Qualification & Evaluation of Bids

25.1 The Employer will determine to its satisfaction whether the Bidder is qualified to perform the contract satisfactorily, in accordance with the criteria listed in ITB Clause 13.3.

25.2 The determination will take into account the Bidder's financial, technical, and production capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB Clause 13.3, as well as such other information as the Employer deems necessary and appropriate.

25.3 The Employer will **technically evaluate** and compare the bids which have been determined to be substantially responsive, pursuant to ITB Clause 24, as per Technical Specifications required

25.4 The Employer's **financial evaluation** of a bid will be on Lowest Solarization of DHQ Hospital, Dera Ghazi Khan



Evaluated Bid inclusive of all prevailing taxes and duties.

- 26. Contacting the Employer**
- 26.1 Subject to ITB Clause 23, no Bidder shall contact the Employer on any matter relating to its bid, from the time of the bid opening to the time evaluation report is made public i.e. 10 days before the contract is awarded. If the Bidder wishes to bring additional information or has grievance to the notice of the Employer, it should do so in writing.
- 26.2 Any effort by a Bidder to influence the Employer during bid evaluation, or bid comparison may result in the rejection of the Bidder's bid.

#### **F. Award of Contract**

- 28. Award Criteria**
- 28.1 Subject to ITB Clause 30, the Employer will award the contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined to be the lowest evaluated bid, provided further that the Bidder is determined to be qualified to perform the contract satisfactorily.
- 29. Employer's Right to Vary Quantities at Time of Award**
- 29.1 The Employer reserves the right at the time of contract award to increase or decrease, by the percentage indicated in the Bid Data Sheet, the quantity of goods and services originally specified in the Schedule of Requirements without any change in unit price or other terms and conditions.
- 30. Employer's Right to Accept or Reject All Bids**
- 30.1 The Employer reserves the right to accept or reject all bids, and to annul the bidding process at any time prior to contract award, without thereby incurring any liability to the Bidder or bidders or any obligation to inform the Bidder or bidders of the grounds for the Employer's action.
- 31. Notification of Award**
- 31.1 Prior to the expiration of the period of bid validity, the Employer will notify the successful Bidder in writing by registered letter or by email, to be confirmed in writing by registered letter, that its bid has been accepted.
- 31.2 The notification of award will constitute the formation of the Contract.
- 31.3 Upon the successful Bidder's furnishing of the performance security pursuant to ITB Clause 33, the Employer will promptly notify each unsuccessful Bidder and will discharge its bid security, pursuant to ITB Clause 15.



**32. Signing of Contract**

- 32.1 At the same time as the Employer notifies the successful Bidder that its bid has been accepted, the Employer will send the Bidder the Contract Form provided in the bidding documents, incorporating all agreements between the parties.
- 32.2 Within seven (07) days of receipt of the Contract Form, the successful Bidder shall sign and date the contract and return it to the Employer.

**33 Performance Security**

- 33.1 Within fourteen (14) days of the receipt of notification of award from the Employer, the successful Bidder shall furnish the performance security (in the form of Bank Guarantee) in accordance with the Conditions of Contract, in the Performance Security Form provided in the bidding documents, or in another form acceptable to the Employer.
- 33.2 Failure of the successful Bidder to comply with the requirement of ITB Clause 32 or ITB Clause 33.1 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security, in which event the Employer may make the award to the next lowest evaluated Bidder or call for new bids.

**34. Corrupt or Fraudulent Practices**

- 34.1 The Procuring Agency requires that Bidders, Contractors, and Contractors observe the highest standard of ethics during the procurement and execution of contracts. For the purposes of this provision, the terms set forth below are defined as follows:
- (i) “corrupt practice” means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution; and
  - (ii) “fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Procuring Agency,
  - (iii) “collusive practice” is an arrangement among bidders (prior to or after bid submission) designed to establish bid prices at artificial, non-competitive levels for any wrongful gains, and to deprive the Procuring Agency of the benefits of free and open competition;



- (iv) The Procuring Agency will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;
- (v) The Procuring Agency will sanction a firm, in accordance with prevailing Blacklisting procedures under Punjab Procurement Rules 2014, if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a Bank-financed contract.

34.2 Furthermore, Bidders shall be aware of the provision stated in sub-clause 5.4 and sub-clause 24.1 of the General Conditions of Contract.

### **35. Joint Ventures**

35.1 In order for a Joint Venture to qualify:

- (a) At least one of the partners of joint venture shall satisfy the relevant experience criteria specified in Clause 13 and the Bid Data Sheet.
- (b) All firms comprising the joint venture shall be legally constituted and shall meet the eligibility requirement of the afore-mentioned Clause 2.
- (c) All partners of the joint venture shall at all times and under all circumstances be liable jointly and severally to Employer for the execution of the entire Contract in accordance with the Contract terms and conditions and a statement to this effect shall be included in the authorization mentioned under para (f) below (in case of a successful Bidder).
- (d) The Form of Bid, and in the case of successful Bidder, the Form of Contract Agreement, shall be signed so as to be legally binding on all partners.





- (e) One of the joint venture partners shall be nominated as being in-charge and this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the joint venture partners.
- (f) The partner-in-charge shall be authorized to incur liabilities, receive payments and receive instructions for and on behalf of any or all partners of the joint venture.
- (g) A copy of the agreement entered into by the joint venture partners shall be submitted with the Bid stating the conditions under which it will function, its period of duration, the persons authorized to represent and obligate it and which persons will be directly responsible for due performance of the Contract and can give valid receipts on behalf of the joint venture, the proportionate participation of the several firms forming the joint venture, and any other information necessary to permit a full appraisal of its functioning. No amendments / modifications whatsoever in the joint agreement shall be agreed to between the joint venture partners without prior written consent of the employer.



**Part-I**  
**Section II. Bid Data Sheet**

The following specific data for the supply, installation/commissioning, operation and maintenance to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB) Part One. Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

<b>Introduction</b>	
<b>ITB 1.1</b>	Name of Procuring Agency: <b>Punjab Energy Efficiency &amp; Conservation Agency (PEECA), Energy Department, Government of Punjab</b>
<b>ITB 1.1</b>	Name of Contract: <b>Solarization of District Head Quarter (DHQ) Hospital, Dera Ghazi Khan</b> <b>Single Stage Two Envelope (Least Cost Selection Method)</b>
<b>ITB 4.1</b>	Name of Employer: <b>Punjab Energy Efficiency &amp; Conservation Agency (PEECA), Energy Department, Government of Punjab</b>
<b>ITB 6.1</b>	For clarification purposes, the Employer's address is:  <p style="text-align: center;"><b>Chief Energy Economist</b> Punjab Energy Efficiency and Conservation Agency (PEECA) 48 A, (Second Floor) Ghalib Road, Block C II, Gulberg III, Lahore For queries: <a href="mailto:peeca.qu@energy.punjab.gov.pk">peeca.qu@energy.punjab.gov.pk</a> <a href="tel:042-99268262-3">Ph: 042-99268262-3</a></p> Requests for clarification shall be received by the Employer no later than <b>3 days</b> prior to the submission deadline.
<b>ITB 8.1</b>	Language of the bid – English

<b>Bid Price and Currency</b>	
<b>ITB 11.5</b>	The price shall be in Pak Rupees and shall be fixed.

<b>Preparation and Submission of Bids</b>	
<b>ITB 13.2</b>	a. Certificate of Incorporation of bidder's firm showing its location and the date of registration etc. b. NTN/STRN and GST Registration Certificate
<b>ITB 13.3 (b)</b>	Audited Financial Reports for the last three (3) financial years.



