

Standard Bidding Document

DESIGN, SUPPLY, INSTALLATION, TESTING AND
COMMISSIONING FOR CONVERSION OF EXISTING GRID-TIED
SOLAR SYSTEMS INTO HYBRID SOLAR SYSTEMS AT 21 NOS
RAILWAY STATIONS ACROSS KARACHI DIVISION ON A
TURNKEY BASIS.
(Works)

National

Single Stage-Two Envelope



August 06, 2026

Divisional Superintendent, Pakistan Railways, Karachi Division (Electrical Departement), Divisional Electrical Engineer/Power

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REQUEST FOR BIDS

PROCUREMENT OF CIVIL WORKS

1. The **Divisional Superintendent, Pakistan Railways, Karachi Division (Electrical Departement)** has reserved Funds for the procurement planned for FY **2026-27**. The **Divisional Superintendent, Pakistan Railways, Karachi Division (Electrical Departement)** intends to apply part of the proceeds of this Fund to cover eligible payments under the contract for the "**DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING GRID-TIED SOLAR SYSTEMS INTO HYBRID SOLAR SYSTEMS AT 21 NOS RAILWAY STATIONS ACROSS KARACHI DIVISION ON A TURNKEY BASIS.**" with the reference of "**P78964**".

2. The **Divisional Superintendent, Pakistan Railways, Karachi Division (Electrical Departement)** invites sealed Bids from eligible Bidders for procurement of Works (**DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING GRID-TIED SOLAR SYSTEMS INTO HYBRID SOLAR SYSTEMS AT 21 NOS RAILWAY STATIONS ACROSS KARACHI DIVISION ON A TURNKEY BASIS.**) described in the bidding documents on **EPADS v2.0**.

3. **Single Stage-Two Envelope** will be used by adopting **Least Cost Based Selection (LCBS)** Technique for the subject procurement, in line with the Public Procurement Rules, 2004 and any Regulations, Regulatory Guides, Procurement Guidelines or Instructions issued by the Authority from time to time.

4. All Bids must be accompanied by a Bid Security amount described in Bid Security Section in Bidding Document in the form of **Pay Order, Call at Deposit, Bank Guarantee**. Or all bids must be accompanied by bid securing declaration in the format specified in the Bidding documents

5. E-Bidding documents, containing detailed terms & conditions, specifications and requirements etc. are available on **e-Pak Acquisition and Disposal System (EPADS)** at **<https://epads.gov.pk/opportunities/federal/procurements/78964>** for all

the interested bidders registered on **EPADS v2.0**. Bidders are required to get themselves registered on **EPADS v2.0** to participate in Bidding process.

6. The e-bids, prepared in accordance with the instructions in the e-Bidding documents, must be submitted through **EPADS v2.0** on or before **Wednesday, September 2, 2026 11:00 AM**. E-bids will be opened by using **EPADS v2.0** on the same day at **Wednesday, September 2, 2026 11:30 AM**. Manual submission of Bids shall not be entertained. Those vendor who have not yet registered on the new version of **EPADS v2.0**, may register themselves on <https://vendors.epads.gov.pk/>. A tutorial to explain the registration process is available at <https://www.youtube.com/watch?v=MNW6T38v7tc>.

In terms of Rules 48 of Public Procurement Rules, 2004 Grievance Redressal Committee (GRC) is notified for the subject procurement and notification copy is available on the procuring agency's website and on Authority's website at (www.ppra.org.pk).

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Instructions to Bidders

A. INTRODUCTION

1. Scope of Bid

1.1. The Procuring agency/Employer (PA), as indicated in the Bid Data Sheet (BDS) invites Bids for the execution of Works as specified in the BDS and Section V- Works Requirements. The name, identification, and number of lots (contracts) of this National/ International Competitive Bidding process are specified in the BDS.

