



**BIDDING DOCUMENT**

**FOR**

**“ESTABLISHMENT OF CENTRALIZED REMOTE MONITORING AND  
MANAGEMENT CENTER IN ENERGY DEPARTMENT”**

**PUNJAB ENERGY EFFICIENCY AND CONSERVATION AGENCY,  
ENERGY DEPARTMENT, GOVERNMENT OF THE PUNJAB**

**Single Stage Two Envelope**

**Issued on: 31 October, 2024**



## Invitation for Bids

Dated: 31<sup>st</sup> October, 2024

1. Punjab Energy Efficiency and Conservation Agency (PEECA), Lahore invites eligible bidders, for the project “Establishment of Centralized Remote Monitoring and Management Center in Energy Department”.

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

2. Bidding shall be conducted through an Open Competitive Bidding (Single Stage-Two Envelope) procedure specified in the PPRA rules 2014 (amended upto date), and is open to all eligible bidders as defined in the bidding document.
3. The provisions in the Instructions to Bidders and in the General Conditions of Contract are the provisions of the Bidding Documents.
4. Pre-bid meeting: All the participants/bidders may attend the pre-bid meeting for any clarifications/suggestions date and time will be mentioned on the EPADS.
5. Bid Security of **PKR 329,000** in the name of Managing Director PEECA in the form of a Bank Guarantee/CDR must be submitted before the opening date and time otherwise the bid will be considered as “**Non-Responsive**”.
6. Technical & Financial Bids must be submitted on EPADS **on or before 02:00 PM on 18<sup>th</sup> November, 2024.**
7. Bids will be downloaded and opened in the presence of bidders’ representatives who choose to attend at **02:30 PM** in the **office of PEECA**, on the same date i.e. **18<sup>th</sup> November, 2024.**
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:

**Manager Legal**

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**

- |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1. Source of Funds</b>             | 1.1 The Procuring Agency named in the Bid Data Sheet has received a certain budget from the Government of Punjab. The Procuring Agency intends to apply a portion of this budget to eligible payments under the contract for which this Invitation for Bids is issued.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>2. Eligible Bidders</b>            | <p>2.1 This Invitation for Bids is open to all contractors, companies, firms, JV, except as provided hereinafter.</p> <p>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.</p> <p>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.</p> <p>2.4 Bidders shall not be under a declaration of blacklisting by any Government department or Punjab Procurement Regulatory Authority (PPRA).</p> |
| <b>3. Eligible Goods and Services</b> | <p>3.1 All goods and related services to be supplied under the contract shall have their origin in eligible source countries and all expenditures made under the contract will be limited to such goods and services.</p> <p>3.2 For the 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.</p>                                                                                                                                                                                                                               |



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, installation, commissioning and training 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) General Conditions of Contract (GCC)
- (i) Special Conditions of Contract (SCC)
- (j) Form of Bid Security
- (k) Form of Performance Security

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 which will be binding 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 the same language.

**9. Documents Comprising the Bid**

- 9.1 The bid prepared by the Bidder shall comprise of 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, installation, commissioning and training under the contract.

11.2 Prices indicated on the Price Schedule shall be quoted *with and without* all applicable duties and taxes.

11.3 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.

11.4 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not be 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 The total price for the items shall be fixed and 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 be established 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 goods which the Bidder did not manufacture or otherwise produce, the Bidder has been duly authorized by the goods' manufacturer or producer to use them towards the development of an "Establishment of Centralized Remote Monitoring and Management Center System in Pakistan;

(b) that the Bidder has the financial, technical, and production



capability 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 within Pakistan, 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 development of the "Establishment of Centralized Remote Monitoring and Management Center System" 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 compliant with the technical specifications as provided in Section IV of Part 1.
- (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 sixty (60) 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

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.

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

17.1 The Bidder shall prepare an original of the bid indicated in the Bid Data Sheet, clearly marking "ORIGINAL BID" and upload on EPADS. **(Only EPADS proposal will be considered your final proposal)**

17.2 The original 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 submit the original duly mentioned on the first page of the proposal as "ORIGINAL".

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 no 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.

#### **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, and technical, 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 Evaluated Bid.

## 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. ten (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 as specified in the bid data sheet (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 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;

- (b) 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;

- (c) 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.



## Part-I

### Section II. Bid Data Sheet

The following specific data sheet for the **Establishment of Centralized Remote Monitoring and Management Center in Energy Department** (Goods and Services) to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB) Part I. Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

| Introduction |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ITB 1.1      | Name of Procuring Agency: <b>Punjab Energy Efficiency and Conservation Agency (PEECA), Energy Department, Government of Punjab</b>                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ITB 4.1      | Name of Employer: <b>Punjab Energy Efficiency and Conservation Agency (PEECA), Energy Department, Government of Punjab</b>                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| ITB 6.1      | <p>For clarification purposes, the Employer's address is:</p> <p><b>Assistant Manager Procurement</b><br/>Punjab Energy Efficiency and Conservation Agency (PEECA)<br/>48 A, (Second Floor) Ghalib Road, Block C II,<br/>Gulberg III, Lahore<br/>For queries: <a href="mailto:peeca.qu@energy.punjab.gov.pk">peeca.qu@energy.punjab.gov.pk</a><br/><a href="tel:042-99268362-3">Ph: 042-99268362-3</a></p> <p>Requests for clarification shall be received by the Employer no later than <b><u>three (3) days</u></b> prior to the submission deadline.</p> |
| ITB 8.1      | Language of the Bid – English                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Bid Price and Currency |                                             |
|------------------------|---------------------------------------------|
| ITB 12.1               | The price shall be fixed and in Pak Rupees. |

| Preparation and Submission of Bids |
|------------------------------------|
|------------------------------------|



| ITB 13.2                                                                                        | <p>a. Certificate of Incorporation of Bidder’s firm showing its location and the date of registration etc.</p> <p>b. NTN and GST Registration Certificate, PRA</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |             |       |                                                     |                                                                             |    |                                                                                                 |                                                                                                                                                                                                                                              |    |
|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------|-------|-----------------------------------------------------|-----------------------------------------------------------------------------|----|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| ITB 13.3 (b)                                                                                    | Audited Financial Reports for the last three (3) financial years (up to June 2024).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |             |       |                                                     |                                                                             |    |                                                                                                 |                                                                                                                                                                                                                                              |    |
| ITB 13.3 (d)                                                                                    | <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), if No to below criteria (No Further Evaluation)</b></p> <p>(a) The applicant must be a national of a country maintaining bilateral relations with the Islamic Republic of Pakistan;</p> <p>(b) The Firm must be registered with tax authorities (Income Tax/Sales Tax/PRA Must be <b>Active Status</b>) ;</p> <p>(c) The applicant must write an official letter confirming that the complete scope of work shall be carried out by it;</p> <p>(d) The applicant must provide with the undertaking regarding non-blacklisting and any pending litigation and</p> <p>(e) The applicant must provide an undertaking confirming that there is no conflict of interest.</p> <table><tr><th>Item</th><th>Description</th><th>Marks</th></tr><tr><td><b>Operational history of Supplier/Manufacturer</b></td><td>An operational history of at least 05 years (Each year carry one (02) mark)</td><td>10</td></tr><tr><td><b>Proof of similar project for Development of Remote Monitoring System (RMS) or equivalent</b></td><td>For three or more projects<br/>For less than three projects<br/>10 x A/3<br/>A= Number of Projects<br/><br/>Note: Experience will be established on the basis of supporting certificate from employer/owner of project/work order/purchase order.</td><td>10</td></tr></table> | Item  | Description | Marks | <b>Operational history of Supplier/Manufacturer</b> | An operational history of at least 05 years (Each year carry one (02) mark) | 10 | <b>Proof of similar project for Development of Remote Monitoring System (RMS) or equivalent</b> | For three or more projects<br>For less than three projects<br>10 x A/3<br>A= Number of Projects<br><br>Note: Experience will be established on the basis of supporting certificate from employer/owner of project/work order/purchase order. | 10 |
| Item                                                                                            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Marks |             |       |                                                     |                                                                             |    |                                                                                                 |                                                                                                                                                                                                                                              |    |
| <b>Operational history of Supplier/Manufacturer</b>                                             | An operational history of at least 05 years (Each year carry one (02) mark)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 10    |             |       |                                                     |                                                                             |    |                                                                                                 |                                                                                                                                                                                                                                              |    |
| <b>Proof of similar project for Development of Remote Monitoring System (RMS) or equivalent</b> | For three or more projects<br>For less than three projects<br>10 x A/3<br>A= Number of Projects<br><br>Note: Experience will be established on the basis of supporting certificate from employer/owner of project/work order/purchase order.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 10    |             |       |                                                     |                                                                             |    |                                                                                                 |                                                                                                                                                                                                                                              |    |



|  |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |
|--|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
|  | <b>Provision for the Development of Mobile App for RMS</b>                          | <p>For three or more projects<br/>For less than three projects<br/><math>10 \times A/3</math><br/>A= Number of Projects</p> <p>Note: Experience will be established on the basis of supporting certificate from employer/owner of project/work order/purchase order.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                              | 10 |
|  | <b>SDK Development to accommodate various types of GSM / internet based devices</b> | <p>For two or more projects<br/>For less than two projects<br/><math>5 \times A/2</math><br/>A= Number of Projects</p> <p>Note: Experience will be established on the basis of supporting certificate from employer/owner of project/work order/purchase order.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 5  |
|  | <b>Financial Position</b>                                                           | <p>a) Equity Capital (10 Marks)<br/>b) Average Financial Turnover for last 3 years (10 Marks)</p> <p><b><u>Equity Capital</u></b></p> <p>Less than PKR 25 million: 0 pts</p> <p>Above PKR 25 million but less than PKR 50 Million: 2.5 pts</p> <p>Above PKR 50 million but less than PKR 75 Million: 05 pts</p> <p>Above PKR 75 Million: 10 pts</p> <p><b><u>Average Annual Financial Turnover for last 3 years</u></b> less than PKR 50 Million: 0 pts</p> <p>Average annual turnover more than PKR 50 Million but less than PKR 100 Million: 2.5 pts</p> <p>Average annual turnover more than PKR 100 Million but less than PKR 200 Million :5 pts</p> <p>Average annual turnover above PKR 200 Million: 10 pts</p> | 20 |