<p><b>ITB 13.3 (d)</b></p>	<p><b>Qualification requirements.</b> In addition to ITB 13.1, ITB 13.2, and ITB 13.3 (b), the potential bidder must also fulfill the following:-</p> <p><b>QUALIFYING CRITERIA:</b></p> <p><b>IF YES TO BELOW CRITERIA (PROCEED FURTHER)</b>  <b>IF NO TO BELOW CRITERIA (NO FURTHER EVALUATION)</b></p> <ol style="list-style-type: none"> <li>The Firm must be registered with tax authorities (Income Tax/Sales Tax)</li> <li>Proof of valid registration with PEC in appropriate category for local applicant or in case of a Joint Venture with a foreign firm, an undertaking from foreign applicant to get registered before award of a contract, as per bye-laws of PEC.</li> <li>Applicant should write an official letter confirming that complete scope shall be performed by him.</li> <li>Applicant should provide with the undertaking on stamp paper regarding Non-blacklisting and litigation pending by any governmental, non-governmental and autonomous body.</li> <li>Applicant should provide with the undertaking regarding No conflict of interest.</li> <li>Affidavit of adherence to timeline in completion of work. Non adherence without just cause shall result in imposition of penalty.</li> </ol> <p>❖ <b>If yes to above mentioned qualifying criteria (proceed further)</b>  ❖ <b>If no to above mentioned qualifying criteria (no further evaluation)</b></p> <table border="1" data-bbox="539 1050 1419 1896"> <thead> <tr> <th>Item</th> <th>Description</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>Operational History</td> <td>An operational history of at least 10 years, with experience in implementing project activities of similar nature.  Note: Each Year carry 0.5 Marks</td> <td>5</td> </tr> <tr> <td>Number of similar nature projects executed</td> <td>At least six (06) projects of similar nature cumulative of minimum 100 kWp (30)  For less than Six projects 30 x A/6 A= Number of Projects  Note: Each Project carry 5 Marks. Experience will be established on the basis of supporting completion certificate from employer's/owner of project.</td> <td>30</td> </tr> <tr> <td>Financial Position</td> <td> <ol style="list-style-type: none"> <li>Average Financial Turnover for last 3 years (12)</li> <li>Share capital (08)</li> </ol>  Average annual Financial Turnover more than PKR 50 million: 12 pts </td> <td>20</td> </tr> </tbody> </table>		Item	Description	Marks	Operational History	An operational history of at least 10 years, with experience in implementing project activities of similar nature.  Note: Each Year carry 0.5 Marks	5	Number of similar nature projects executed	At least six (06) projects of similar nature cumulative of minimum 100 kWp (30)  For less than Six projects 30 x A/6 A= Number of Projects  Note: Each Project carry 5 Marks. Experience will be established on the basis of supporting completion certificate from employer's/owner of project.	30	Financial Position	<ol style="list-style-type: none"> <li>Average Financial Turnover for last 3 years (12)</li> <li>Share capital (08)</li> </ol> Average annual Financial Turnover more than PKR 50 million: 12 pts	20
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	<p>Average annual Financial Turnover more than PKR 25 Million up to 50 million: 8 pts</p> <p>Average annual turnover more than PKR 10 million upto Rs. 25 Million: 4 pts</p> <p>Average annual turnover less than PKR 10 million: 0 pts</p> <p><b><u>Share Capital</u></b></p> <p>Less than PKR 5 million: 0 pts Above PKR 5 million but less than PKR 10 million: 2 pts Above PKR 10 million up to 15 Million: 4 pts PKR 15 Million and above: 8 pts</p>	
Personnel Capabilities	<p>B.Sc Engineers registered with Pakistan Engineering Council (PEC) with five years of relevant work experience. Following disciplines are mandatory:</p> <p>i. Mechanical Engineer (02) ii. Electrical Engineer (02) iii. Diploma in Associate Engineering (DAE) with five years of relevant work experience (04)</p>	<p>i.10 ii.10 iii.10</p> <p>Each Engineer carry 5 marks and each DAE carry 2.5 Marks Note: Qualification and Experience carry 50% marks each</p> <p>Sub Total: 30</p>
Execution Plan	<p>After site survey comprehensive design, layout, calculations, technical drawings, work plan and project timelines for DHQ, Hospital.</p>	<p>Sub Total: 15</p> <p>Design: 3 Marks; Layout Calculation: 3 Marks; Technical Drawings: 3 Marks; Work plan: 3 Marks; Project Timelines: 3 Marks.</p>
<b>Total</b>		<b>100</b>
<b>The Minimum Technical Score required to pass is : 65 Marks</b>		



<b>ITB 14.3 (b)</b>	A certificate from the dealer that all spare parts of the equipment to be supplied are easily available in Pakistan in the local market or from company owned outlets.
<b>ITB 15.1</b>	<b>Amount of Bid Security:</b> Bids Security shall be in the prescribed format, CDR/Pay order/Bank Guarantee having its validity ninety (90) days from the date of opening of the bid.
<b>ITB 16.1</b>	<b>Bid Validity Period:</b> Ninety (90) days after the date of opening of bid.
<b>ITB 16.4</b>	<b>Duration of Assignment:</b> One Hundred and Eighty (180) days
<b>ITB 17.1</b>	<b>Number of Copies: (01) One Original</b> along with <b>Two (02) Copies</b> (1 hard & 1 Soft-CD) of the bid.
<b>ITB 18.2 (a)</b>	<b>Address for Bid Submission:</b> <b>Chief Energy Economist</b> Punjab Energy Efficiency and Conservation Agency (PEECA) 48 A, (Second Floor) Ghalib Road, Block C II, Gulberg III, Lahore. For queries: <a href="mailto:peeca.qu@energy.punjab.gov.pk">peeca.qu@energy.punjab.gov.pk</a> <a href="tel:0092-42-99268362-3">Ph: 0092-42-99268362-3</a>
<b>ITB 18.2 (b)</b>	<b>ITB Title and Number:</b> Solarization of District Head Quarter (DHQ) Hospital, Dera Ghazi Khan.
<b>ITB 19.1</b>	Deadline for <b>Bid Submission:</b> On or before 11:00 am, September 09, 2019.
<b>ITB 22.1</b>	<b>Time, Date, and Place for Bid Opening:</b> 11:30 am, September 09, 2019 in PEECA Office.

**Bid Evaluation**

<b>ITB 25.3</b>	Criteria for bid evaluation: Lowest Cost offered by the qualified responsive bidder.
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**Contract Award**

<b>ITB 29.1</b>	Percentage for quantity increase or decrease: 15 % of total contract value
<b>ITB 33.1</b>	The amount of performance security, as a percentage of the Contract Price, shall be 10% (Ten per cent of the Contract Price) that will be released after the completion of the project verified by the client or as required by the client.
<b>ITB 35.1</b>	Joint Venture bids are acceptable.



## **Part-I**

### **Section III. Schedule of Requirements and Scope of Work**

#### **GENERAL PROVISIONS**

The PV Generator must comprise components that have a high reliability, have an extended service life while meeting international quality, safety and performance standards. The said component shall also be easy to service, repair and replace if and when required. The principle idea for the PV Generator is to supply uninterrupted electricity to promote reliable and environment friendly electricity supply in the Government Institute. The use of solar energy must be prioritized to grid electricity or electricity by a generator.

In times of over production (when generated electricity of the PV Generator exceeds the actual electricity demand of the respective building) any surplus production shall be made possible to become evacuated to the grid while remaining under net metering provisions. In times of underproduction (when generated electricity of the PV Generator does not fully meet the actual electricity demand of the respective building) the electricity required for covering the resulting residual load shall be supplied from the grid/genset. The said PV Generator must require as little maintenance as possible whilst having the ability to withstand harsh and hot climatic conditions.

Technical Requirements of the bidding document will underline the technical specifications and design of the PV Generator, as well as the standards the assigned equipment must meet, in order to ensure that the complete PV Generator to be installed at each location will perform according to the requirements during its proposed service lifetime.

Technical Requirements are divided into the following sections:

#### **FUNCTIONAL STANDARD DESIGNS**

This section defines the overall working principle of the PV Generator and the integration of the components. Since the Design, Installation and Operation of the PV Generator is the responsibility of the contractor, therefore, the approach of such is left at the discretion of the contractor. However, the contractor must get its design approved by PEECA or approved by the consultant on their behalf.

Moreover, syncing with Gensets installed in the hospital shall also be the responsibility of the contractor if required with necessary material.



## **SCOPE OF SERVICES**

The contractor is required to provide all the components as per the standards and specifications given under this section. The proposed solar equipment component must have all the necessary certifications, as required, and must be integrated to meet the designs as given under Functional Standard Designs.

## **NET METERING**

It is the responsibility of the contractor to complete all aspects including material and documentations required for net metering at the said premises.

The Distributed Generator's (as defined in NEPRA's Distributed Generation and Net Metering Regulations, 2015 (Net Metering Rules)/updated regulations) protection and control diagrams for the interconnection shall be in accordance with the provisions of the grid and distribution codes and approved by the Distribution Company (DISCO) prior to commissioning of the proposed interconnection facilities.

Protective functions shall be equipped with automatic means to prevent reconnection of the Distributed Generation Facility (as defined in the Net Metering Rules) with the DISCO's distribution facilities unless the distribution facilities service voltage and frequency is of specified setting and is stable for time to be mutually agreed.

The Distributed Generator will furnish and install a manual disconnect device that has a visual break to isolate the Distributed Generation Facility from the Distribution facilities. Synchronization of gen set with the invertors is also the responsibility of the contractor.

## **SCOPE OF SERVICES FOR THE O&M WORKS**

The contractor must provide operation and maintenance services for a period of five (5) years including one (01) year warranty period following which it must provide the DHQ, Hospital DG Khan with a comprehensive Operation and Maintenance manual. The responsibility of the contractor includes but are not limited to ensure on-site and remote monitoring facility at site specified by the client, periodic preventive maintenance, corrective maintenance and reporting must be provided.

The contractor will provide a preventive schedule of maintenance, activities to be carried out during maintenance, skill and competency of the maintenance personnel. The contractor will provide date of visit and list of authorized personnel to visit the DHQ, Hospital DG Khan for maintenance activities. All maintenance personnel must carry



identity card to enter the facility. The DHQ, Hospital may seek a police verification report for maintenance workers.

The PV Generator is designed for an operation lifetime of at least twenty (20) years. Its optimal performance is sensitive to best-in-class O&M practices, which will ensure the best performance during the twenty (20) years period. The bidder is required to describe in detail its definite plans on how to execute the below described requirements for the O&M period. The bidder shall provide an organizational chart and CVs of the key O&M staff as well as the locations where staff and facilities (e.g. spare parts inventory) will be located.

### **GENERAL SCOPE OF WORK**

The contractor has to warrant the performance of the PV Generator within its area of influence, as well as the availability and time consumed for detection of malfunctions and its repair.

#### **This shall include, but not be limited to, the following items:**

- Preventive maintenance will be done quarterly according to maintenance programs, such as periodic preventive maintenance of inverters, and PV modules etc., according to manufacturers' requirements.
- Scheduled inspection routines: e.g. PV modules to check for discoloration, first signs of delamination, loose wires in the electronics, corrosion of mounting structures, erosion.
- Maintenance of spare parts inventory (prompt replenishment of used spare parts) including continuous reporting of status and consumption.
- Corrective maintenance with guaranteed response and reaction times, including all repair and replacement costs which shall not be more than seven (7) days (backup units must be provided during this period for the supply of uninterrupted power).
- Technical operation of the PV Generator including presence of O&M personnel close to the Project site as required to fulfil all O&M Contract obligations.
- Regular cleaning at least every ten (10) days, of the PV Generator site, preventive and corrective maintenance of civil works.
- Smooth functioning of data communications over Remote Monitoring System.
- Provision of regular service reports about performance, repairs, maintenance, and tests.
- Regular performance of variance analysis of the entire fleet of PV Generators.