2. Source of Funds

2.1. Source of funds as referred in Clause 2 of Bid Data Sheet.

3. Eligible Bidders

3.1. A bidder may be natural person, company or firm or public or semi-public agency of Pakistan or any foreign country, or any combination of them with a formal existing agreement (on Judicial Papers) in the form of a joint venture or consortium. In the case of a joint venture or consortium, all members shall be jointly and severally liable for the execution of the Contract in accordance with the terms and conditions of the Contract. The joint venture or consortium shall nominate a Lead Member as nominated in the BDS, who shall have the authority to conduct all business for and on behalf of any and all the members of the joint venture or consortium during the Bidding process, and in case of award of contract, during the execution of contract. Verifiable copy of the agreement that forms a joint venture, consortium or association shall be required to be submitted as part of the Bid.

Any bid submitted by the joint venture, consortium or association shall indicate the part of proposed contract to be performed by each party and each party shall be evaluated (or post qualified if required) with respect to its contribution only, and the responsibilities of each party shall not be substantially altered without prior written approval of the Procuring Agency and in line with any instructions issued by the Authority.

(The limit on the number of members of JV or Consortium may be prescribed

in BDS, in accordance with the guidelines issued by the PPRA).

3.2. The invitation for bids is open to all prospective bidders subject to any provisions of incorporation or licensing by the respective national/international incorporating agency or statutory body established for that particular trade or business. Procuring agencies shall specify the registration/licensing requirements for the foreign bidder keeping in view the requirement of that business.

3.3. A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidders may be considered to have a conflict of interest with one or more parties in this Bidding process, if they:

3.3.1. are 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/Employer to provide consulting services for the preparation of design or technical specifications of the works that are the subject of the bid; or

3.3.2. have controlling shareholders in common; or

3.3.3. receive or have received any direct or indirect subsidy from any of them; or

3.3.4. have the same legal representative for purposes of this Bid; or

3.3.5. have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another bidder, or influence the decisions of the Procuring agency/Employer regarding this Bidding process; or

3.3.6. Submit more than one bid in this bidding process.

3.4. A Bidder may be ineligible if –

3.4.1. he is declared bankrupt or, in the case of company or firm, insolvent;

3.4.2. payments in favor of the bidder is suspended in accordance with the judgment of a court of law other than a judgment declaring bankruptcy and resulting (in accordance with the national laws) in the total or partial loss of the right to administer and dispose of its property;

3.4.3. the bidder is convicted, by a final judgment of a Court of Law or relevant Professional Statutory Body, of any offence involving professional conduct;

3.4.4. The bidder is debarred/ blacklisted by a national level Procuring agency/Employer and hence debarred due to involvement in corrupt and fraudulent practices, or performance failure or due to breach of bid securing declaration.

3.5. As and when required, bidders shall provide to the Procuring agency/Employer evidence of their eligibility, proof of compliance with the necessary legal requirements to carry out the contract effectively.

3.6. Bidders shall submit proposal relating to the nature, conditions and modalities of sub-contracting wherever the sub-contracting of any elements of the contract is envisaged.

4. Eligible Material and Equipment

4.1. All the material and equipment to be mobilized under the contract shall have their origin in eligible source countries, and all expenditures made under the contract will be limited to such materials and equipment. For this purpose, ineligible countries are stated in the section-IV titled as “Eligible Countries”.

B. BIDDING DOCUMENTS

5. Contents of Bidding Documents

5.1. The scope of Works, bidding procedures, and terms and conditions of the contract are prescribed in the bidding documents. In addition to the Invitation for Bids, the bidding documents which should be read in

conjunction with any addenda issued in accordance with ITB 7.1 include:

Section I -Invitation for Bids

Section II Instructions to Bidders (ITBs)

Section III Bid Data Sheet (BDS)

Section IV Eligible Countries

Section V Evaluation and Qualification Criteria

Section VI Works Requirements Technical Specifications & Schedule of Requirements

Section VII Standard Bidding Forms

Section VIII General Conditions of Contract (GCC)

Section IX Particular Conditions of Contract (PCC)

Section X Contract Forms

5.2. The bidder is expected to examine all instructions, forms, specifications, terms and conditions prescribed in the bidding documents. Failure to furnish all the information required in the bidding documents will be at the bidder's risk and may result in the rejection of his bid.