|  |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |
|--|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
|  |                                           | <b>Note: Audited Financial Statements must be provided for the last 3 years</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |
|  | <b>Demo/<br/>Presentation for<br/>RMS</b> | <p><b>Bidders/ Companies/ Contractor must provide the demo/ presentation to the Procurement Committee in Pre-bid meeting.</b></p> <p><b>Marking Criteria for Demo as follow:</b></p> <p><b>1. System Architecture and Design (10 marks)</b></p> <ul style="list-style-type: none"><li>• <b>Clarity of Design</b> (5 marks): How clearly the overall architecture of the system is explained (centralized data flow, key components, etc.).</li><li>• <b>Scalability and Security Considerations</b> (5 marks): How well the system scales for large data, and its approach to security (data protection, user authentication, encryption).</li></ul> <p><b>2. Functionality and Features (10 marks)</b></p> <ul style="list-style-type: none"><li>• <b>Core Functionality</b> (6 marks): How well the core features of the centralized monitoring system work (real-time data collection, analytics, alerts).</li><li>• <b>Additional Features</b> (4 marks): Innovative or advanced features like remote access, customization, or automation options.</li></ul> <p><b>3. User Interface and Experience (4 marks)</b></p> <ul style="list-style-type: none"><li>• <b>Usability</b> (2 marks): Ease of navigation, simplicity, and intuitiveness of the system's interface.</li><li>• <b>Visual Appeal</b> (2 marks): How well-designed and visually appealing the</li></ul> | 40 |



|  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  |  | <p>interface is.</p> <p><b>4. Technical Implementation and Performance (5 marks)</b></p> <ul style="list-style-type: none"><li>• <b>System Performance</b> (3 marks): How well the system performs under different conditions (load times, response times, handling of large datasets).</li><li>• <b>Demonstration of Key Technical Skills</b> (2 marks): Quality of the underlying code or technical stack used (appropriate tools, databases, etc.).</li></ul> <p><b>5. Presentation Skills (4 marks)</b></p> <ul style="list-style-type: none"><li>• <b>Clarity of Explanation</b> (2 marks): How well the team presents the features, technical elements, and benefits of the system.</li><li>• <b>Engagement and Interaction</b> (2 marks): Ability to engage the audience, answer questions, and provide clear, concise responses.</li></ul> <p><b>6. Innovation and Problem-Solving (3 marks)</b></p> <ul style="list-style-type: none"><li>• <b>Innovation</b> (2 marks): New or creative solutions to common problems in centralized monitoring systems.</li><li>• <b>Problem-Solving</b> (1 mark): How well they address potential challenges or limitations in their system.</li></ul> <p><b>7. Documentation and Reporting (4 marks)</b></p> <ul style="list-style-type: none"><li>• <b>Technical Documentation</b> (2 marks): Completeness and clarity of the documentation for the system (e.g., user manual, developer notes).</li><li>• <b>Reports and Analysis</b> (2 marks):</li></ul> |  |
|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|



|              |                                                                                                                                                                                                                                                                                                                                                                        |                                                                                     |     |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----|
|              |                                                                                                                                                                                                                                                                                                                                                                        | Quality of reports or data insights the system generates (e.g., dashboard reports). |     |
|              | Total                                                                                                                                                                                                                                                                                                                                                                  |                                                                                     | 100 |
|              | Qualifying Marks: 65                                                                                                                                                                                                                                                                                                                                                   |                                                                                     |     |
| ITB 15.1     | <b>Amount of Bid Security:</b><br><br>Bid Security of <b>PKR 400,000 in</b> the prescribed format, in the shape of CDR or bank guarantee or in any form acceptable to the procuring agency.                                                                                                                                                                            |                                                                                     |     |
| ITB 16.1     | <b>Bid Validity Period: Ninety (90 days)</b> after the date of opening of the bid.                                                                                                                                                                                                                                                                                     |                                                                                     |     |
| ITB 17.1     | <b>Number of Copies: One (01)</b> Original along with <b>One (01) Copy</b> of the Technical bid and <b>One (01) Original</b> Financial Bid. (Not Applicable)<br><i>Note: “Only EPADS submitted Soft Form will be considered as final proposal for evaluation.”</i>                                                                                                     |                                                                                     |     |
| ITB 18.2 (a) | <b>Address for Bid Submission:</b><br><br><b>Manager Legal</b><br>Punjab Energy Efficiency and Conservation Agency (PEECA)<br>48 A, (Second Floor) Ghalib Road, Block C II,<br>Gulberg III, Lahore<br><br>For queries: <a href="mailto:peeca.qu@energy.punjab.gov.pk">peeca.qu@energy.punjab.gov.pk</a><br><a href="tel:042-99268362-3">Ph: 042-99268362-3</a> Ext 112 |                                                                                     |     |
| ITB 18.2 (b) | <b>IFB Title and Number:</b> Establishment of Centralized Remote Monitoring and Management Center in Energy Department                                                                                                                                                                                                                                                 |                                                                                     |     |
| ITB 19.1     | <b>Deadline for Bid Submission:</b> On or Before 02:00 pm, by 18 <sup>th</sup> November, 2024                                                                                                                                                                                                                                                                          |                                                                                     |     |



|                 |                                                                                                                                                                                                                              |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>ITB 22.1</b> | <b>Time, Date, and Place for Bid Opening:</b><br>02:30 pm, 18 <sup>th</sup> November, 2024, Punjab Energy Efficiency and Conservation Agency (PEECA)<br>48 A, (Second Floor) Ghalib Road, Block C II,<br>Gulberg III, Lahore |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| <b>Bid Evaluation</b> |                                                                                                      |
|-----------------------|------------------------------------------------------------------------------------------------------|
| <b>ITB 25.4</b>       | Criteria for bid evaluation: Lowest cost offered by the responsive and technically qualified bidder. |

| <b>Contract Award</b> |                                                                            |
|-----------------------|----------------------------------------------------------------------------|
| <b>ITB 29.1</b>       | Percentage for quantity increase or decrease: 15 % of total Contract Value |

| <b>Performance Security</b> |                                                                                                                        |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------|
| <b>ITB 33.1</b>             | The successful bidder shall furnish <b>10% Performance Security</b> of the contract price as in the prescribed format. |



## **Part-I**

### **Section III Schedule of Requirements**

#### **(Terms of Reference including Scope of Work)**

#### **Background**

The Government of Punjab, through its Energy Department, has made significant strides in promoting renewable energy by solarizing over 15,000 sites across the province. This large-scale adoption of solar energy across various public entities reflects the province's commitment to reducing dependency on nonrenewable energy sources and promoting sustainable energy solutions. The solarization initiative covers a wide range of public sector institutions, including schools, hospitals, government offices, and other public facilities, thereby contributing to a substantial reduction in energy costs and a positive environmental impact.

Despite the extensive deployment of solar energy systems, a critical gap has been identified in the monitoring and management of these systems. Currently, there is no centralized monitoring mechanism in place to oversee the performance and efficiency of these solar installations. This lack of a systematic approach to monitoring and data management has led to challenges in ensuring the optimal performance of the solar systems, timely maintenance, and effective utilization of generated energy.

#### **Justification**

The absence of a comprehensive monitoring system poses several challenges that undermine the potential benefits of the solarization initiative. Without real-time data on energy production, consumption, and system performance, it becomes difficult for the Energy Department and other relevant authorities to assess the effectiveness of these solar installations. This results in:

1. **Inadequate Performance Monitoring:** The inability to monitor energy production and consumption in real-time means that authorities cannot accurately assess the efficiency of the solar systems. This leads to suboptimal energy utilization and potential wastage of resources.
2. **Delayed Maintenance and Repairs:** Without a monitoring system, issues with solar installations, such as equipment failures or inefficiencies, may go unnoticed until they cause significant disruptions. This reactive approach to maintenance increases downtime and repair costs, further reducing the overall efficiency of the solar energy systems.
3. **Lack of Data-Driven Decision Making:** The absence of a centralized data collection and analysis system hinders the ability of the Energy Department to make informed decisions regarding energy management and policy development. Data-driven insights



- are crucial for optimizing energy generation, identifying trends, and implementing corrective measures.
4. **Reduced Accountability and Transparency:** A centralized monitoring system would enhance accountability by providing transparent data on energy production and consumption. Without such a system, it is difficult to track the performance of different sites, leading to potential inefficiencies and lack of transparency in energy management.
  5. **Missed Opportunities for Optimization:** Predictive analytics and advanced data visualization tools could play a vital role in optimizing the performance of solar installations. However, the lack of a monitoring system prevents the utilization of such technologies, resulting in missed opportunities for improving energy efficiency and reducing operational costs.

## Conclusion

Given the substantial investment in solar energy infrastructure across Punjab, the implementation of a **Centralized Monitoring System for Efficiency and Energy Conservation** is crucial. This system will address the current shortcomings by providing real-time monitoring, predictive maintenance, and comprehensive data analytics, thereby ensuring the optimal performance and sustainability of the solar energy systems. The Energy Department of Punjab, in collaboration with relevant authorities, must prioritize the development and deployment of this system to fully realize the benefits of the solarization initiative and to lead the way in sustainable energy management in Pakistan.

## Project Scope

### 1. Overview

The **Centralized Monitoring System for Efficiency and Energy Conservation** is an initiative aimed at developing a comprehensive software application for monitoring and managing over solarized sites across Punjab, Pakistan. New sites will be added in the monitoring system. The project will include system monitoring, analytics, and customer management functionalities, integrating IoT devices for real-time data collection and analysis. The system will be accessible on both web and mobile platforms, catering to different user roles such as Admin, Customer, and Technician.