- Ensuring that any warranties and insurance policies for the PV Generator are assignable / transferrable to Employer.
- Provision of all O&M personnel, trained and certified as far as applicable. The staffing concept and selected key employees shall be presented to the Employer for approval.

### **Gateway / Remote Monitoring System**

The contractor shall provide a gateway that must be capable of providing a reliable, stable and continuous (24/7) remote access with the monitoring system of the PV Generator in the control room at site and must have remote accessibility. Control room and remote access facility at the site specified by the client shall include all operational data for the PV Generator and must guarantee the uninterrupted transfer and acquisition of operational data. The remote monitoring system must also provide a safe and redundant archive for all acquired operational data. The chosen gateway and the control room of remote monitoring system will be subject to review and approval by the Employer prior to procurement. It must provide different access levels and access rights.

The communication network between the PV Generator and the remote monitoring system will be built with common and standardized components and network cables. The long-term availability of spare parts must be assured. Standardized communication protocols must be used.

The following gateway and remote monitoring system functionalities are required:

- Remote monitoring and management of the whole system by contractor on a 7-days 12-hour daytime basis, with the capability of web-based information sharing for employer.
- At least every 10 minutes, continuous transmission of monitoring data directly from site to remote monitoring server.
- Data must be readily available for the fulfilment of all warranties and performance guarantees.
- Remote backup of monitoring data.
- Frequent data collection (60 seconds sampling interval), analysis, and display of the fundamental parameters of the system and sub-system. Real-time transmission of alarms.
- Alarms / alerts and timely notification of key performance indicators.
- Monthly, quarterly and annual reporting including opening/closing of service tickets, spare parts used, and any deviations from the guaranteed PR.
- Status of overvoltage protection and grounding protection (DC).



- In parallel every 30 minutes' transmission of monitoring data directly from site to remote monitoring server of employer with relevant protocol to decipher values.

### **On Site and Remote Monitoring/ Control Room**

A dedicated control room at site shall include solar and monitoring equipment. For solar solution , monitoring shall include but not be limited to, display LED (Minimum inches), internet connection works, PC Core i5, and miscellaneous works on turnkey basis. The display screen shall include solar energy yield, grid usage, consumption, solar feed to the grid, etc.

The proposed solar solutions for District Head Quarter (DHQ) Hospital, Dera Ghazi Khan is given below:

<b>Sr. No</b>	<b>Institute/Site</b>	<b>System (kWp)</b>	<b>Roof Top Area (Sq. ft)</b>	<b>Type</b>
1.	District Head Quarter (DHQ) Hospital, Dera Ghazi Khan.	300	247,001	On-Grid

### **Estimated Cost:**

The estimated cost of the project is PKR 43.17 Million.



**Bill of Quantities (BOQ)**

The following bill of quantities are required but not limited to, for the mentioned institutions.

<b>District Head Quarter (DHQ) Hospital, Dera Ghazi Khan.</b>			
<b>S.No</b>	<b>Item</b>	<b>Specification</b>	<b>Quantity</b>
1	Solar Panels (Poly-Crystalline)	300 kWp or above, as per specifications and scope of work	
2	On-Grid Solar Smart Inverter ( Min 25 and Maximum 50 KWac inverter)	300 kWAC or above, as per specifications and scope of work	
3	PV Mounting Structure ( Roof Top)	As per specifications and scope of work	
4	Cables ,Combiner boxes and Earthing pits	As per specifications and scope of work	
5	Change Over Switch, Lightning/air termination rod and Surge Protection devices	As per specifications and scope of work	
6	PV Combiner Box (Junction Box)	As per specifications and scope of work	
7	Earthing for AC and DC separately	As per specifications and scope of work	
8	Generator synchronizing with the inverter, surge arrester, GENSET Control Device (Reverse Power Protection for GENSET)	As per specifications and scope of work	
9	Civil Work	As per specifications	
10	DC Disconnectors, AC/DC Breakers etc.	As per specifications and scope of work	
11	Net Metering and all related works as per NEPRA rules, License	As per specifications and scope of work	
12	Wiring, Ducting	As per specifications and scope of work	
13	Complete Installation and Commissioning with related material	As per specifications and scope of work	
14	Operation and Maintenance 5 Years including 1 Year Warranty	As per specifications and scope of work	
15	Control Room and On Site Monitoring at 2 sites of the institute, Remote Monitoring	For Display Original LED Min 50 inches (2 Nos), PC core i5, internet connection, dedicated minimum 1 KVA UPS/Inverter with 2 hours' backup time and related works. Remote Monitoring Access, As per Specs and scope of work	

*Note- 300 kWp On-Grid Solar Solution shall be based on Annual Minimum Performance Yield i.e. minimum 430,000 kWh/Annum. If the bidder fails to produce the specified units, the difference shall be deducted from the bidder equal to the rate per unit (kWh) charged by the DISCO during that period including taxes against the performance security and O&M.*



**Scope of Work:**

- I. *The applicant will give its financial & technical proposal according to **above mentioned specifications and quantity**, the quantity however may vary (increase or decrease) depending upon the budget and demand/supply gap and as per discretion and policy of PEECA (client)*
- The bidder is advised to visit the site and access the requirements.
  - The bidder will be required to ensure trouble for operations at the rated performance with minimum break down during the O&M period.



## Technical Specifications for Solarization

**Note-** The technical specifications of the solar equipment must fulfil the standard requirements (PSS#IES) as per the import policy S.R.O.604(I)/2019, Dated 28<sup>th</sup> May,2019. Verifiable Test Certifications for the required standards must be provided with the technical proposal. In case of discrepancy, the mentioned S.R.O shall prevail.

**“All products should be compliant to relevant IEC standards/specifications, however, other equivalent, international standards may be used where IEC relevant standard is not available, with subject to prior approval of the Project Director”.**

### 1. Solar Panels (Poly-Crystalline)

Parameters	Min. Specifications required
Module Make	Tier 1 , Brand should be verifiable
PV Module Capacity	320 Watts or above (as per design)
PV Module Type	Poly-crystalline
Cell Quality	A Grade (verifiable)
Module Efficiency	16.5% or higher
Power Tolerance	Must be + 3% or more
Operating Cell Temperature	-40 <sup>o</sup> C to +70 <sup>o</sup> C
Temperature Coefficient	-0.40% / <sup>o</sup> C or less
Bypass Diode	As per design
Bus Bar	4 or higher
Certification	IEC 61215, IEC 61730 , IEC 61439, IEC 60947-3,PID free Modules
Frame	Must Withstand 5400 PA impulse Load
Junction Box	IP 67
Cable	4 mm <sup>2</sup> (IEC), 1000mm
Connectors	MC4 or Comparable weatherproof
Front Cover	3.2 mm prism type tempered glass or higher
Product Warranty and guarantee	10 years' product replacement warranty. Power output within 10 years shall not fall below 90% Power output within 25 years shall not fall below 80%



	<p>10 years' full replacement of module, if the major component/s malfunctioning.                  PV module performance guarantee 25 years or more.                  Type of performance guarantee shall be linear after 1st Year.</p>
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## 2. On-Grid Solar Smart Inverter

Parameters	Min. Specifications required
<b>Inverter Make</b>	1 GW or above deployment in last two years. Renowned and verifiable brand having successful history in similar climatic conditions.
<b>Inverter Type</b>	Grid synchronized Pure Sine wave,
Parameters	Min. Specifications required
	also able to synchronize with generators on site.
<b>Output Voltage Range</b>	230VAC/400 VAC $\pm 5\%$ for string/micro inverters. for central inverters select as per design
<b>IP Protection</b>	IP 65 or better (IEC 60529) / outdoor use with natural heat sink. (Dust protected with natural heat sink i.e. no forced cooling)
<b>Standby power consumption</b>	Max 3 Watt.
<b>EU/CEC efficiency Euro-eta</b>	$\geq 95\%$ or above
<b>Protections</b>	Short Circuiting <ul style="list-style-type: none"> <li>▪ Surge Protection</li> <li>▪ PV reverse polarity protection</li> <li>▪ Anti-Islanding Protection</li> <li>▪ Leakage current protection</li> <li>▪ High Insulation</li> </ul> Input <ul style="list-style-type: none"> <li>▪ Over voltage (PV) (if built-in)</li> <li>▪ Harmonics filter as per IEC standards</li> <li>▪ Output</li> <li>▪ Over voltage (AC)</li> </ul>
<b>Operating temperature</b>	-5°C to 55°C



<b>Communication</b>	<ul style="list-style-type: none"> <li>▪ With Remote Monitoring Feature, Mobile App, Web server user interface, Cloud Connected.</li> <li>▪ Real Time System Monitoring. Alerts, Faults and Warning data display. System Statistics – System Parameters</li> <li>▪ PV predicted values, Forecasted values, Load data, Energy Data, Net Metering Data Control</li> <li>▪ System Statistics – System Parameters, PV predicted values, Forecasted values, Load data, Energy Data, Net Metering Data Control</li> </ul>
<b>Humidity</b>	10 ~ 90%RH
<b>THD</b>	<3%. As per relevant IEC clauses.
<b>Performance guarantee</b>	5 years Replacement of inverter, 10 years equipment life guarantee
<b>Warranty</b>	10 Years or above transferrable warranty from the original inverter manufacturer shall be provided.
<b>Input Voltage Range</b>	150-950V or above (depend upon the selected design)
<b>Power Factor</b>	0.9 leading 0.9 lagging
<b>Minimum Applicable Standards and Compliances</b>	IEC:62109-1, IEC:62109-2, IEC 61683, IEC 62116, IEC 61727, UL:1741/IEEE:1547, 60068-2.