6. Clarification of Bidding Document, Pre-bid Meeting

6.1. A prospective bidder requiring any clarification of the bidding document may notify the Procuring agency/Employer through EPADS.

6.2. The Procuring agency/Employer shall respond to the request for clarification in accordance with Rule 31 of the Public Procurement Rules 2004.

6.3. Should the Procuring Agency deem it necessary to amend the BIDDING document as a result of a clarification, it shall do so following the procedure under ITB 7.

6.4. If indicated in the BDS, the bidder's designated representative is invited at the bidder's cost to attend a pre-bid meeting at the place, date and time mentioned in the BDS. During this pre-bid meeting, prospective bidders may request clarification of the schedule of requirement, the evaluation criteria or any other aspects of the bidding documents.

6.5. Minutes of the pre-bid meeting, if applicable, including the text of the questions asked by bidders, including those during the meeting (without identifying the source) and the responses given, together with any responses prepared after the meeting will be uploaded on EPADS. Any modification to the bidding documents that may become necessary as a result of the pre-bid meeting shall be made by the Procuring agency/Employer exclusively through the use of an Addendum pursuant to ITB 7. Non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder.

6.6. The bidder is advised to visit and examine the Site of Works and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the bidder's own expense.

6.7. The bidder and any of its authorized personnel will be granted permission by the Procuring agency/Employer to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the bidder and its personnel will release and indemnify the Procuring agency/Employer from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.

7. Amendment of Bidding Documents

7.1. The procuring agency may issue notification of any change, addition, modification or deletion in accordance with Rule 23 of the Public Procurement Rules 2004 i.e. Bidding Documents.

7.2. To give prospective bidders reasonable time in which to take an addendum/corrigendum into account in preparing their bids, the Procuring agency/Employer may, at its discretion, extend the deadline for the submission of bids:

Provided that the Procuring agency/Employer shall extend the deadline for submission of bid in pursuance of Rule 27 of the Public Procurement Rules 2004, i.e. Extension of time for submission of bids, if such an addendum is

issued within last three (03) days of the bid submission deadline.

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 Procuring agency/Employer shall be written in the English language unless specified in the BDS. Supporting documents and printed literature furnished by the bidder may be in another language provided they are accompanied by an accurate translation of the relevant pages in the English language unless specified in the BDS, in which case, for purposes of interpretation of the bidder, the translation shall govern.

9. Documents Constituting the Bids

9.1. The Bids prepared by the Bidder shall constitute of all the documents required in the BDS.

10. Documents Establishing Eligibility of Material, Equipment and Works, their Conformity to Bidding Documents

10.1. The bid prepared by the bidder shall constitute the following components: -

10.1.1. Documentary evidence established in accordance with ITB 10 that the material and equipment to be utilized by the Bidder for the executions of works are eligible material and equipment and conform to the Bidding Documents;

10.1.2. Documentary evidence established in accordance with ITB 11 that the bidder has been authorized to carry out the Construction works;

10.1.3. Documentary evidence established in accordance with ITB 11 that the bidder is eligible and/or qualified for the subject bidding process;

10.1.4. Form of Bid and Bid Prices completed in accordance with ITB 12 and 13;

10.1.5. Completed schedules as required, including priced Bill of Quantities in accordance with ITB 13.

10.1.6. Technical Proposal completed in all aspects in accordance with ITB-15.

10.1.7. Bid security or Bid Securing Declaration furnished in accordance with ITB 17;

10.1.8. Any other document required in the BDS.

10.2. In addition to the requirements, bids submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful bid shall be signed by all members and submitted with the bid, together with a copy of the proposed Agreement.