### 2. Objectives

- To develop a centralized, real-time monitoring system for all solar installations across the province. To enhance the efficiency and effectiveness of energy management through predictive analytics and data visualization.
- To facilitate proactive maintenance and reduce downtime of solar systems by integrating IoT devices for real-time alerts.
- To improve transparency and accountability in energy management by providing comprehensive reporting and dashboards.
- To ensure seamless customer management, including service request handling and support ticket systems.



### 3. Key Features

The project will encompass the following key features:

#### a. System Monitoring

**Real-Time Monitoring:** Continuous monitoring of solar panel performance, including energy production and consumption data across all sites.

**Dashboard:** A centralized dashboard displaying key metrics such as energy efficiency, system status, and updates.

**Alerts and Notifications:** Automated alerts for system maintenance, performance issues, and other critical events.

#### b. Analytics

**Data Visualization:** Tools for visualizing energy usage trends over time, including customizable graphs and charts.

**-Data Collection:** Integration with IoT devices for the collection of detailed performance data from each solar site.

**-Predictive Analytics:** Algorithms for predicting maintenance needs and optimizing system performance based on historical data.

**-Customizable Reports:** Generation of daily, weekly, monthly, and yearly reports to aid in decisionmaking.

#### c. Customer Management

**-Account & Profile Management:** Tools for managing customer profiles, including contact information, service history, and system details.

**-Service Request Management:** A system for logging, tracking, and resolving service requests from customers.

**-Support Ticket System:** A platform for handling customer inquiries, complaints, and technical issues.

### 4. Implementation Strategy

The implementation of the project will be carried out in collaboration with various government bodies and technology partners:

**-Sponsoring:** Energy Department, Government of the Punjab **-Execution:** Punjab Energy Efficiency and Conservation Agency (PEECA) **-Site Information and Details:** Provided by PEECA

**-System Development:** Contractor **-System Integration:** Contractor

**Operations and Maintenance:** Managed by PEECA through contractor, including ongoing maintenance of the dashboard and site monitoring.

-

### 5. Project Deliverables

**Software Application:** A fully functional, centralized monitoring system accessible via web and mobile platforms.

-

**IoT Integration:** Complete integration of IoT devices for real-time data collection and system monitoring.

-



**-User Roles:** Customized interfaces and access levels for Admins, Customers, and Technicians. **-Reporting Tools:** Comprehensive reporting and data visualization tools for energy management.

**Customer Support System:** A robust platform for managing customer accounts, service requests, and support tickets

## 6. Timeline

The project is expected to be completed within a 12-month timeframe, with the following phases:

Page 4

1. **Requirement Analysis and Planning:** 1-2 months
2. **System Design:** 2-3 months
3. **Development:** 4-6 months
4. **Testing and Quality Assurance:** 2 months
5. **Deployment:** 1 month
6. **Training and Support:** Ongoing after deployment
7. **Estimated Cost**

The estimated budget for the project is PKR 16.45 million.

## SECTORAL SPECIFIC INFORMATION:

Sector-Specific Information for the Centralized Monitoring System for Efficiency and Energy Conservation The **Centralized Monitoring System for Efficiency and Energy Conservation** will have significant sectoral impacts across various industries and public sectors within Punjab, Pakistan. Below is a breakdown of how the project will influence specific sectors:

### 1. Energy Sector

#### a. Renewable Energy Management

- **Improved Solar Energy Efficiency:** The system will optimize the performance of over 20,000 solarized sites by providing real-time monitoring and predictive maintenance, ensuring that solar panels operate at peak efficiency.
- **Integration with National Grid:** Enhanced data collection and analysis will facilitate better integration of solar energy into the national grid, ensuring a more stable and sustainable energy supply.
- **Energy Security:** By increasing the efficiency and reliability of renewable energy sources, the project will contribute to reducing the province's dependence on fossil fuels, thereby enhancing energy security.

#### b. Policy and Regulation

- **Informed Decision-Making:** The Energy Department will be able to use the data generated by the system to make more informed policy decisions, such as optimizing energy tariffs, developing new renewable energy projects, and setting regulatory standards.



- **Compliance Monitoring:** The system will help in monitoring compliance with energy efficiency regulations and standards, ensuring that solar installations meet required performance metrics.

## 2. Public Sector Institutions

### a. Health Sector

- **Uninterrupted Power Supply to Hospitals:** Real-time monitoring of solar installations at hospitals will ensure a continuous and reliable power supply, critical for the operation of medical equipment and services, especially in rural areas.
- **Reduced Operational Costs:** By optimizing energy usage, hospitals can significantly reduce their electricity bills, freeing up resources for patient care and other essential services.

-

### b. Education Sector

- **Sustainable Energy for Schools:** Schools equipped with solar energy systems will benefit from a stable and cost-effective power supply, enabling uninterrupted educational activities, even in remote areas.
- **Awareness and Education:** The project can be used as an educational tool to teach students about renewable energy, sustainability, and the importance of energy conservation.

### c. Government Offices

- **Operational Efficiency:** Government buildings and offices with solar installations will experience reduced operational costs due to more efficient energy usage, allowing for better allocation of public funds.
- **Transparent Energy Management:** The system will provide government officials with detailed reports on energy usage, promoting transparency and accountability in public sector energy management.

## 3. Private Sector

### a. Energy Service Companies (ESCOs)

- **Business Opportunities:** The need for system maintenance, upgrades, and technical support will create new business opportunities for energy service companies, driving growth in the renewable energy sector.
- **Enhanced Service Offerings:** ESCOs can use the data and analytics provided by the system to offer more tailored and efficient energy solutions to their clients, including predictive maintenance and energy optimization services

### b. ICT Sector



- **Innovation and Development:** The development and deployment of the monitoring system will spur innovation in the ICT sector, particularly in areas such as IoT integration, data analytics, and software development.
- **Skilled Workforce Demand:** There will be an increased demand for skilled professionals in ICT fields such as software development, network engineering, and data analysis, driving job creation and skill development.

#### 4. Environmental Sector

##### a. Environmental Conservation

- **Reduction in Carbon Emissions:** By optimizing the performance of solar installations, the project will contribute to a significant reduction in greenhouse gas emissions, aligning with national and international environmental goals.
- **Promotion of Sustainable Practices:** The project will serve as a model for sustainable energy practices, encouraging other sectors and regions to adopt similar initiatives to reduce their environmental impact.

##### b. Bioprosity Protection

- **Minimized Land Use:** Efficient solar energy systems reduce the need for large-scale land development for traditional power plants, helping to preserve natural habitats and bioprosity.
- **Climate Change Mitigation:** By promoting the use of clean energy, the project will help mitigate the impacts of climate change, which is crucial for protecting ecosystems and wildlife in Punjab.

#### 5. Economic Sector

##### a. Economic Growth

- **Attraction of Investment:** The project will position Punjab as a leader in renewable energy, attracting both domestic and international investments in the energy and technology sectors.
- **Job Creation:** The need for system deployment, maintenance, and ongoing operation will create jobs across various sectors, contributing to economic growth and reducing unemployment.

##### b. Cost Savings

- **Public Sector Savings:** Government institutions will experience significant cost savings on energy bills, allowing for more efficient use of public funds.
  - **Private Sector Efficiency:** Businesses using the system can optimize their energy usage, reducing costs and increasing competitiveness in the market.
- The execution time for (ESTABLISHMENT OF CENTRALIZED REMOTE MONITORING AND MANAGEMENT CENTER IN ENERGY DEPARTMENT) is ninety (90) days from the date of signing of the Contract.

#### Deliverable/Payment/Milestones:



| Sr. No.      | Deliverables                                                                                                                                  | Payment Percentage |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| 1.           | <b>After the completion of Development of RMS Web Panel / Dashboard for monitoring of solar projects</b><br>(As per the Scope of work)        | 25%                |
| 2.           | <b>After the completion of Development of Mobile App</b><br>(As per the Scope of work)                                                        | 25%                |
| 3.           | <b>After the completion of SDK Development</b><br>(As per the Scope of work)                                                                  | 10%                |
| 4.           | <b>I. Colour Printer (Quantity-01)</b><br><b>II. Black and White Printer (Quantity-01)</b><br>(As per the specification mentioned in the BOQ) | 10%                |
| 5.           | <b>LED TV 55(Inches)4K (Quantity-04)</b><br>(As per the specification mentioned in the BOQ)                                                   | 15%                |
| 6.           | <b>I. PC Core i9 (Quantity-01)</b><br><b>II. PC Core i7 (Quantity-02)</b><br>(As per the specification mentioned in the BOQ)                  | 15%                |
| <b>Total</b> |                                                                                                                                               | 100%               |

## Part-I

### Section IV. Features for the RMS Dashboard

The bidders are required to provide the following RMS Dashboard Features:

#### Scope of Work

#### Dashboard Section:

- **Statistics:**
  - Total Plants
  - Total Generation
  - Monthly Generation
  - Daily Generation
  - Plants Locations on Map
  - Status-wise Plants Count (Offline, Faulty, Normal)
  - Alarm Categories (High Risk, Moderate Risk, Low Risk)



- Category-wise Alarms Count
  - Average Resolution time for Alarms
  - Overall Financial Savings Achieved (linked to Average Electricity Tariff)
  - Overall Carbon Emissions Avoided (Linked to a Specified Factor)
- 

## Plants Section:

- **Plants Listing:**
    - Basic details in listing, including a generation trend graph for the day and plant availability.
  - **Submission of reports of the Plant Details comprises of the following:**
    - Generation and Consumption Graphs (with a 5-second interval):
      - Daily
      - Monthly
      - Yearly
    - Plant Power Flow
    - Plant Devices Information
    - Inverter-Level Graphs (representing each wire's data on the graph)
    - Heat map of Inverters
    - Environmental Benefits Details
    - Power Generation Statistics
    - EMI/Irradiance Graph
    - ROI and Payback Graph
    - Fault Identification History
    - Average Resolution Time
- 

## Tariff Section:

- **Tariff Company**
  - **Tariff Types**
  - **Tariff Rates** (month-wise)
  - **Tariff Type and Rate Association** with Plants
- 

## Helpdesk:

- **Tickets Listing**
- Chat on Tickets (generated by internal staff and customers via mobile apps)
- **Tickets Master Data** (including Source, Category, Sub-Category for dropdowns)



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## Alarms Management:

- **Alarms Center**
    - Category wise Active Alarms
    - Category wise Historical Alarms with Average Resolution Time
    - Aging of Alarms
- 

## User Management:

- Account Creation (with different user types)
- User & Role Management (Complete CRUD, reflection on front and backend end)
- GSM sims to be used for RMS services will be purchased by the contractor on behalf of beneficiary department.
- Presentation

## Dashboard Portal Features:

### 1. Real-Time Monitoring and Alerts:

- Track real-time data from multiple sites.
- **Fault signals:**
  - **Green signal** if the issue is addressed within 4 hours.
  - **Yellow signal** if the issue persists after 12 hours.
  - **Red signal** after 24 hours of unresolved fault.
- Clear visual indicators for users.