*The following technical data but not limited to shall be provided wherever applicable for, such as inverter, charge controller, batteries*

No	Characteristic
1	Manufacturer
2	Type/Model number/Date of Manufacture
3	Datasheet
4	Certifications
5	Warranties
6	Installation Guide
7	Manual



### 3. PV Mounting Structure

Description	Requirement
Tentative outlines, design will be site dependent and may varies	
<b>Roof Structure material</b>	Hot Dip Galvanized (min 90 Micron) or Aluminum Frame. With more than 20 years of proven life
<b>Material Gauge</b>	SWG 14 or better / as per design
<b>Wind loading</b>	Mounting structure to support the module must be made of durable material, resistant to sandstorms, high wind speeds (up to 40 m/s), corrosion (passing the salt spray test IEC 61701, among other verification), and UV induced degradation. The material must be compatible with the module frame material so as to avoid any adverse electrolytic/galvanic effects.
<b>Civil work</b>	<ul style="list-style-type: none"> <li>▪ Structure should support the existing roof top.</li> <li>▪ The stability of the supporting structure after installation shall be guaranteed by the bidder.</li> <li>▪ To avoid the drilling in roofs, use appropriate arrangements for strengthen the structure without damage the roofs.</li> <li>▪ Pointed dead-loads on rooftop surface is not recommended</li> <li>▪ Additional beams can be casted to avoid drilling on roofs</li> <li>▪ Water drainage must not be considered; separate water channels must be maintained for water drainage.</li> <li>▪ The supporting structure must be grounded for maximum short-circuit and lightning protection.</li> </ul>

### 4. Cabling, Combiner Boxes and Earthing

- All exposed wiring (with the possible exception of the module interconnects) must be covered in conduits/duct. Wiring through roofing, walls and other structures must be protected through the use of bushings. Wiring through roofing must form a waterproof seal (applicable for wiring only).
- For conduit and duct U-type, Galvanized Cable Tray with ventilation slots (perforated, does not support combustion) with suitable size must be use, so that  $\frac{3}{4}$  spaces in a conduit should be empty.
- Field installed wiring must be joined using terminal strips or screw connectors.





Soldering or crimping in the field must be avoided if at all possible. Wire nuts are not allowed. The rated current carrying capacity of the joint must not be less the circuit current rating. All connections must be made in junction boxes. Fittings for lights, switches, and polarity sensitive socket outlets may be used as junction boxes where practical.

- All wiring shall be color coded as per IEC standards and labeled at termination point.
- No conduit or fitting shall be attached directly to thatch or any other non-supportive surface
- Especially avoid installing the conduit direct over the roof; there must be distance not less than 2 inches between the roof surface and conduit/duct.
- Cables must be joined by the use of junction boxes, screw-connectors, and block connectors, MC 4 or equaling connectors must be used for PV joints.
- All wires must be terminated with proper end sleeves and wire thimbles with different colors for positive and negative polarity.
- Size, voltage grade and manufacturer name should be printed on every cable
- Cable voltage drop specifications are as followed that must be verified through software simulation/ Calculations.
- Earthing as per NEPRA net metering rules for all sites.

Item	Requirement
<b>1. PV to inverter:</b>	Voltage drop less than 2% tin coated (Stranded and flexible), 99.9 % pure copper fire resistive insulation (Stranded) All open/ Exposed cables must be UV resistive.
<b>2. Grid / LV DB to Inverter</b>	Voltage drop less than 2%, 99.9 % pure copper fire resistive insulation (Stranded )

### 5. PV Combiner Box (Junction Box)

Parameters	Description
<b>PV Input</b>	As per design
<b>PV Max. Input Voltage</b>	1000VDC (IEC )
<b>Number of PV array inputs</b>	As per design
<b>Protections</b>	Lightening Protection
	DC over voltage protection
	Short circuit Protection
	Fuse/Breaker Protection.
	AC & DC disconnect
<b>Protection Class</b>	IP 66 or better
<b>Relative humidity</b>	10~90%



## 6. Lightning/air termination rod and Surge Protection devices

Parameters	Min. Specifications Required
Air termination rod material	99 % Copper
Air termination rod length	As per design
Earthing Pit	Less than 2 Ohm (NEC Codes) 99 % Pure copper plate/ rod Size & weight of plate/rod varies from site to site
Air termination rod diameter	As per design
Air termination rod	As per design
Cable for structure	2.5 mm <sup>2</sup> or higher, 99.99% pure copper (strip or single conductor)
Cable for interconnecting/ Grounding metal structure	6 mm <sup>2</sup> or higher, 99.99% pure copper
Insulated Spacer	As per design
Cable Bracket	As per design
Stand – Fang Fix system	As per design
Recommended method for calculation	Rolling sphere method
Functional Compliance	IEC 62305-3 (EN62305-3) IEC62305-3 (EN 62305-3) or equivalent

## 7. Surge Arrester

Parameters	Min. Specifications required
Applications	Both DC side & AC sides
Discharge current (I max)	min. 20kA (8/20 μ sec.)
Impulse current (I imp)	min. 25kA (10/350μ sec.)
Response time	≤ 50 n sec
Leakage current	≤ 1 mA
Dielectric strength	2000 V AC @ 1 minute
Protection Class	Class 2(Type2) minimum
Discharge voltage	600 V DC (Line to earth) or above (matching the size of inverter)
Ingress Protection	Minimum IP20 (placed in IP 65 Box along with other protections)
Short circuit withstand capacity	min. 30kA



### Technical Compliance Sheet Specimen

S. No	Model No	Specifications as per RFP	Specifications Offered by Supplier	Comments

Note: The bidder is required to furnish a compliance sheet for all the equipment in line with the scope of work and specification to be offered by the bidder.



**Part-I**  
**Section V. Bidding Forms**

**1. Bid Submission Form**

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

No: \_\_\_\_\_

To  
[Client Address]

Having examined the bidding documents including Addenda Nos. *[insert numbers]*, the receipt of which is hereby duly acknowledged, we, the undersigned, offer for, **Solarization of District Head Quarter (DHQ) Hospital, Dera Ghazi Khan** in conformity with the said bidding documents.

We undertake, if our Bid is accepted, to deliver the goods in accordance with the delivery schedule specified in the Schedule of Requirements.

If our Bid is accepted, we will obtain the **guarantee of a bank in a sum equivalent to 10% percent of the Contract Price** for the due performance of the Contract, in the form prescribed by the Employer.

**We agree to abide by this Bid for a period of 30 days from the date fixed for Bid opening** under Clause 16 of the Instructions to Bidders, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

Until a formal Contract is prepared and executed, this Bid, together with your written acceptance thereof and your notification of award, shall constitute a binding Contract between us.

Commissions or gratuities, if any, paid or to be paid by us to agents relating to this Bid, and to contract execution if we are awarded the contract, are listed below:

Name and address of agent	Amount and Currency	Purpose of Commission or gratuity
_____	_____	_____
_____	_____	_____
_____	_____	_____

(if none, state "none")



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

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_.

\_\_\_\_\_  
*[signature]*

\_\_\_\_\_  
*[in the capacity of]*

Duly authorized to sign Bid for and on behalf of \_\_\_\_\_



## 2. Manufacturer's Authorization Form

[See Clause 13.3 (a) of the Instructions to Bidders.]

To: *[name of the Employer]*

WHEREAS *[name of the Manufacturer]* who are established and reputable manufacturers of *[name and/or description of the goods]* having factories at *[address of factory]*

do hereby authorize *[name and address of Agent]* to submit a bid, and subsequently negotiate and sign the Contract with you against ITB No. *[reference of the Invitation to Bid]* for the above goods manufactured by us.

We hereby extend our full guarantee and warranty as per Clause 11 of the General Conditions of the Contract for the goods offered for solarization by the above firm against this Invitation for Bids.

---

*[signature for and on behalf of Manufacturer]*

*Note:* This letter of authority and verifiable warranty certificate for all items should be on the letterhead of the Manufacturer and should be signed by a person competent and having the power of attorney to bind the Manufacturer. It should be included by the Bidder in its bid.



### 3. Price Schedules (Financial Bid)

Sr. No	Item/Description	Supply Price (PKR)	Installation Services Charges (PKR)	Total Amount (PKR)
1.	Supply and installation of all material required (Solarization)			
2.	Operation & Maintenance for a period of five years including one (01) year warranty period			
<b>TOTAL AMOUNT (PKR) inclusive of all applicable taxes in figures</b>				
<b>TOTAL AMOUNT (PKR) inclusive of all applicable taxes in words</b>				

The bidder is required to submit its financial proposal on its letterhead according to the bill of quantities including complete break up for solarization.

Note:

1. In case of discrepancy between words and figures, the words shall prevail.
2. The Contractor has to provide the following free of cost:
  - i. Technical and Operation Manuals where required.
  - ii. Warranty Period is as specified in the Scope of Work.