10.3. The bidder shall furnish, as part of its bid, all those documents establishing the eligibility in conformity to the terms and conditions specified in the bidding documents for all material, equipment and works which the bidder proposes to execute.

10.4. The documentary evidence of conformity of the material, equipment and works to the Bidding Documents may be in the form of literature, drawings, and data, and shall consist of:

10.4.1. a detailed description of the work methodology, approach, schedule and resources to be mobilized at site;

10.4.2. an item-by-item commentary on the Procuring agency/Employer's Technical Specifications demonstrating substantial responsiveness of the material, equipment and works to those specifications, or a statement of deviations and exceptions to the provisions of the Technical Specifications;

10.4.3. any other procurement specific documentation requirement as stated in the BDS.

10.5. The required documents and other accompanying documents must be in English. In case any other language than English is used the pertinent translation into English shall be attached to the original version.

11. Documents Establishing Eligibility and Qualification of the Bidder

11.1. The bidder shall furnish, as part of its bid, all those documents establishing the bidder's eligibility to participate in the bidding process and/or its qualification to perform the contract if its bid is accepted.

11.2. The documentary evidence of the bidder's eligibility to bid shall establish to the satisfaction of the Procuring agency/Employer that the bidder, at the time of submission of its bid, is from an eligible country as defined in Section-IV titled as "Eligible Countries".

11.3. The documentary evidence of the bidder's qualification to perform the contract if its bid is accepted shall establish to the satisfaction of Procuring agency/Employer that:

11.3.1. The bidder has the financial and technical capability necessary to perform the Contract, meets the qualification criteria specified in Section-V, Evaluation and Qualification Criteria and BDS.

11.3.2. In the case of a bidder not doing business within Pakistan, the bidder is or will be (if awarded the contract) represented by a local bidder (Joint Venture) in accordance with the PEC works bylaws, and in case of award of works such foreign firm is required to participate in the execution of works to carry out its obligations as prescribed in the Conditions of Contract and /or Technical Specifications.

11.3.3. That the bidder meets the qualification criteria listed in Section-V, Evaluation and Qualification Criteria and BDS.

12. Forms of Bid

12.1. The Bidder shall fill the Form of Bids furnished in the bidding documents. The Bids Form must be completed without any alterations to its format and no substitute shall be accepted.

13. Bid Prices

13.1. The bid prices quoted by the bidder in the Standard bid Forms, Bill of Quantities and in the Price Schedules shall conform to the requirements specified below or exclusively mentioned hereafter in the bidding documents.

13.2. The bidder shall fill in rates and prices for all items of the Works described in the Bill of Quantities. If a Price Schedule shows items listed but not priced, their prices shall be construed to be included in the prices of other items in the Bill of Quantities and will not be paid for separately by the Procuring agency/Employer.

13.3. Items not listed in the Price Schedule shall be assumed not to be included in the bid, and provided that the bid is still substantially responsive in their absence or due to their nominal nature, the corresponding average price of the respective item(s) of the remaining substantially responsive bidder(s) shall be construed to be the price of those missing item(s):

Provided that:

13.3.1. where there is only one (substantially) responsive bidder, or

13.3.2. where there is provision for alternate proposals and the respective items are not listed in the other bids,

The Procuring agency/Employer may fix the price of missing items in accordance with market survey, and the same shall be considered as final price.

13.4. The Bid price to be quoted in the Form of Bid in accordance with ITB 12 shall be the total price of the bid.

13.5. Unless otherwise specified in the BDS and the Contract, the rates and prices quoted by the bidder are subject to adjustment during the performance of the Contract in accordance with the provisions of the

Conditions of Contract.

13.6. If so specified in ITB 1.1, bids may be invited for individual lots (contracts) or for any combination of lots (packages).