### 2. Daily, Monthly, and Total Generation Data:

- Display power generation statistics (in kWh or MWh).
- Breakdowns for daily, monthly, and total generation for each plant.

### 3. MTCO2 Reduction Calculation:



- Track and display **Metric Tons of CO2 (MTCO2)** reduced for each site, along with cumulative reductions across all sites.
- Visualize CO2 savings in graphical format (e.g., bar graphs, line charts).

#### 4. **Plant-wise Details:**

- Display data per plant, including:
  - Plant location.
  - Size and capacity of each plant.
  - Power generation specifics.
  - Faults and resolutions.

#### 5. **Fault Management:**

- Fault categorization with timestamps and severity level.
- Notifications and reports on fault resolution timelines.
- Real-time alerts sent to mobile app users.

#### 6. **Dashboard Customization:**

- Customizable views for different roles (e.g., plant managers, engineers).
- Filters for plant-wise or system-wise data.

#### 7. **Reporting and Analytics:**

- Generate automated reports based on daily, monthly, or custom timeframes.
- Data export options (CSV, PDF).
- Visual analytics (graphs, charts) for power generation and efficiency.

#### 8. **User Access and Roles:**

- Secure login for multiple users (admin, plant manager, engineer, etc.).
- Role-based access control for different functionalities.

#### 9. **Mobile App Integration:**

- Real-time fault alerts via push notifications.



- Access to dashboard data on mobile devices with the same functionality as the web portal.
- Offline data viewing and fault resolution updates.

#### **10. Map Integration:**

- Interactive map displaying all plant locations and status indicators.
- Ability to click on a plant to see detailed real-time data and fault logs.

### **SDK Development Features:**

#### **1. SDK for Integration:**

- A Software Development Kit (SDK) that allows integration with other platforms or tools.
- Support for **REST APIs** to enable easy data exchange between different systems (e.g., ERP systems, energy management platforms).

#### **2. Fault Data Integration:**

- Allow developers to integrate real-time fault data into their existing software or custom applications.

#### **3. Data Visualization:**

- SDK to provide widgets or customizable components (e.g., graphs, tables) for developers to use in their applications.

#### **4. Custom Notifications:**

- SDK to allow other platforms to trigger custom notifications based on fault status or power generation data.

#### **5. Authentication and Security:**

- Built-in authentication tools for secure user access.
- Data encryption mechanisms to ensure secure transmission of data across platforms.

#### **6. Third-Party App Integration:**

- Support for integration with third-party mobile apps or external monitoring systems for added functionality.



## Credentials:

For secure access, the dashboard portal and mobile app would require:

- **Admin Credentials:** Full access to all data, settings, and reports.
- **User Credentials:** Restricted access based on the assigned role (engineer, plant operator, etc.).
- **API Keys:** For accessing data via the SDK, especially when integrating with third-party tools.

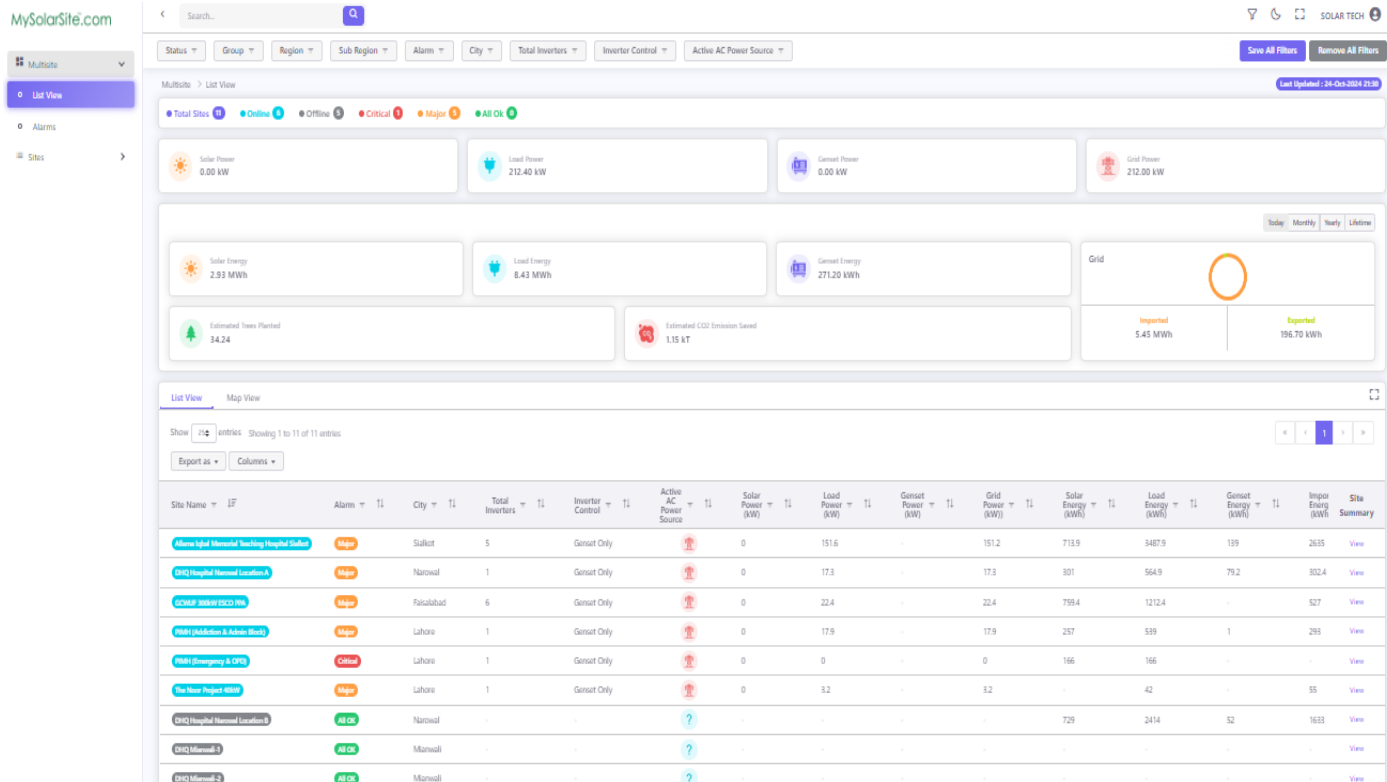
This setup will provide comprehensive monitoring, fault management, and performance tracking for all plants, while the SDK will enable smooth integration with external systems.

**Note:** *“This System should be able to manage more than 20,000 sites data”*



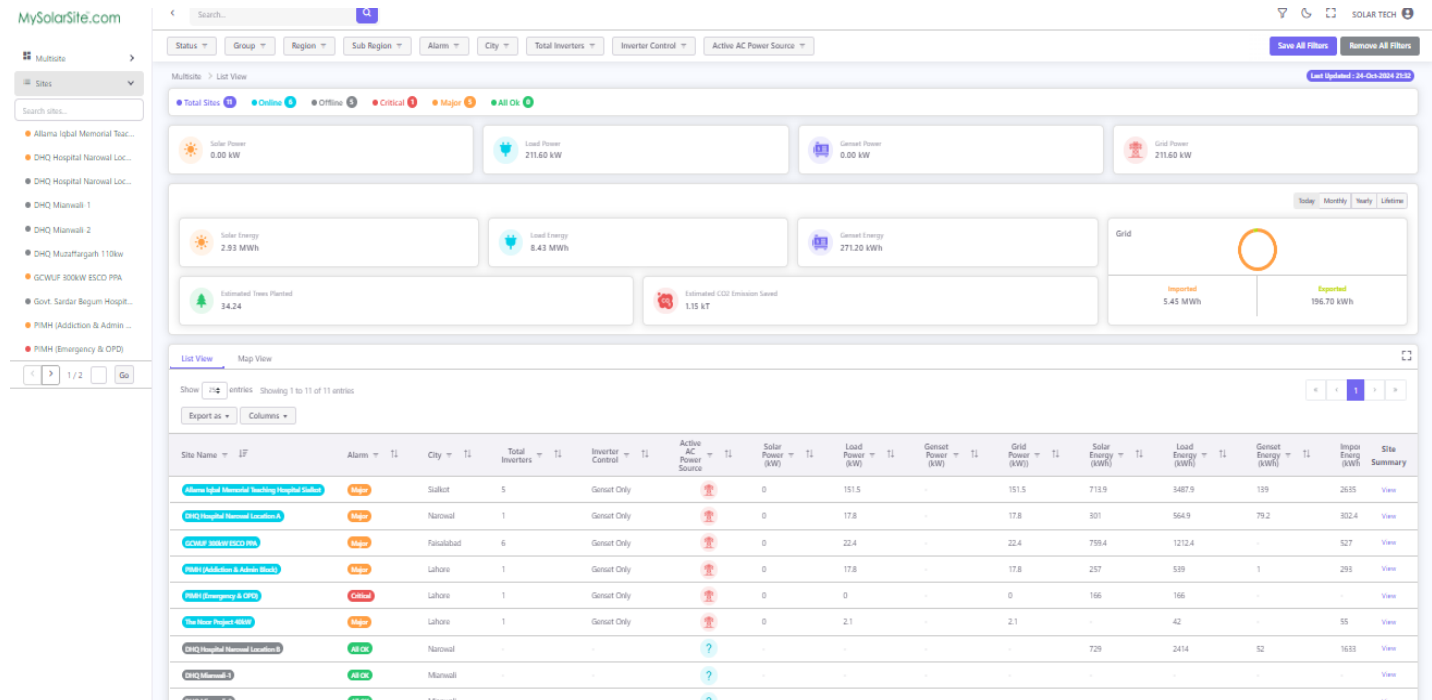
## DASHBOARD USER INTERFACE (UI):