## **Part-II**

### **Section I. Contract Forms**

#### **1. Contract Form**

##### **Agreement for Solarization of DHQ Hospital, Dera Ghazi Khan**

THIS AGREEMENT is executed on the \_\_\_\_\_ between **Punjab Energy Efficiency and Conservation Agency** (hereinafter called the “Employer”) which expression wherever the context so permits shall mean and include its successors-in-interest, administrators, executors and assigns of the one part and \_\_\_\_\_ (hereinafter called the “Contractor”) which expression wherever the context so permits shall mean and include its successors-in-interest, administrators, executors and assigns of the other part:

**WHEREAS** the Employer invited bids for its project titled “**Solarization of District Head Quarter (DHQ) Hospital**” in the district of Dera Ghazi Khan.

**AND WHEREAS** the Contractor in addition to Solarization is required to provide Operation and Maintenance (O&M) services for any malfunctioning, trouble shooting, repair, replacement or maintenance for a period of five (5) years. Pursuant to the expiration of this five (5) year period, the concerned hospital shall be responsible for the O&M services of the solar system.

**AND WHEREAS** the Contractor has accepted the bid submitted by the Contractor being the lowest bidder for Solarization of District Head Quarter (DHQ) Hospital, Dera Ghazi Khan in the sum of \_\_\_\_\_ inclusive of all taxes (hereinafter called the “Contract Price”).

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement, the words and expressions shall have the same meaning as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents shall form and be read and construed as an integral part of this Agreement:
  - (a) The Employer’s Notification of Award;
  - (b) The General Conditions of Contract;
  - (c) The Special Conditions of Contract;
  - (d) The Schedule of Requirements;
  - (e) The Technical Specifications;
  - (f) The Price Schedule and
  - (g) The Integrity Pact





3. In consideration of the payments to be made by the Employer to the Contractor as here-in-after mentioned, the Contractor hereby covenants with the Employer to provide Solarization in conformity with the provisions of this Contract.
4. The Employer hereby covenants to pay the Contractor in consideration of the provision of the Goods and Services for Solarization and for remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of this Contract at the time and in the manner prescribed by this Contract.

IN WITNESS, whereof the Parties hereto have caused this Agreement to be executed at Lahore, Pakistan, in accordance with their respective laws on the day and year first written above.

Signed, sealed, delivered by:

**For the Employer**

**For the Contractor**

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

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

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

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

Designation: \_\_\_\_\_

Designation: \_\_\_\_\_

**Witnesses:**

1. Name: \_\_\_\_\_  
 CNIC No. \_\_\_\_\_  
 Sign: \_\_\_\_\_

2. Name: \_\_\_\_\_  
 CNIC No. \_\_\_\_\_  
 Sign: \_\_\_\_\_



## I. General Conditions of Contract

### 1. Definitions

- 1.1 In this Contract, the following terms shall be interpreted as indicated:
- (a) “Contract” means the agreement entered into between the Employer and the Contractor, as recorded in the Contract Form signed by the Parties, including all attachments and appendices thereto and all documents incorporated by reference therein;
  - (b) “Contractor” means the individual or firm providing the Goods and Services under this Contract for Solarization;
  - (c) “Contract Price” means the price payable to the Contractor under the Contract for the full and proper performance of its contractual obligations;
  - (d) “Employer” means the organization purchasing the Goods and Services, as named in SCC, Punjab Energy Efficiency and Conservation Agency (PEECA);
  - (e) “Employer’s Country” is the Islamic Republic of Pakistan;
  - (f) “GCC” means the General Conditions of Contract contained in this section;
  - (g) “Goods and Services” means all tangible items such as solar panels for solarization and necessary equipment whilst services refers to all the work to be performed by the Contractor pursuant to this Contract as per the technical specifications and those services ancillary to Solarization, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Contractor covered under this Contract.
  - (h) “Project” means the work specified in SCC for which the Contractor’s services are required;
  - (i) “Project Site”, where applicable, means the place or



places named in SCC;

- (k) “Solarization” means the installation of solar panels to generate electricity from solar energy;
- (l) “SCC” means the Special Conditions of Contract;
- (m) “Day” means calendar day.

## **2. Application**

These General Conditions shall apply to the extent that they are not superseded by provisions of other parts of the Contract.

## **3. Country of Origin**

3.1 For purposes of this Clause, origin means the place where the Goods were mined, grown, or produced, or from which the Services are supplied. Goods are produced when, through manufacturing, processing, or substantial and major assembly of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.

3.2 The origin of Goods and Services is distinct from the nationality of the Contractor.

## **4. Standards**

4.1 The Goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications, and, when no applicable standard is mentioned, to the authoritative standards appropriate to the Goods’ country of origin. Such standards shall be the latest issued by the concerned institution.

## **5. Use of Contract Documents and Information: Inspection and Audit**

5.1 The Contractor shall not, without the Employer’s prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the Employer in connection therewith, to any person other than a person employed by the Contractor in the performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.

5.2 The Contractor shall not, without the Employer’s prior written consent, make use of any document or information enumerated in GCC Clause 5.1 except for purposes of performing the Contract.



5.3 Any document, other than the Contract itself, enumerated in GCC Clause 5.1 shall remain the property of the Employer and shall be returned (all copies) to the Employer on completion of the Contractor's performance under the Contract if so required by the Employer.

5.4 The Contractor shall permit the Procuring Agency to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by the Procuring Agency, if so required by the Procuring Agency.

## **6. Performance Security**

6.1 Within ten (10) days of the receipt of the notification of Contract award, the Contractor shall furnish to the Employer a valid performance security in the amount specified in SCC.

6.2 The proceeds of the performance security shall be payable to the Employer as compensation for any loss resulting from the Contractor's failure to complete its obligations under the Contract.

6.3 The performance security shall be denominated in the currency of the Contract acceptable to the Employer and shall be in the form of a bank guarantee/bank draft in favour of Managing Director, PEECA or an irrevocable letter of credit issued by a reputable bank located in Pakistan, in the form provided in the bidding documents till the duration of the Contract including any extension in the term of the Contract.

6.4 The performance security will be discharged by the Employer and returned to the Contractor not later than thirty (30) days following the date of completion of the Contractor's performance obligations under the Contract, including any warranty obligations, unless specified otherwise in SCC.

## **7. Inspections and Tests**

7.1 The Employer or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Employer. SCC and the Technical Specifications shall specify what inspections and tests the Employer requires and where they are to be



conducted. The Employer shall notify the Contractor in writing, in a timely manner, of the identity of any representatives retained for these purposes.

7.2 The inspections and tests may be conducted on the premises of the Contractor or its subcontractor(s), at point of delivery, and/or at the Goods' final destination. If conducted on the premises of the Contractor or its subcontractor(s), all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Employer.

7.3 Should any inspected or tested Goods fail to conform to the Specifications, the Employer may reject the Goods, and the Contractor shall either replace the rejected Goods or make alterations necessary to meet specification requirements free of cost to the Employer.

7.4 The Employer's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival in Pakistan shall in no way be limited or waived by reason of the Goods having previously been inspected, tested, and passed by the Employer or its representative prior to the Goods' shipment from the country of origin.

7.5 Nothing in GCC Clause 8 shall in any way release the Contractor from any warranty or other obligations under this Contract.

**8. Delivery and Documents**

8.1 Delivery of the Goods shall be made by the Contractor at site in accordance with the terms specified in the Schedule of Requirements. The details of shipping and/or other documents to be furnished by the Contractor are specified in SCC.

8.2 Documents to be submitted by the Contractor are specified in SCC.

**9. Insurance**

9.1 The Risk of delivering goods to the Employer shall remain with the Contractor, hence insurance coverage shall be the Contractor's responsibility.

**10. Incidental Services**

N/A



## **11. Warranty**

- 11.1 The Contractor warrants that the Goods supplied under the Contract are new, unused, 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 Contractor further warrants that all Goods supplied under this Contract shall have no defect, arising from design, materials, or workmanship.
- 11.2 This warranty shall remain valid in accordance with the Technical Specifications as indicated in the Request for Proposal and the Contract.
- 11.3 The Employer shall promptly notify the Contractor in writing of any claims arising under this warranty. Unless the Employer states otherwise, all product warranties shall be in favour of the Contractor and automatically assignable to the Employer on demand. The Contractor shall be responsible to make all claims related to warranty defects and their rectification.
- 11.4 Upon receipt of such notice, the Contractor shall, within the period specified in SCC and with all reasonable speed, repair or replace the defective Goods or parts thereof, without costs to the Employer.
- 11.5 If the Contractor, having been notified, fails to remedy the defect(s) within the period specified in SCC, within a reasonable period, the Employer may proceed to take such remedial action as may be necessary, at the Contractor's risk and expense and without prejudice to any other rights which the Employer may have against the Contractor under the Contract.

## **12. Payment**

- 12.1 Payment will be made to the account of the Contractor and according to the payment schedule stated in the SCC. Payments shall be made after the conditions listed in the SCC for such payments have been met.
- 12.2 The Contractor's request(s) for payment shall be made to the Employer in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and Services performed, and by



documents submitted pursuant to GCC Clause 8, and upon fulfillment of other obligations stipulated in the Contract.

12.3 Payments shall be made by the Employer within thirty (30) days after submission of an invoice submitted in accordance with this Agreement.

12.4 The currency of payment is Pak. Rupees (PKR).

### **13. Prices**

13.1 Prices charged by the Contractor under the Contract shall not vary from the prices quoted by the Contractor in its bid, with the exception of any price adjustments authorized in SCC or in the Employer's request for bid validity extension, as the case may be.