13.7. Prices quoted by the Bidder shall be fixed during the bidder's performance of the contract and not subject to variation on any account. A bid submitted with an adjustable price will be treated as non-responsive and shall be rejected, pursuant to ITB 27, unless otherwise price adjustment is permissible under Conditions of the Contract.

13.8. All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date twenty-eight (28) days prior to the deadline for submission of bids, shall be included in the rates and prices and the total bid price submitted by the bidder.

14. Currencies of Bid and Payment

14.1. Prices shall be quoted in Pakistani Rupees unless otherwise specified in the BDS. Comparison of bids and tie of bid shall be treated in accordance with the Rule 30(2) of Public Procurement Rules, 2004.

15. Documents Comprising the Technical Proposal

15.1. The bidder shall furnish a Technical Proposal including a statement of work methods, equipment, personnel, schedule and any other information as stipulated in Section VII – Standard Bid Forms, in sufficient detail to demonstrate the adequacy of the bidder's proposal to meet the work requirements and the completion time.

16. Bid Validity Period

16.1. Bids shall remain valid for the period specified in the BDS after the bid submission deadline prescribed by the Procuring agency/Employer. A bid valid for a shorter period shall be rejected by the Procuring agency/Employer as non-responsive. The period of bid validity will be determined from the complementary bid securing instrument i.e. the expiry period of bid security or bid securing declaration as the case may be.

16.2. Under exceptional circumstances, prior to the expiration of the initial Bids/Bid validity period, the Procuring Agency may request the Bidders' consent to an extension of the period of validity of their Bids/Bid. Such request for extension of the period of bid validity shall be carried out in accordance with Rule 26 of the Public Procurement Rules, 2004.

17. Bid Security or Bid Securing Declaration

17.1. Pursuant to ITB 11.1 unless otherwise specified in the BDS, the bidder shall furnish as part of its bid, a Bid Security in accordance with Rule 25 of the Public Procurement Rules, 2004 in the amount and currency specified in the BDS or Bid Securing Declaration as specified in the BDS in the format provided in Section VII (Standard Bidding Forms).

In case Procuring agency/Employer is inviting bids in lots / packages, the bidder shall be required to submit his bid security against the respective lot/package for which he is submitting his bid.

Until the development of functionality of auto verification of financial instrument in EPADS, the scanned copy of bid security or bid securing declaration, as the case may be, shall be uploaded on E-PADS whereas the original instrument to be submitted to the procuring agency before closing of bid submission deadline,

17.2. The Bid Security shall be denominated in the local currency or in another freely convertible currency, and it shall be in the form specified in the **BDS** which shall be in any of the following:

17.2.1. A bank guarantee, an irrevocable letter of credit issued by a Scheduled bank in the form provided in the Bidding Documents or another form acceptable to the Procuring agency/Employer and valid for twenty-eight (28) days beyond the end of the validity of the Bid. This shall also apply if the period for Bid Validity is extended. In either case, the form must include the complete name of the bidder;

17.2.2. A cashier's or certified cheque; or

17.2.3. Another security as indicated in the **BDS**.

17.3. The Bid Security or Bid Securing Declaration shall be in accordance with the Form of the Bid Security or Bid Securing Declaration included in Section VII (Standard Bidding Forms) or another form approved by the Procuring agency/Employer prior to the bid submission.

17.4. The Bid Security shall be payable promptly upon written demand by the Procuring agency/Employer in case any of the conditions listed in ITB 17.9 are invoked.

17.5. Any bid not accompanied by a Bid Security or Bid Securing Declaration in accordance with ITB 17.1 or 17.3 shall be rejected by the Procuring agency/Employer and shall be declared as non-responsive bid, pursuant to ITB 27.