### MULTIPLESITE VIEW:

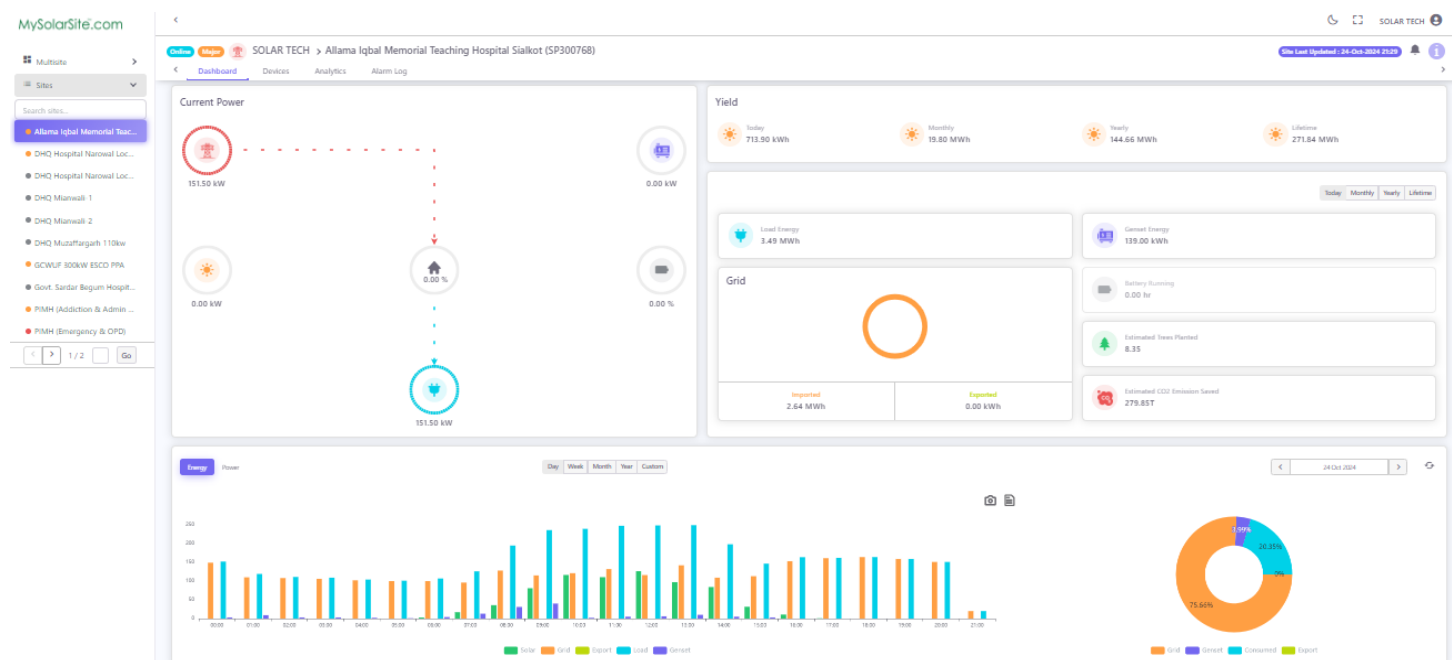




## LIST SITES VIEW:



## INDIVIDUAL SITE VIEW:





## Detailed Technical Specifications

### Annexure B Technical Compliance Sheet Specimen

| S. No | Part No | Specifications as per<br>BIDDING DOCUMENT | Specs offered by supplier | Comments |
|-------|---------|-------------------------------------------|---------------------------|----------|
|       |         |                                           |                           |          |
|       |         |                                           |                           |          |
|       |         |                                           |                           |          |
|       |         |                                           |                           |          |
|       |         |                                           |                           |          |
|       |         |                                           |                           |          |
|       |         |                                           |                           |          |
|       |         |                                           |                           |          |
|       |         |                                           |                           |          |



## Section V. Bidding Forms

### 1. Bid Submission Form

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

To:

Manager Legal  
Punjab Energy Efficiency and Conservation Agency,  
48-A, Ghalib Road-C-II, Gulberg III,  
Lahore.

Having examined the bidding documents, the receipt of which is hereby duly acknowledged, we, the undersigned, offer for “Establishment of Centralized Remote Monitoring and Management Center in Energy Department” in conformity with the said bidding documents.

We undertake, if our Bid is accepted, to deliver the goods and services 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** due performance of the Contract in the form prescribed by the Employer.

We agree to abide by this Bid for a period of sixty (60) 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. Technical Proposal Form

[Location, Date]

To:

Manager Legal  
Punjab Energy Efficiency and Conservation Agency (PEECA),  
48-A, Ghalib Road-II, Gulberg III,  
Lahore.

Dear Sir/Madam:

We, the undersigned, offer to provide the services for “Establishment of Centralized Remote Monitoring and Management Center System” in accordance with your Request for Proposal dated\_\_\_\_, 2024 and our Proposal. We are hereby submitting our Proposal, which includes this Technical Proposal, and a Financial Proposal sealed under a separate envelope.

We are submitting our Proposal in association with: *[Insert a list with full name and address of each associated Firm/Company/Contractor]*

We hereby declare that all the information and statements made in this Proposal are true and accept that any misinterpretation contained in it may lead to our disqualification.

We understand you are not bound to accept any Proposal you receive.

We remain,

Yours sincerely,

Authorized Signature *[In full and initials]*: \_\_\_\_\_

Name and Title of Signatory: \_\_\_\_\_

Name of Firm: \_\_\_\_\_

Address: \_\_\_\_\_



### 3. 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 is an established and a reputable manufacturer of *[name and/or description of the goods]* having its factory *[ies]* at *[address of factory]* hereby authorizes *[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 15 of the General Conditions of Contract for the goods & services offered for "Establishment of Centralized Remote Monitoring and Management Center System by the above firm against this Invitation for Bids.

---

*[signature for and on behalf of Manufacturer]*

**Note:** This letter of authority 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.



#### 4. Integrity Pact

With reference to the project, the [Contractor] 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, the [Contractor] represents and warrants that it has fully declared the brokerage, commission, fees etc. paid or payable to anyone (if applicable) and has 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. The [Contractor] 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.

The [Contractor] 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), the [Contractor] 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 [Contractor] 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:

Name of Seller:

Signature: \_\_\_\_\_  
[Seal]

Signature: \_\_\_\_\_  
[Seal]



## 5. Financial Proposal Submission Form

[Date: \_\_\_\_]

To:  
Manager Legal  
Punjab Energy Efficiency and Conservation Agency,  
48-A, Ghalib Road-C-II, Gulberg III,  
Lahore.

Dear Sir/Madam:

We, the undersigned, offer to provide the services for “**Establishment of Centralized Remote Monitoring and Management Center System**” in accordance with your Request for Proposal dated \_\_\_\_\_ and our Technical Proposal. Our attached Financial Proposal is for the sum of [Insert amount(s) in words and figures].

We understand you are not bound to accept any Proposal you receive.

We remain,

Yours sincerely,

Authorized Signature [*In full and initials*]: \_\_\_\_\_

Name and Title of Signatory: \_\_\_\_\_

Name of Firm: \_\_\_\_\_

Address: \_\_\_\_\_



## 6. Price Schedule

| SR. | ITEM/DESCRIPTION                                                                                     | QUANTITY                                                                                                                                     | TOTAL PRICE WITH DUTIES AND TAXES (PKR) |
|-----|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| 1.  | Development of RMS Web Panel / dashboard for solar projects monitoring<br>(As per the Scope of work) | Job                                                                                                                                          |                                         |
| 2.  | Development of Mobile App<br>(As per the Scope of work)                                              | Job                                                                                                                                          |                                         |
| 3.  | SDK Development<br>(As per the Scope of work)                                                        | Job                                                                                                                                          |                                         |
| 4.  | Hosting of Cloud service per annum<br>(As per the Scope of work)                                     | Job                                                                                                                                          |                                         |
| 5.  | Colour Printer (Quantity-01)                                                                         |                                                                                                                                              | 02                                      |
|     | PRINTER SPECIFICATION (Colour)                                                                       |                                                                                                                                              |                                         |
|     | Print Speed                                                                                          | 35 ppm or higher                                                                                                                             |                                         |
|     | Print Resolution                                                                                     | HP ImageREt 3600                                                                                                                             |                                         |
|     | Duplex                                                                                               | Yes                                                                                                                                          |                                         |
|     | RAM                                                                                                  | 1 GB atleast                                                                                                                                 |                                         |
|     | Wifi                                                                                                 | yes                                                                                                                                          |                                         |
|     | Connectivity                                                                                         | Hi-Speed Device USB 2.0; 2 Hi-Speed USB 2.0 Host; 1 Gigabit/Fast Ethernet 10/100/1000 Base-TX network; Hardware Integration Pocket, Wireless |                                         |
|     | Sheet Input                                                                                          | 100-sheet multipurpose tray, 550-sheet input tray 2                                                                                          |                                         |
|     | Warranty                                                                                             | 1 Year                                                                                                                                       |                                         |
|     | Black & White Printer (Quantity-01)                                                                  |                                                                                                                                              |                                         |
|     | PRINTER SPECIFICATION (Black/White)                                                                  |                                                                                                                                              |                                         |
|     | Print Speed                                                                                          | 40 ppm                                                                                                                                       |                                         |
|     | Print Resolution                                                                                     | 1200x1200dpi                                                                                                                                 |                                         |
|     | Multifunction                                                                                        | Print-Copy-Scan-Fax                                                                                                                          |                                         |
|     | Duplex                                                                                               | Automatic (two-sided printing)                                                                                                               |                                         |
|     | RAM                                                                                                  | 1 GB atleast                                                                                                                                 |                                         |
|     | Wifi                                                                                                 | YES                                                                                                                                          |                                         |
|     | Connectivity                                                                                         | 1 Hi-Speed USB 2.0 1 rear host USB 1 Front USB port                                                                                          |                                         |