### **14. Change Orders**

14.1 The Employer may at any time, by a written order given to the Contractor pursuant to GCC Clause 27, make changes within the general scope of the Contract in the following:

- (a) Quantity;
- (b) Replacement of equipment;

14.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Contractor's performance of any provisions under the Contract, a proportionate adjustment determined by the Employer shall be made in the Contract Price or delivery schedule, or both, based on the existing rates and the Contract shall accordingly be amended. Any claims by the Contractor for adjustment under this clause must be asserted within thirty (30) days from the date of the Contractor's receipt of the Employer's change order.

### **15. Contract Amendments**

15.1 Subject to GCC Clause 14, no variation in or modification of terms of the Contract shall be made except by written amendment signed by the Parties.

### **16. Assignment**

16.1 The Contractor shall not assign, in whole or in part, its obligations to perform under this Contract, except with the Employer's prior written consent. The Employer may assign, in whole or in part, its obligations under the Contract to its parent department; the Energy Department, Government of



Punjab (GoPb).

- 17. Subcontracts**
- 17.1 The Contractor shall notify the Employer in writing of all subcontracts awarded under this Contract if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the Contractor from any liability or obligation under the Contract.
- 17.2 Subcontracts must comply with the provisions of GCC Clause 3.
- 18. Delays in the Contractor's Performance**
- 18.1 Delivery of the Goods and performance of Services shall be made by the Contractor in accordance with the time schedule prescribed by the Employer in the Schedule of Requirements.
- 18.2 Except as provided under GCC Clause 21, a delay by the Contractor in the performance of its delivery obligations shall render the Contractor liable to the imposition of liquidated damages pursuant to GCC Clause 19.
- 19. Liquidated Damages**
- 19.1 Subject to GCC Clause 21, if the Contractor fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Employer shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in SCC of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in SCC. Once the maximum is reached, the Employer may consider termination of the Contract pursuant to GCC Clause 20.
- 20. Termination for Default**
- 20.1 The Employer, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Contractor, may terminate this Contract in whole or in part:
- (a) if the Contractor fails to deliver any or all of the Goods within the period(s) specified in the Contract, or within any extension thereof granted by the Employer pursuant to GCC Clause 18; or





- (b) if the Contractor fails to perform any other obligation(s) under the Contract;
- (c) if the Contractor, in the judgment of the Employer has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

For the purpose of this clause:

—corrupt practice means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.

—fraudulent practice means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Procuring Agency, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Procuring Agency of the benefits of free and open competition.

- 20.2 In the event the Employer terminates the Contract in whole or in part, pursuant to GCC Clause 20.1, the Employer may procure, upon such terms and in such manner as it deems appropriate, Goods or Services similar to those undelivered, and the Contractor shall be liable to the Employer for any excess costs for such similar Goods or Services. However, the Contractor shall continue performance of the Contract to the extent not terminated.
- 20.3 Upon termination of this Agreement, the Contractor shall be entitled to be reimbursed reasonable costs as shall have been duly incurred prior to the date of such termination.

## **21. Force Majeure**

- 21.1 Notwithstanding the provisions of GCC Clauses 18, 19 and 20, the Contractor shall not be liable for forfeiture of its performance security, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.



- 21.2 For purposes of this clause, Force Majeure means an event beyond the control of the Contractor and not attributable to the Contractor's fault or negligence and not foreseeable. Such events may include, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.
- 21.3 If a Force Majeure situation arises, the Contractor shall promptly notify the Employer in writing of such condition and the cause thereof. Unless otherwise directed by the Employer in writing, the Contractor shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.
- 22. Termination for Insolvency**
- 22.1 The Employer may at any time terminate the Contract by giving a written notice to the Contractor if the Contractor becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Contractor, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the Employer.
- 23. Termination for Convenience**
- 23.1 The Employer, by written notice sent to the Contractor, may terminate the Contract, in whole or in part, at any time based on convenience. The notice of termination shall specify that termination is for the Employer's convenience, the extent to which performance of the Contractor under the Contract is terminated, and the date upon which such termination becomes effective.
- 23.2 The Goods that are complete and ready for shipment within thirty (30) days after the Contractor's receipt of notice of termination shall be accepted by the Employer at the Contract terms and prices. For the remaining Goods, the Employer 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 Contractor an agreed amount for partially completed Goods and Services and for materials and parts previously procured by the Contractor.



- 24. Resolution of Disputes**
- 24.1 The Employer and the Contractor shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.
- 24.2 If, after thirty (30) days from the commencement of such informal negotiations, the Employer and the Contractor have been unable to resolve its dispute amicably, either Party may require that the dispute be referred for resolution to the formal mechanisms specified in SCC. These mechanisms may include, but are not restricted to, conciliation mediated by a third party, adjudication and/or arbitration.
- 25. Governing Language**
- 25.1 The Contract shall be written in the language specified in SCC. Subject to GCC Clause 26, the version of the Contract written in the specified language shall govern its interpretation. All correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in the same language.
- 26. Applicable Law**
- 26.1 The Contract shall be interpreted in accordance with the laws of the Islamic Republic of Pakistan.
- 27. Notices**
- 27.1 Any notice given by one party to the other pursuant to this contract shall be sent to the other party in writing or by fax and confirmed in writing to the other party's address specified in SCC
- 27.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.
- 28. Taxes and Duties**
- 28.1 The Contractor shall be solely responsible for all taxes, duties, license fees, etc. The Goods and Services to be provided under the Contract shall be inclusive of all taxes.



## II. Special Conditions of Contract

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. The corresponding clause number of the GCC is indicated in parentheses.

### 1. Definitions (GCC Clause 1)

GCC 1.1 (d)—The Employer is: Punjab Energy Efficiency and Conservation Agency (PEECA)

GCC 1.1 (e)—The Employer's country is: Islamic Republic of Pakistan

GCC 1.1 (b)—The Contractor is: \_\_\_\_\_

GCC 1.1 (i)—The Project Site is: District Head Quarter (DHQ), Hospital in the district of Dera Ghazi Khan.

### 2. Country of Origin (GCC Clause 3)

The Employer's country is: Islamic Republic of Pakistan

### 3. Performance Security (GCC Clause 6)

GCC 6.1—The amount of performance security, as a percentage of the Contract Price, shall be 10% (Ten per cent of the Contract Price) in the shape of non-recourse, irrevocable and unconditional bank guarantee /bank draft in favour of Managing Director, PEECA from a scheduled bank of Pakistan on the prescribed format attached with the bidding document.

### 4. Inspections and Tests (GCC Clause 7)

GCC 7.1—Inspection and tests prior to delivery of goods and at final acceptance include: -

- i) For being brand new, bearing relevant reference numbers of the equipment (Certificate from Contractor);
- ii) For physical fitness having No Damages (Certificate from Contractor);
- iii) For the Country of Origin as quoted by the Contractor (Certificate from Manufacturer);



- iv) For conformance to specifications and performance parameters, through prior to delivery inspection (Inspection Report by Third Party appointed by the Employer for such purpose) and
- v) For successful operation at site after complete installation, testing and commissioning of the equipment (Installation, Testing and Commissioning Report by Third Party appointed by the Employer)

## **5. Delivery and Documents (GCC Clause 8)**

GCC 8.2— Upon Solarization, the Contractor shall notify the Employer of the full details of the equipment. The Contractor shall provide the following documents to the Employer:

- (i) Insurance Certificate;
- (ii) Manufacturer's or Contractor's Valid Warranty Certificate;  
Inspection Certificate issued by the Nominated Inspection Agency (if any),  
and the Contractor's Factory Inspection Report;
- (iii) Certificate of Origin and
- (iv) Any other Certificates as provided for in the Technical Specifications.

## **6. Warranty (GCC Clause 11)**

GCC 11.2—In accordance with the provisions, the warranty period shall in accordance with the Technical Specifications from the date of handing over (final acceptance) of the Goods whichever occurs earlier. The Contractor shall, in addition, comply with the performance and/or consumption guarantees specified under the Contract. If, for reasons attributable to the contractor, these guarantees are not attained in whole or in part, the Contractor shall, at its discretion, either:

- (a) Make such changes, modifications, and/or additions to the Goods or any part thereof as may be necessary in order to attain the contractual guarantees specified in the Contract at its own cost and expense and to carry out further performance tests in accordance with SCC 4,  
**or**
- (b) Pay liquidated damages to the Employer with respect to failure to meet the contractual guarantees. The rate of these liquidated damages shall be 0.1 % of the contract price per day. The maximum amount of liquidated damages for the whole of the goods or part thereof shall be 5% of the contract price.  
**or**
- (c) Replacement of the whole unit at site including transportation, installation, testing and commissioning etc. in case of major defect at its own cost.



GCC 11.4 & 11.5—The period for correction of defects in the warranty period is Seven (07) Days.

- (d) Making good of any incidental damage, unintentional or otherwise at no cost to the Employer.

## 7 Payment (GCC Clause 12)

GCC 12.1—The method and conditions of payment to be made to the Contractor under this Contract shall be as follows:

Payment shall be made in Pak. Rupees in the following manner:

- a. **Payment against Solarization:** Upon submission of claim, the Contractor shall be paid within thirty (30) days as per following schedule. The Solarization shall be given a satisfactory status by the Employer at site after performing the requisite inspection and tests through third party validation as mentioned in SCC 4.