17.6. Unsuccessful bidders' Bid Security will be discharged or returned as promptly as possible, however in no case later than thirty (30) days after the expiration of the period of Bid Validity prescribed by the Procuring agency/Employer pursuant to ITB 16. The Procuring agency/Employer shall make no claim to the amount of the Bid Security, and shall promptly return the Bid Security document, after whichever of the following that occurs earliest:

17.6.1. The expiry of the Bid Security;

17.6.2. The entry into force of a procurement contract and the provision of a performance security (or guarantee), for the performance of the contract if such a security (or guarantee), is required by the Bidding documents;

17.6.3. The rejection by the Procuring agency/Employer of all Bids;

17.6.4. The withdrawal of the bid prior to the deadline for the submission of bids, unless the bidding documents stipulate that no such withdrawal is permitted.

17.7. The successful bidder's Bid Security will be discharged upon the bidder signing the contract pursuant to ITB 40, or furnishing the performance security (or guarantee), pursuant to ITB 41.

17.8. The Bid Security may be forfeited or the Bid Securing Declaration executed:

17.8.1. if a Bidder:

17.8.1.1. Withdraws its Bid during the period of Bid Validity as specified by the Procuring agency/Employer, and referred by the bidder on the Form of Bid except as provided for in ITB 16.2; or

17.8.2. In the case of a successful bidder, if the bidder fails:

17.8.2.1. to sign the contract in accordance with ITB 40; or

17.8.2.2. to furnish performance security (or guarantee) in accordance with ITB 41.

17.9. In case of Bid Security issued by the foreign bank is allowed by the Procuring agency/Employer, the same should be counter guaranteed by a corresponding bank in Pakistan. Furthermore, in case of joint venture, it should be in the name of Joint venture to ensure joint responsibility. In case the JV is not legally constituted at the time of bid submission, the bid security or bid securing declaration shall be in the names of all future members as named in the letter of bid.

18. Withdrawal of Bids

18.1. Before bid submission deadline, any bidder may withdraw, substitute, or modify its bid after it has been submitted by sending a written notice, duly signed by an authorized representative, and the corresponding must accompany the respective written notice.

19. Format and Signing of Bid

19.1. The Bidder shall prepare and submit Bids through EPADS with due diligence after carefully reading all the terms and condition before bid submission deadline.

D. SUBMISSION OF BIDS

20. Submission of Bids through EPADS v2.0

20.1. All bids shall be submitted through EPADS v2.0.

21. Deadline for Submission of Bids

21.1. All bids shall be received through **EPADS v2.0** not later than bid submission deadline as specified in the **BDS**.

21.2. The Procuring agency/Employer may, under exceptional circumstances and at its discretion, extend the deadline for the submission of bids, pursuant to Rule 27 of the Public Procurement Rules, 2004. Extension of Time for submission of bid, by amending the Bidding Documents in accordance with ITB 7, in which case all rights and obligations of the Procuring agency/Employer and bidders previously subject to the deadline will thereafter be subject to the new deadline.

22. Substitution and Modification of bids

22.1. A bidder may substitute or modify his bid after it has been submitted, provided that written notice of the substitution or modification of the bid, is received by the Procuring agency/Employer prior to the deadline for submission of bids.

22.2. Revised bid may be submitted after the substitution or modification made in the original bid in accordance with the provisions referred in **ITB 18**.

E. OPENING AND EVALUATION OF BIDS

23. Opening of Bids

23.1. The Procuring Agency will open bids in accordance with Rule 28 of the Public Procurement Rules, 2004 and as specified in the BDS.

24. Confidentiality

24.1. Information relating to the examination, clarification, evaluation and comparison of bids and recommendation of contract award shall not be disclosed to bidders or any other persons not officially concerned with such process until the time of the announcement of the respective evaluation report.

25. **Clarification of Bids**

25.1. Clarification of Bidding Documents shall be carried out in accordance with Rule 31 of the Public Procurement Rules, 2004.