|                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                             |                                                                                    |                                  |                   |            |                 |                |                                                   |                 |                                                                   |               |       |                |                       |                 |                                    |                |          |                    |     |                 |                                     |                         |          |           |     |             |                                                                                                |                   |           |                  |     |                  |                       |           |       |    |  |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------------------------------------------------------------------------|----------------------------------|-------------------|------------|-----------------|----------------|---------------------------------------------------|-----------------|-------------------------------------------------------------------|---------------|-------|----------------|-----------------------|-----------------|------------------------------------|----------------|----------|--------------------|-----|-----------------|-------------------------------------|-------------------------|----------|-----------|-----|-------------|------------------------------------------------------------------------------------------------|-------------------|-----------|------------------|-----|------------------|-----------------------|-----------|-------|----|--|
|                                  | <table><tr><td>Sheet Input</td><td>100-sheet tray 1, 250-sheet input tray 2; 50-sheet Automatic Document Feeder (ADF)</td></tr><tr><td>Warranty</td><td>ONE YEAR WARRANTY</td></tr></table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Sheet Input                 | 100-sheet tray 1, 250-sheet input tray 2; 50-sheet Automatic Document Feeder (ADF) | Warranty                         | ONE YEAR WARRANTY |            |                 |                |                                                   |                 |                                                                   |               |       |                |                       |                 |                                    |                |          |                    |     |                 |                                     |                         |          |           |     |             |                                                                                                |                   |           |                  |     |                  |                       |           |       |    |  |
| Sheet Input                      | 100-sheet tray 1, 250-sheet input tray 2; 50-sheet Automatic Document Feeder (ADF)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                             |                                                                                    |                                  |                   |            |                 |                |                                                   |                 |                                                                   |               |       |                |                       |                 |                                    |                |          |                    |     |                 |                                     |                         |          |           |     |             |                                                                                                |                   |           |                  |     |                  |                       |           |       |    |  |
| Warranty                         | ONE YEAR WARRANTY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                             |                                                                                    |                                  |                   |            |                 |                |                                                   |                 |                                                                   |               |       |                |                       |                 |                                    |                |          |                    |     |                 |                                     |                         |          |           |     |             |                                                                                                |                   |           |                  |     |                  |                       |           |       |    |  |
| 6.                               | LED TV 55(Inches) 4K                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 04                          |                                                                                    |                                  |                   |            |                 |                |                                                   |                 |                                                                   |               |       |                |                       |                 |                                    |                |          |                    |     |                 |                                     |                         |          |           |     |             |                                                                                                |                   |           |                  |     |                  |                       |           |       |    |  |
| 7.                               | <table><tr><td colspan="2">I. PC Core i9 (Quantity-01)</td></tr><tr><td colspan="2">Core i9 PC Core i9 Specification</td></tr><tr><td>Generation</td><td>14th Generation</td></tr><tr><td>Processor Type</td><td>Intel® Core™ Ultra 9 Processor 185H (24 MB Cache)</td></tr><tr><td>Processor Speed</td><td>2.3 GHz up to 5.1 GHz, 16 cores, 22 Threads); Intel® AI Boost NPU</td></tr><tr><td>Installed RAM</td><td>32 GB</td></tr><tr><td>Type of memory</td><td>32GB Soldered LPDDR5x</td></tr><tr><td>Hard drive size</td><td>1TB SSD M.2 2280 PCIe® 4.0x4 NVMe®</td></tr><tr><td>Graphic Series</td><td>RTX 4050</td></tr><tr><td>Dedicated graphics</td><td>Yes</td></tr><tr><td>Graphics memory</td><td>NVIDIA® GeForce RTX™ 4050 6GB GDDR6</td></tr><tr><td>Type of graphics memory</td><td>Discrete</td></tr><tr><td>Backlight</td><td>LED</td></tr><tr><td>Screen size</td><td>16" 3.2K (3200x2000) IPS 400nits Anti-glare, 100% P3, 100% sRGB, 165Hz, Eyesafe®, Dolby Vision</td></tr><tr><td>Screen resolution</td><td>3200x2000</td></tr><tr><td>Numeric keyboard</td><td>Yes</td></tr><tr><td>Backlit keyboard</td><td>Backlit, English (US)</td></tr><tr><td>Bluetooth</td><td>BT5.3</td></tr></table> | I. PC Core i9 (Quantity-01) |                                                                                    | Core i9 PC Core i9 Specification |                   | Generation | 14th Generation | Processor Type | Intel® Core™ Ultra 9 Processor 185H (24 MB Cache) | Processor Speed | 2.3 GHz up to 5.1 GHz, 16 cores, 22 Threads); Intel® AI Boost NPU | Installed RAM | 32 GB | Type of memory | 32GB Soldered LPDDR5x | Hard drive size | 1TB SSD M.2 2280 PCIe® 4.0x4 NVMe® | Graphic Series | RTX 4050 | Dedicated graphics | Yes | Graphics memory | NVIDIA® GeForce RTX™ 4050 6GB GDDR6 | Type of graphics memory | Discrete | Backlight | LED | Screen size | 16" 3.2K (3200x2000) IPS 400nits Anti-glare, 100% P3, 100% sRGB, 165Hz, Eyesafe®, Dolby Vision | Screen resolution | 3200x2000 | Numeric keyboard | Yes | Backlit keyboard | Backlit, English (US) | Bluetooth | BT5.3 | 03 |  |
| I. PC Core i9 (Quantity-01)      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                             |                                                                                    |                                  |                   |            |                 |                |                                                   |                 |                                                                   |               |       |                |                       |                 |                                    |                |          |                    |     |                 |                                     |                         |          |           |     |             |                                                                                                |                   |           |                  |     |                  |                       |           |       |    |  |
| Core i9 PC Core i9 Specification |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                             |                                                                                    |                                  |                   |            |                 |                |                                                   |                 |                                                                   |               |       |                |                       |                 |                                    |                |          |                    |     |                 |                                     |                         |          |           |     |             |                                                                                                |                   |           |                  |     |                  |                       |           |       |    |  |
| Generation                       | 14th Generation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                             |                                                                                    |                                  |                   |            |                 |                |                                                   |                 |                                                                   |               |       |                |                       |                 |                                    |                |          |                    |     |                 |                                     |                         |          |           |     |             |                                                                                                |                   |           |                  |     |                  |                       |           |       |    |  |
| Processor Type                   | Intel® Core™ Ultra 9 Processor 185H (24 MB Cache)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                             |                                                                                    |                                  |                   |            |                 |                |                                                   |                 |                                                                   |               |       |                |                       |                 |                                    |                |          |                    |     |                 |                                     |                         |          |           |     |             |                                                                                                |                   |           |                  |     |                  |                       |           |       |    |  |
| Processor Speed                  | 2.3 GHz up to 5.1 GHz, 16 cores, 22 Threads); Intel® AI Boost NPU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                             |                                                                                    |                                  |                   |            |                 |                |                                                   |                 |                                                                   |               |       |                |                       |                 |                                    |                |          |                    |     |                 |                                     |                         |          |           |     |             |                                                                                                |                   |           |                  |     |                  |                       |           |       |    |  |
| Installed RAM                    | 32 GB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                             |                                                                                    |                                  |                   |            |                 |                |                                                   |                 |                                                                   |               |       |                |                       |                 |                                    |                |          |                    |     |                 |                                     |                         |          |           |     |             |                                                                                                |                   |           |                  |     |                  |                       |           |       |    |  |
| Type of memory                   | 32GB Soldered LPDDR5x                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                             |                                                                                    |                                  |                   |            |                 |                |                                                   |                 |                                                                   |               |       |                |                       |                 |                                    |                |          |                    |     |                 |                                     |                         |          |           |     |             |                                                                                                |                   |           |                  |     |                  |                       |           |       |    |  |
| Hard drive size                  | 1TB SSD M.2 2280 PCIe® 4.0x4 NVMe®                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                             |                                                                                    |                                  |                   |            |                 |                |                                                   |                 |                                                                   |               |       |                |                       |                 |                                    |                |          |                    |     |                 |                                     |                         |          |           |     |             |                                                                                                |                   |           |                  |     |                  |                       |           |       |    |  |
| Graphic Series                   | RTX 4050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                             |                                                                                    |                                  |                   |            |                 |                |                                                   |                 |                                                                   |               |       |                |                       |                 |                                    |                |          |                    |     |                 |                                     |                         |          |           |     |             |                                                                                                |                   |           |                  |     |                  |                       |           |       |    |  |
| Dedicated graphics               | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                             |                                                                                    |                                  |                   |            |                 |                |                                                   |                 |                                                                   |               |       |                |                       |                 |                                    |                |          |                    |     |                 |                                     |                         |          |           |     |             |                                                                                                |                   |           |                  |     |                  |                       |           |       |    |  |
| Graphics memory                  | NVIDIA® GeForce RTX™ 4050 6GB GDDR6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                             |                                                                                    |                                  |                   |            |                 |                |                                                   |                 |                                                                   |               |       |                |                       |                 |                                    |                |          |                    |     |                 |                                     |                         |          |           |     |             |                                                                                                |                   |           |                  |     |                  |                       |           |       |    |  |
| Type of graphics memory          | Discrete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                             |                                                                                    |                                  |                   |            |                 |                |                                                   |                 |                                                                   |               |       |                |                       |                 |                                    |                |          |                    |     |                 |                                     |                         |          |           |     |             |                                                                                                |                   |           |                  |     |                  |                       |           |       |    |  |
| Backlight                        | LED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                             |                                                                                    |                                  |                   |            |                 |                |                                                   |                 |                                                                   |               |       |                |                       |                 |                                    |                |          |                    |     |                 |                                     |                         |          |           |     |             |                                                                                                |                   |           |                  |     |                  |                       |           |       |    |  |
| Screen size                      | 16" 3.2K (3200x2000) IPS 400nits Anti-glare, 100% P3, 100% sRGB, 165Hz, Eyesafe®, Dolby Vision                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                             |                                                                                    |                                  |                   |            |                 |                |                                                   |                 |                                                                   |               |       |                |                       |                 |                                    |                |          |                    |     |                 |                                     |                         |          |           |     |             |                                                                                                |                   |           |                  |     |                  |                       |           |       |    |  |
| Screen resolution                | 3200x2000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                             |                                                                                    |                                  |                   |            |                 |                |                                                   |                 |                                                                   |               |       |                |                       |                 |                                    |                |          |                    |     |                 |                                     |                         |          |           |     |             |                                                                                                |                   |           |                  |     |                  |                       |           |       |    |  |
| Numeric keyboard                 | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                             |                                                                                    |                                  |                   |            |                 |                |                                                   |                 |                                                                   |               |       |                |                       |                 |                                    |                |          |                    |     |                 |                                     |                         |          |           |     |             |                                                                                                |                   |           |                  |     |                  |                       |           |       |    |  |
| Backlit keyboard                 | Backlit, English (US)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                             |                                                                                    |                                  |                   |            |                 |                |                                                   |                 |                                                                   |               |       |                |                       |                 |                                    |                |          |                    |     |                 |                                     |                         |          |           |     |             |                                                                                                |                   |           |                  |     |                  |                       |           |       |    |  |
| Bluetooth                        | BT5.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                             |                                                                                    |                                  |                   |            |                 |                |                                                   |                 |                                                                   |               |       |                |                       |                 |                                    |                |          |                    |     |                 |                                     |                         |          |           |     |             |                                                                                                |                   |           |                  |     |                  |                       |           |       |    |  |