### IN CASE OF ADVANCE PAYMENT

Sr. No.	Deliverables	Payment Percentage
1	Advance Payment against Bank Guarantee	10%
2	On Submission of Detailed Execution Plan regarding implementation of the project including complete layout/ Design/Work Plan etc.	10%
3	After supply of material on site at District Head Quarter (DHQ) Hospital, Dera Ghazi Khan.	30 %
4	After successful completion of Solarization of District Head Quarter (DHQ) Hospital, Dera Ghazi Khan.	35%
5	15 % of the contract value will be paid on submission of five (05) bank guarantees cumulative of that amount which will be distributed equally over a period of 5 Years O & M Period and every year 3% will be released on satisfactory performance report approved by the Client and the DHQ, Hospital Dera Ghazi Khan.	15%

**IN CASE OF NO ADVANCE PAYMENT**

<b>Sr. No.</b>	<b>Deliverables</b>	<b>Payment Percentage</b>
1	On Submission of Detailed Execution Plan regarding implementation of the project including complete layout/ Design/Work Plan etc.	15%
2	After supply of material on site at District Head Quarter (DHQ) Hospital, Dera Ghazi Khan.	35 %
3	After successful completion of Solarization of District Head Quarter (DHQ) Hospital, Dera Ghazi Khan.	35%
4	15 % of the contract value will be paid on submission of five (05) bank guarantees cumulative of that amount which will be distributed equally over a period of 5 Years O & M Period and every year 3% will be released on satisfactory performance report approved by the Client and the DHQ, Hospital Dera Ghazi Khan.	15%

**8 Prices (GCC Clause 13)**

GCC 13.1—Prices shall be: Fixed.

**9 Liquidated Damages (GCC Clause 19)**

GCC 19.1—Applicable rate: 0.1 % of Contract Price per day Maximum deduction: 5 % of Contract Price.

**10 Resolution of Disputes (GCC Clause 24)**

GCC 24.2—The dispute resolution mechanism to be applied pursuant to GCC Clause

24.2 shall be as follows:

In the case of a dispute between the Employer and the Contractor, the dispute shall be referred to adjudication or arbitration in accordance with the Pakistan Arbitration Act, 1940.

**11 Governing Language (GCC Clause 25)**

GCC 25.1—The Governing Language shall be English.



## **12 Applicable Law (GCC Clause 26)**

GCC 26.1-The Contract shall be interpreted in accordance with the laws of the Islamic Republic of Pakistan

## **13 Notices (GCC Clause 27)**

GCC 27.1— Employer’s address for Notice purposes

### **Managing Director**

Punjab Energy Efficiency and Conservation Agency (PEECA) 48 A, (Second Floor) Ghalib Road, Block C II, Gulberg III, Lahore

For queries: [peeca.qu@energy.punjab.gov.pk](mailto:peeca.qu@energy.punjab.gov.pk)

[Ph: 042-99268362-3 Ext 112](tel:042-99268362-3)

Contractors Address for Notice purposes:

\_\_\_\_\_





## 2. Standard Form of Bid Security

(Bank Guarantee)

Security \_\_\_\_\_ Executed \_\_\_\_\_ on \_\_\_\_\_

(Date)

Name of Surety (Bank) with Address: \_\_\_\_\_

(Scheduled Bank in Pakistan)

Name \_\_\_\_\_ of \_\_\_\_\_ Principal (Bidder) with \_\_\_\_\_ Address \_\_\_\_\_

Penal Sum of Security Rupees \_\_\_\_\_ (Rs. \_\_\_\_\_)

Bid Reference No. \_\_\_\_\_

KNOW ALL MEN BY THESE PRESENTS, that in pursuance of the terms of the Bid and at the request of the said Principal (Bidder) we, the Surety above named, are held and firmly bound unto \_\_\_\_\_

(hereinafter called the 'Purchaser') in the sum stated above for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Bidder has submitted the accompanying Bid dated \_\_\_\_\_ for Bid No. \_\_\_\_\_ for \_\_\_\_\_ (Particulars of Bid) to the said Purchaser; and

WHEREAS, the Purchaser has required as a condition for considering said Bid that the Bidder furnishes a Bid Security in the above said sum from a Scheduled Bank in Pakistan or from a foreign bank duly counter-guaranteed by a Scheduled Bank in Pakistan, to the Purchaser, conditioned as under:

- (1) that the Bid Security shall remain in force up to and including the date 30 days after the deadline for validity of bids as stated in the Instructions to Bidders or as it may be extended by the Purchaser, notice of which extension(s) to the Surety is hereby waived;
- (2) that the Bid Security of unsuccessful Bidders will be returned by the Purchaser after expiry of its validity or upon signing of the Contract Agreement; and
- (3) that in the event of failure of the successful Bidder to execute the proposed Contract Agreement and furnish the required Performance Security, the entire said sum be paid immediately to the said Purchaser pursuant to Clause 19.6 of the Instruction to Bidders for the successful Bidder's failure to perform.

NOW THEREFORE, if the successful Bidder shall, within the period specified therefor, on the prescribed form presented to him for signature enter into a formal Contract with the said Purchaser in accordance with his Bid as accepted and furnish within thirty days (30) days of his being requested to do so, a Performance Security with good and sufficient surety, as may be required, upon the form prescribed by the said Purchaser for the faithful performance and proper fulfilment of the said Contract or in the event of non-withdrawal



of the said Bid within the time specified for its validity then this obligation shall be void and of no effect, but otherwise to remain in full force and effect.

PROVIDED THAT the Surety shall forthwith pay the Purchaser the said sum upon first written demand of the Purchaser (without cavil or argument) and without requiring the Purchaser to prove or to show grounds or reasons for such demand, notice of which shall be sent by the Purchaser by registered post duly addressed to the Surety at its address given above.

PROVIDED ALSO THAT the Purchaser shall be the sole and final judge for deciding whether the Principal (Bidder) has duly performed his obligations to sign the Contract Agreement and to furnish the requisite Performance Security within the time stated above, or has defaulted in fulfilling said requirements and the Surety shall pay without objection the said sum upon demand from the Purchaser forthwith and without any reference to the Principal (Bidder) or any other person.

IN WITNESS WHEREOF, the above bounden Surety has executed the instrument under its seal on the date indicated above, the name and seal of the Surety being hereto affixed and these presents duly signed by its undersigned representative pursuant to authority of its governing body.

	SURETY (Bank)
WITNESS:	Signature
1.	Name
	Title
Corporate Secretary (Seal)	Corporate Guarantor (Seal)
2.	
_____	
Name, Title & Address	



**3. FORM OF PERFORMANCE SECURITY**  
(Bank Guarantee)

Guarantee No. \_\_\_\_\_  
Executed on \_\_\_\_\_  
Expiry date \_\_\_\_\_  
[Letter by the Guarantor to the Purchaser]

Name of Guarantor (Bank) with address: \_\_\_\_\_  
(Scheduled Bank in Pakistan)

Name of Principal (Supplier/Contractor) with address: \_\_\_\_\_

Penal Sum of Security (express in words and figures) \_\_\_\_\_

Letter of Acceptance No. \_\_\_\_\_ Dated \_\_\_\_\_

KNOW ALL MEN BY THESE PRESENTS, that in pursuance of the terms of the Bidding Documents and above said Letter of Acceptance (hereinafter called the Documents) and at the request of the said Principal we, the Guarantor above named, are held and firmly bound unto the \_\_\_\_\_ (hereinafter called the Purchaser) in the penal sum of the amount stated above for the payment of which sum well and truly to be made to the said Purchaser, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has accepted the Purchaser's above said Letter of Acceptance for \_\_\_\_\_ (Name of Contract) for the \_\_\_\_\_

\_\_\_\_\_ (Name of Project).

NOW THEREFORE, if the Principal (Supplier/Contractor) shall well and truly perform and fulfill all the undertakings, covenants, terms and conditions of the said Documents during the original terms of the said Documents and any extensions thereof that may be granted by the Purchaser, with or without notice to the Guarantor, which notice is, hereby, waived and shall also well and truly perform and fulfill all the undertakings, covenants terms and conditions of the Contract and of any and all modifications of said Documents that may hereafter be made, notice of which modifications to the Guarantor being hereby waived, then, this obligation to be void; otherwise to remain in full force and virtue till all requirements of Clause 28, Warranty, of Conditions of Contract are fulfilled.

Our total liability under this Guarantee is limited to the sum stated above and it is a condition of any liability attaching to us under this Guarantee that the claim for payment in writing shall be received by us within the validity period of this Guarantee, failing which we shall be discharged of our liability, if any, under this Guarantee.



We, \_\_\_\_\_ (the Guarantor), waiving all objections and defences under the Contract, do hereby irrevocably and independently guarantee to pay to the Purchaser without delay upon the Purchaser's first written demand without cavil or arguments and without requiring the Purchaser to prove or to show grounds or reasons for such demand any sum or sums up to the amount stated above, against the Purchaser's written declaration that the Principal has refused or failed to perform the obligations under the Contract which payment will be effected by the Guarantor to Purchaser's designated Bank & Account Number.

PROVIDED ALSO THAT the Purchaser shall be the sole and final judge for deciding whether the Principal (Contractor) has duly performed his obligations under the Contract or has defaulted in fulfilling said obligations and the Guarantor shall pay without objection any sum or sums up to the amount stated above upon first written demand from the Purchaser forthwith and without any reference to the Principal or any other person.