|                                   |                             |
|-----------------------------------|-----------------------------|
| <b>Wireless/Wifi</b>              | Yes                         |
| <b>Type</b>                       | Wi-Fi® 6E, 802.11ax 2x2     |
| <b>HDMI</b>                       | 1x HDMI® 2.1, up to 4K/60Hz |
| <b>Camera</b>                     | 5.0MP + IR with E-shutter   |
| <b>Operating system (Primary)</b> | Genuine Windows 11 Home     |
| <b>Warranty</b>                   | 1 Year International/Local  |

## II. PC Core i7(Quantity 02)

| Core i7<br>Specification  |                                                                                                                  |  |
|---------------------------|------------------------------------------------------------------------------------------------------------------|--|
| <b>Generation</b>         | 13th Generation                                                                                                  |  |
| <b>Processor Type</b>     | 13th Gen Core i7 1355u Raptor Lake Processor (12 MB Intel Smart Cache)                                           |  |
| <b>Processor Speed</b>    | 1.7 GHz Boost up to 5.0 GHz (Total Cores 10, # of Performance-cores 2, # of Efficient-cores 8, Total Threads 12) |  |
| <b>Installed RAM</b>      | 32 GB                                                                                                            |  |
| <b>Type of memory</b>     | DDR4-3200 MHz RAM                                                                                                |  |
| <b>Hard drive size</b>    | 1 TB PCIe® NVMe™ SSD                                                                                             |  |
| <b>Optical Drive</b>      | Optional                                                                                                         |  |
| <b>Graphic Series</b>     | Intel Iris Xe Graphics                                                                                           |  |
| <b>Backlight</b>          | LED                                                                                                              |  |
| <b>Screen size</b>        | 15.6" diagonal, FHD (1920 x 1080), IPS, narrow bezel, anti-glare, 250 nits, or Higher                            |  |
| <b>Screen resolution</b>  | 1920x1080                                                                                                        |  |
| <b>Touchscreen</b>        | Optional                                                                                                         |  |
| <b>Operating System</b>   | Windows 11 Genuine                                                                                               |  |
| <b>Fingerprint Reader</b> | Fingerprint sensor                                                                                               |  |
| <b>Numeric keyboard</b>   | Yes                                                                                                              |  |
| <b>Backlit keyboard</b>   | Yes                                                                                                              |  |
| <b>Bluetooth</b>          | Bluetooth® 5.3 wireless card                                                                                     |  |
| <b>LAN</b>                | Yes                                                                                                              |  |



|  |                           |                                                                                                                   |  |  |
|--|---------------------------|-------------------------------------------------------------------------------------------------------------------|--|--|
|  | <b>Wireless/Wifi</b>      | Yes                                                                                                               |  |  |
|  | <b>Type</b>               | Realtek Wi-Fi 6E RTL8852CE (2x2)                                                                                  |  |  |
|  | <b>USB</b>                | 2 USB Type-A 5Gbps signaling rate (1 charging, 1 power), 2 USB Type-C® 10Gbps signaling rate (USB Power Delivery) |  |  |
|  | <b>HDMI</b>               | 1 HDMI 2.1                                                                                                        |  |  |
|  | <b>Camera</b>             | Integrated 720p HD webcam with dual-microphone array and Temporal Noise Reduction                                 |  |  |
|  | <b>Warranty</b>           | 1 year Local                                                                                                      |  |  |
|  | <b>TOTAL AMOUNT (PKR)</b> |                                                                                                                   |  |  |

**Note:**

1. The Bidder is responsible for all duties including but not limited to sales tax, custom duties, income tax, etc.
2. Delivery and Installation/Commissioning and Training at Project Site.



## **Part-II**

### **Section I. Contract Form**

#### **Contract for ESTABLISHMENT OF CENTRALIZED REMOTE MONITORING AND MANAGEMENT CENTER IN ENERGY DEPARTMENT**

THIS AGREEMENT is executed on the \_\_\_\_\_ 20\_\_\_\_ between *[Punjab Energy Efficiency and Conservation Agency]* (hereinafter called “the Employer”) of the First Part and *[name of Contractor]* of (hereinafter called “the Contractor”) of the Second Part:

WHEREAS the Employer invited bids for **ESTABLISHMENT OF CENTRALIZED REMOTE MONITORING AND MANAGEMENT CENTER IN ENERGY DEPARTMENT**, viz., *[brief description of goods and services]* and has accepted a bid by the Contractor in the sum of *[contract price in words and figures]* (hereinafter called “the Contract Price”).

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement, 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 be deemed to form and be read and construed as part of this Agreement, viz.:
  - (a) the Bid Form and the Price Schedule submitted by the Bidder;
  - (b) the Schedule of Requirements;
  - (c) the Technical Specifications;
  - (d) the General Conditions of Contract;
  - (e) the Special Conditions of Contract;
  - (f) the Employer’s Notification of Award;
  - (g) the Bid Security Form and
  - (h) the Performance Security Form
3. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer for “Establishment of Centralized Remote Monitoring and Management Center System” therein in conformity in all respects with the provisions of the Contract.
4. The Employer hereby covenants to pay the Contractor in consideration of the provision of the Goods and Services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the contract at the time and in the manner prescribed by the contract.



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

Signed, sealed, delivered by \_\_\_\_\_ the \_\_\_\_\_ (for the Employer)

Signed, sealed, delivered by \_\_\_\_\_ the \_\_\_\_\_ (for the Contractor)



## **Part-II**

### **Section II. General Conditions of Contract**

#### **1. Definitions**

1.1 In this Contract, the following terms shall be interpreted as indicated:

- (b) “Certificate of Origin” means the certificate to be issued by the Contractor as per Clause 5 of the SCC.
- (c) “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.
- (d) “Contract Price” means the price payable to the Contractor under the Contract for the full and proper performance of its contractual obligations.
- (e) “Contractor” means the individual or firm engaged for providing Goods and Services under this Contract.
- (f) “Day” means a calendar day.
- (g) “Defects Liability Period” shall mean the period after the issuance of the Project Completion Certificate in which the Contractor shall be liable for removing all/any defects at no cost to the Owner, which may occur due to defects, in Contractor’s Works and or Services or for any other reason attributable to the Contractor.
- (h) “Employer’s country” is Islamic Republic of Pakistan.
- (i) “Employer” means the organization procuring the Goods, and Services as named in the SCC.
- (j) “GCC” means the General Conditions of Contract.
- (k) “Goods and Services” means all tangible items and all services ancillary to the “Establishment of Centralized Remote Monitoring and Management Center System at the Project Site. Transportation and any other incidental services, such as, provision of technical assistance and any



other such obligation of the Contractor as covered under the Contract.

- (l) “Inspection Certificate” means the certificate to be issued by the Employer as per Clause 5 of the SCC.
- (m) “Liquidated Damages” means the damages that shall be incurred by the Contractor under Clause 23 of the GCC and Clause 13 of the SCC.
- (n) “Project Completion Certificate” means the certificate to be issued by the Employer pursuant to successful completion of the project.
- (o) “Project Site” where applicable, means the place named in the SCC.
- (p) “SCC” means the Special Conditions of Contract.
- (q) “Warranty Certificate” means the certificate issued by the Manufacturer or the Contractor guaranteeing the warranty period for the equipment.

## **2. Application**

- 2.1 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**

- 3.2 For purposes of this Clause, “origin” means the place where the Goods were mined, grown, or produced, or from where 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.
- 3.3 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**

- 5.1 The Contractor shall not, without the Employer’s prior written consent, disclose the Contract, or any provision thereof, or any



**Documents  
and  
Information;  
Inspection and  
Audit by the  
Bank**

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. Patent Rights**

N/A

**7. Performance  
Security**

- 7.1 Within fourteen (14) days of receipt of the notification of Contract award, the successful Bidder shall furnish to the Employer the performance security in the amount specified in SCC.
- 7.2 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.
- 7.3 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.
- 7.4 The performance security will be discharged by the Employer and returned to the Contractor not later than thirty (30) days following the expiration of the Contractor's warranty obligations and Defects Liability Period.

**8. Inspections**

- 8.1 The Employer or its representative shall have the right to inspect



**and Tests**

and/or to test the Goods to confirm their conformity with the Contract specifications at no extra cost to the Employer. The SCC and the Technical Specifications shall specify what inspections and tests the Employer requires. The Employer shall notify the Contractor in writing, in a timely manner, of the identity of any representatives retained for these purposes.

8.2 The inspections and tests shall be conducted at the Goods' final destination. Any assistance, if needed, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Employer.

8.3 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.

8.4 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.

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

**9. Packaging**

N/A

**10. Delivery and Documents**

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

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

**11. Insurance**

11.1 The development of the "Establishment of Centralized Remote Monitoring and Management Center System under the Contract shall be inclusive of all taxes under which risk is transferred to the buyer after having been delivered, hence insurance coverage is the sellers responsibility.

**12. Transportation**

N/A



**13. Incidental Services**

N/A

**14. Spare Parts**

14.1 As per Section III Schedule of Requirements.

**15. Warranty And Defects Liability Period**

- 15.1 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 (except when the design and/or material is required by the Employer's specifications) or from any act or omission of the Contractor, that may develop under normal use of the supplied Goods in the conditions prevailing in the country of final destination.
- 15.2 This warranty shall remain valid for twelve (12) months following the issuance of the Completion Certificate by the Employer.
- 15.3 The Employer shall promptly notify the Contractor in writing of any claims arising under this warranty.
- 15.4 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.
- 15.5 If the Contractor, having been notified, fails to remedy the defect(s) within the period specified in SCC, 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.
- 15.6 The Contractor's performance security shall be discharged pursuant to the expiration of the warranty and the Defects Liability Period.

**16. Payment**

- 16.1 The method and conditions of payment to be made to the Contractor under this Contract shall be specified in SCC.



16.2 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 10, and upon fulfillment of other obligations stipulated in the Contract.

16.3 Payments shall be made promptly by the Employer, but in no case later than thirty (30) days after submission of an invoice or claim by the Contractor.

16.4 The currency of payment is Pak. Rupees.

## **17. Prices**

17.1 Prices charged by the Contractor for development of the "Establishment of Centralized Remote Monitoring and Management Center System 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.

## **18. Change Orders**

18.1 The Employer may at any time, by a written order given to the Contractor pursuant to GCC Clause 31, make changes within the general scope of the Contract in the following:

- (a) Quantity;
- (b) Replacement of fitting of electrical wiring.

18.2 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, an equitable adjustment shall be made in the Contract Price or delivery schedule, or both, 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.

## **19. Contract Amendments**

19.1 Subject to GCC Clause 18, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

## **20. Assignment**

20.1 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.

## **21. Subcontracts**

21.1 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.

21.2 Subcontracts must comply with the provisions of GCC Clause 3.

## **22. Delays in the Contractor's Performance**

22.1 Delivery of the Goods and performance of Services shall be made by the Contractor within ninety (90) days of the execution of the Contract as prescribed by the Employer under the Schedule of Requirements.

22.2 If at any time during performance of the Contract, the Contractor or its subcontractor(s) should encounter conditions impeding timely delivery of the Goods and performance of Services, the Contractor shall promptly notify the Employer in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Contractor's notice, the Employer shall evaluate the situation and may at its discretion extend the Contractor's time for performance, with or without liquidated damages, in which case the extension shall be ratified by the parties by amendment of Contract.

22.3 Except as provided under GCC Clause 25, 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 23, unless an extension of time is agreed upon pursuant to GCC Clause 22.2 without the application of liquidated damages.

## **23. Liquidated Damages**

23.1 Subject to GCC Clause 25, 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 24.

## **24. Termination for Default**

24.1 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 22; 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.

24.2 In the event the Employer terminates the Contract in whole or in part, pursuant to GCC Clause 24.1, 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.

**25. Force Majeure** 25.1 Notwithstanding the provisions of GCC Clauses 22, 23, and 24, 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.

25.2 For purposes of this clause, “Force Majeure” means an event



beyond the control of the Contractor and not involving the Contractor's fault or negligence and not foreseeable. Such events may include, but are not restricted to, acts of the Employer in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.

25.3 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.

**26. Termination  
for Insolvency**

26.1 The Employer may at any time terminate the Contract by giving 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.

**27. Termination  
for  
Convenience**

27.1 The Employer, by written notice sent to the Contractor, may terminate the Contract, in whole or in part, at any time for its 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.

27.2 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.

**28. Resolution of  
Disputes**

28.1 The Employer and the Contractor shall make every effort to resolve amicably by direct informal negotiations any disagreement or dispute arising between them under or in



connection with the Contract.

28.2 If, after thirty (30) days from the commencement of such informal negotiations, the Employer and the Contractor have been unable to resolve amicably a Contract dispute, 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 in an agreed and/or arbitration.

**29. Governing Language**

29.1 The Contract shall be written in the language specified in SCC. Subject to GCC Clause 30, 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.

**30. Applicable Law**

30.1 The Contract shall be interpreted in accordance with the laws of Islamic Republic of Pakistan.

**31. Notices**

31.1 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.

31.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.

**32. Taxes and Duties**

32.1 The Contractor shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods at the Project Site.



## **Part-II**

### **Section III. 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 (g)—The Employer is: Punjab Energy Efficiency and Conservation Agency (PEECA)

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

GCC 1.1 (i)—The Contractor is: [Detail]

GCC 1.1 (j)—The Project Site is: Office of PEECA

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

#### **3. Performance Security (GCC Clause 7)**

GCC 7.1—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 a non-recourse, irrevocable and unconditional bank guarantee from a scheduled bank of Pakistan on the prescribed format attached with the bidding document.

#### **4. Inspections and Tests (GCC Clause 8)**

GCC 8.6—

Inspection and tests prior to delivery of Goods at final acceptance are: -

- i) Certificate from Contractor bearing relevant reference numbers of the equipment and certifying its status as brand new;
- ii) Certificate from Contractor for physical fitness certifying No Damages;
- iii) Certificate from Manufacturer certifying Country of Origin as quoted by the Contractor;



## **5. Delivery and Documents (GCC Clause 10)**

GCC 10.3— Upon completion of “Establishment of Centralized Remote Monitoring and Management Center System at the Project Site, the Contractor shall notify the Employer and provide full details of the equipment. The Contractor shall provide the following documents to the Employer:

- (i) Manufacturer’s or Contractor’s valid Warranty Certificate for LED, LAPTOP other accessories;
- (ii) Inspection Certificate issued by the Nominated Inspection Agency (if any), and the Contractor’s Factory Inspection Report;

## **6. Insurance (GCC Clause 11) – N/A**

## **7. Incidental Services (GCC Clause 13) – N/A**

## **8. Warranty and Defects Liability Period (GCC Clause 15)**

GCC 15.2—In accordance with the provisions, the warranty period shall be twelve (12) months from the date of the issuance of the Completion Certificate. The Contractor shall, in addition, comply with the performance 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 the 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 defected Good at Project Site at its own cost.

GCC 15.6—The Contractor’s performance security shall be discharged pursuant to the expiration of the warranty and the Defects Liability Period which shall be twelve (12) months from the issuance of the Project Completion Certificate.

**9. Payment (GCC Clause 16)**

GCC 16.1—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:

- (i) **Payment against “ESTABLISHMENT OF CENTRALIZED REMOTE MONITORING AND MANAGEMENT CENTER IN ENERGY DEPARTMENT”:** Upon submission of a claim, the Contractor shall be paid as per the following schedule:

| Sr. No.      | Deliverables                                                                                                                                    | Payment Percentage |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| 1.           | <b>After the completion of Development of RMS Web Panel / Dashboard for monitoring of solar projects</b><br>(As per the Scope of work)          | 25%                |
| 2.           | <b>After the completion of Development of Mobile App</b><br>(As per the Scope of work)                                                          | 25%                |
| 3.           | <b>After the completion of SDK Development</b><br>(As per the Scope of work)                                                                    | 10%                |
| 4.           | <b>III. Colour Printer (Quantity-01)</b><br><b>IV. Black and White Printer (Quantity-01)</b><br>(As per the specification mentioned in the BOQ) | 10%                |
| 5.           | <b>LED TV 55(Inches)4K Quantity- (04)</b><br>(As per the specification mentioned in the BOQ)                                                    | 15%                |
| 6.           | <b>III. PC Core i9 (Quantity-01)</b><br><b>IV. PC Core i7 (Quantity-02)</b><br>(As per the specification mentioned in the BOQ)                  | 15%                |
| <b>Total</b> |                                                                                                                                                 | <b>100%</b>        |

**12. Prices (GCC Clause 17)**

GCC 17.1—Prices shall be: Fixed.

**13. Liquidated Damages (GCC Clause 23)**

GCC 23.1—Applicable rate: 0.1 % of Contract Price per day  
Maximum deduction: 5 % of Contract Price

**14. Resolution of Disputes (GCC Clause 28)**



GCC 28.2—The dispute resolution mechanism to be applied pursuant to GCC Clause 28.2 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.

**15. Governing Language (GCC Clause 29)**

GCC 29.1—The Governing Language shall be: English.

**16. Applicable Law (GCC Clause 30)**

GCC 30.1—The Contract shall be interpreted in accordance with the laws of Islamic Republic of Pakistan

**17. Notices (GCC Clause 31)**

GCC 31.1—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](tel:042-99268362-3)

**Contractors Address for Notice Purposes:**

[\_\_\_\_\_]

**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 PRESENT, 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 60 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 therefore, on the prescribed form presented to it for signature enter into a formal Contract with the said Purchaser in accordance with its Bid as accepted and furnish within thirty (30) days of it

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 its 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 present duly signed by its undersigned representative pursuant to authority of its governing body.

WITNESS:

SURETY (Bank)  
Signature

1.

Name

Title

Corporate Secretary (Seal)

Corporate Guarantor (Seal)

2.

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

**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 PRESENT, 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 is 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 defenses 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 its 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-bound 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)