IN WITNESS WHEREOF, the above-bounden Guarantor has executed this Instrument under its seal on the date indicated above, the name and corporate seal of the Guarantor being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Guarantor (Bank)

Witness:

1. \_\_\_\_\_

Signature \_\_\_\_\_

\_\_\_\_\_  
Corporate Secretary (Seal)

Name \_\_\_\_\_

Title \_\_\_\_\_

2. \_\_\_\_\_

\_\_\_\_\_  
Name, Title & Address

\_\_\_\_\_  
Corporate Guarantor (Seal)



#### 4. INTEGRITY PACT

With reference to the Project “Solarization of District Head Quarter (DHQ), Hospital,” in the district of Dera Ghazi Khan, \_\_\_\_\_ hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from Punjab Energy Efficiency and Conservation Agency (“PEECA”) or any administrative subdivision or agency thereof or any other entity owned or controlled by Government of Punjab (GoPb) through any corrupt business practice.

Without limiting the generality of the foregoing, \_\_\_\_\_ represents and warrants that it has fully declared the brokerage, commission, fees etc. paid or payable to anyone (if applicable) and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder’s fee or kickback, whether described as consultation fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from PEECA except that which has been expressly declared pursuant hereto. \_\_\_\_\_ certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with PEECA and has not taken any action or will not take any action to circumvent the above declaration, representation or warranty.

\_\_\_\_\_ accepts full responsibility and strict liability for making any false declaration, not making full disclosure, misrepresenting facts or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right, interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other rights and remedies available to PEECA under any law, contract or other instrument, be voidable at the option of PEECA.

Notwithstanding any rights and remedies exercised by PEECA in this regard (as may be applicable), \_\_\_\_\_ agrees to indemnify PEECA for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to PEECA in an amount equivalent to ten times the sum of any commission, gratification, bribe, finder’s fee or kickback given by \_\_\_\_\_ as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from PEECA.

Name of Bidder: \_\_\_\_\_

Signature:

[Seal]



SRO 604 (I)/ 2019

**GOVERNMENT OF PAKISTAN  
MINISTRY OF COMMERCE AND TEXTILE  
(COMMERCE DIVISION)**

Islamabad, the 28<sup>th</sup> May, 2019**ORDER**

S.R.O. 604 (I)/2019. In exercise of the powers conferred by sub-section (1) of section 3 of Imports and Exports (Control) Act, 1950, (XXXIX of 1950), the Federal Government is pleased to direct that the following further amendments shall be made in the Import Policy Order, 2016, namely:

In the aforesaid Order, —

(1) in Part-II (Procedural Requirements) of Appendix B, after Serial No. 36 of the Table, the following Serial No. "37" shall be added, namely: —

S. No.	PCT Codes	Commodity Descriptions	Conditions
37.	8541.4000	Solar Photovoltaic cells whether or not assembled in modules or made up into panels (Crystalline Type/ Thin Film) Solar PV Test equipment for system performance testing	Importable subject to compliance with the quality and safety standards approved by Pakistan Standards and Quality Control Authority (PSQCA) as given in Appendix N  i. Provided that the test report shall be issued by accredited laboratory in the country of origin or exporting country for the scope of testing / calibration, in accordance with the requirements of ISO/IEC 17025, General requirements for the competence of testing and calibration laboratories.  ii. Provided further that the Certificate of Conformance (CoC) shall be issued by accredited Product
	8504.4090	Inverter for use with solar PV system. Common for all PV inverters (off-grid/ Hybrid/ on-grid)	
	9032.8990	Charge Controllers for use solar PV systems Balance of system components for Photovoltaic systems	
	8501.3110	Off-grid / Standalone solar photovoltaic generators consisting of panels of photocells combined with other apparatus / Solar PV Homes Systems/ Solar Kits	
	8501.3210	Off-Grid / standalone solar Photovoltaic generators consisting of Panels of photocells combined with other apparatus / Solar PV Homes Systems / Solar Kits	
	8503.0010	Parts suitable for use solely or principally with the machines of heading 8501.3110 and 8501.3210	
	8503.0020	Parts suitable for use solely or principally with the machines of heading 8501.3110 and 8501.3210	
	8503.0090	Parts suitable for use solely or principally with the machines of heading 8501.3110 and 8501.3210 --- Others	
	8538.9090	Junction Box with covers for Solar Panels	
	8544.6090	Insulated (including enameled or anodized) electric wire, cables (including con-axial cable) and other insulated conductors,	



		whether or not fitted with connectors for use in photovoltaic systems	<p>Certification Body in the country of origin or exporting country for the type of certification in accordance with the requirements of ISO/IEC 17065, Conformity assessment - Requirements for bodies certifying products and services.</p> <p>iii. Provided also further that the PSI report shall be issued by accredited inspection body in the country of origin or exporting country for the type of inspections, in accordance with the requirements of ISO/ IEC 17020, General criteria for the operation of various types of bodies performing inspection.</p> <p>iv. Provided further that the accreditation of the above mentioned Conformity Assessment Bodies shall be issued by an Accredited Body (AB), operating in accordance with ISO/IEC 17011, General requirements for accreditation bodies accrediting conformity assessment bodies.</p>
	8413.7090	Solar Photovoltaic pumping system for liquids	
	8419.1900	Solar Water Heaters with accessories	
	7321.1190	Stoves, ranges, grates, cookers, (including those with subsidiary boilers for central heating), barbecues, braziers, rings, plate nonelectric domestic appliances and parts thereof running on solar	

(2) "In the aforesaid Order, in Appendix-H, for the expression "[See paragraph 9(i) (3), paragraph 9(ii) (1, 2&5), 57 of Part-I, S. No. 23,24,25,26, 27, 28 and 30 of Part II of Appendix-B]" the expression [See paragraph 9(i) (3), paragraph 9(ii) (1, 2&5), 57 of Part-I, S. No. 23,24,25,26, 27, 28, 30 and 37 of Part II of Appendix-B]" shall be substituted,



(3) in Appendix-H, the following Serial No. shall be inserted, namely: –

“g. The pre-shipment inspection companies as approved by Pakistan National Accreditation Council (PNAC) for the inspection of solar equipment (including but not limited to solar PV systems, off-grids /standalone solar PV systems, solar PV kits, solar PV panels, solar PV cells, inverters, charge controllers, balance of system components for PV systems, Low-voltage switchgear and control gear assemblies, power converters for use in PV power systems, insulated cables for use in PV systems, solar pumping systems for liquids, solar water heaters with accessories, solar stoves/cookers/ranges, etc. and parts thereof); and

(4) in Appendix-N, after serial No.103 of the Table, the following Serial No. 104 and entries related thereto shall be inserted, namely:–

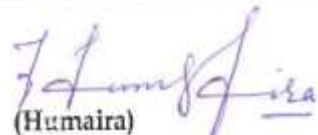
S#	HS Code	Subject	PSS#/IES		
104.	8541.4000	Solar PV Module	IEC: 61730-1		
		Solar PV Module - Crystalline Type	IEC: 61730-2 IEC: 61215-1		
		Solar PV Module - Thin Film (CdTe based)	IEC: 61215		
		Solar PV Module - Thin Film (amorphous silicon based)	IEC: 61730-1 IEC: 61730-2 IEC: 61215-1		
		Solar PV Module - Thin Film (In, GA based)	IEC: 61730-1 IEC: 61730-2		
		PV Test Equipment for system performance testing	PS:IEC: 61724 PS:IEC: 62782 PS:5289 PZS:5290 PS:5291 PS:5293 IEC: 61701		
		Photovoltaic Concentrator (CPV)	PS:IEC:62670		
		Solar PV stand-alone systems (including AC or DC Off-grid Systems)	IEC/TS: 62257-9-5		
		105.	8504.4090	Inverter for use with solar PV system. Common for all PV inverters (off-grid/ hybrid/ on-grid)	IEC: 62109-1 IEC: 62109-2 IEC 61683
				Inverters for use with solar PV on-grid system only	IEC 62116 IEC 61727
				Inverter Testing Equipment	UL:1741 / IEEE:1547 Only the applicable tests of the IEC 60068-2
106.	9032.8990	Charge Controllers for use with solar PV system	IEC: 62509		
		Balance-of-system components for photovoltaic systems	IEC: 62093		
		Low-voltage switchgear and Control gear assemblies	IEC: 61439-1 IEC: 60947-3		
		Power Converters for use in photovoltaic power systems	IEC:62109-1 & 2		
107.	8501.3110 8501.3210	Off-Grid / Standalone Solar PV Home Systems / Solar Kits	IEC/TS:62257-9-5		





108.	8503.0010 8503.0020 8503.0090	Electronic equipment and parts suitable for use in Solar PV power installations	IEC 62013
109.	8538.9090	Junction Box with covers for Solar Panels	IEC 61439 IEC60947-3
110.	8544.6090	Electric cables for photovoltaic systems	IEC:62930
111.	8413.7090	Solar PV Pumping System Design qualification and performance measurements	IEC: 62253
112.	8419.1900	Solar Water Heaters	PG: ISO:9459-1 & 2
		Solar heating - Domestic water heating systems	PS:5160
		Solar water heater for Dwellings based on JIS 4111	PS:5160
		Solar Storage tank based on JIS 4113	PS:5160
		Solar water heaters - Elastomeric materials for absorbers, connecting pipes and fittings	PS:ISO 9808
		Thermal Performance of glazed liquid heating collectors including pressure drop.	PS:ISO 9806-1
		Thermal Solar system and components: factor made systems.	PS:ISO 4355
		Thermal Solar system and components: Collectors.	PS:ISO 4356
113.	7321.1190	Solar Cooker - Box Type: Requirements	PS:5325 & IS:13429-1
		Solar Cooker - Box Type: Components	PS:5326 & IS:13429-2

No. 1(9)/2018-RO (TP)/IPO

  
(Humaira)  
Research Officer (Trade Policy)