25.2. The alteration or modification in the bid which in any case affect the following parameters will be considered as a change in the substance of a bid:

- 25.2.1. evaluation & qualification criteria;
- 25.2.2. required scope of work;
- 25.2.3. contract price;
- 25.2.4. all securities requirements;
- 25.2.5. tax requirements;
- 25.2.6. terms and conditions of bidding documents.
- 25.2.7. change in the ranking of the bidder

26. **Preliminary Examination of Bids**

26.1. Prior to the detailed evaluation of bids, the Procuring agency/Employer will determine whether each bid:

- 26.1.1. meets the eligibility criteria defined in **ITB 3** and **ITB 4**;
- 26.1.2. has been prepared as per the format and contents defined by the Procuring agency/Employer in the bidding documents;
- 26.1.3. has been properly signed;

26.1.4. is accompanied by the required securities; and

26.1.5. is substantially responsive to the requirements of the bidding documents.

The Procuring agency/Employer's determination of a bid's substantial responsiveness will be based on the contents of the bid itself.

26.2. A substantially responsive Bid is one which conforms to all the terms, conditions, and specifications of the Bidding Documents, without material deviation or reservation. A material deviation or reservation is one that: -

26.2.1. affects in any substantial way the scope, quality, or performance of the Works;

26.2.2. limits in any substantial way, inconsistent with the bidding documents, the Procuring agency/Employer's rights or the bidders' obligations under the Contract; or

26.2.3. if rectified, would affect unfairly the competitive position of other bidders presenting substantially responsive bids.

26.3. The Procuring agency/Employer will confirm that the documents and information specified under ITB 9, 10 and 11 have been provided in the bid. If any of these documents or information is missing, or is not provided in accordance with the Instructions to Bidders, the bid shall be rejected.

26.4. The Procuring agency/Employer may waive-off 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.

Explanation: A minor informality, non-conformity or irregularity is one that is merely a matter of form and not of substance. It also pertains to some immaterial defect in a Bid or variation of a bid from the exact requirements of the invitation that can be corrected or waived without being prejudicial to other bidders. The defect or variation is immaterial when the effect on quantity, quality, or delivery is negligible when contrasted with the total cost or scope of the works. The Procuring agency/Employer either shall give the bidder an opportunity to cure any deficiency resulting from a minor

informality or irregularity in a bid or waive the deficiency, whichever is advantageous to the Procuring agency/Employer. Examples of minor informalities or irregularities include failure of a bidder to –

26.4.1. Submit the number of copies of signed bids required by the invitation;

26.4.2. Furnish required information concerning the number of its employees;

26.4.3. the firm submitting a bid has formally adopted or authorized, before the date set for opening of bids, the execution of documents by typewritten, printed, or stamped signature and submits evidence of such authorization and the bid carries such a signature.

26.5. Provided that a Technical Bid is substantially responsive, the Procuring agency/Employer may request the bidder to submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the Technical Bid related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any such aspect of the technical Proposal linked with the ranking of the bidders. Failure of the bidder to comply with the request may result in the rejection of its bid.

26.6. Provided that a Technical Bid is substantially responsive, the Procuring agency/Employer shall rectify quantifiable nonmaterial nonconformities or omissions related to the Financial Proposal. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of the missing or nonconforming item or component.

26.7. If a bid is not substantially responsive, it will be rejected by the Procuring agency/Employer and may not subsequently be evaluated for complete technical responsiveness.

27. Examination of Terms and Conditions; Technical Evaluation

27.1. The Procuring agency/Employer shall examine the bid to confirm that all terms and conditions specified in the **GCC** and the **PCC** have been

accepted by the bidder without any material deviation or reservation.

For this purpose:

“Deviation” means departure from the requirements specified in the Bidding Document.

“Reservation” means setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Document.

27.2. The Procuring agency/Employer shall evaluate the technical aspects of the bid submitted in accordance with ITB 30, to confirm that all requirements specified in Section VI – Works Requirement, Technical Specifications of the Bidding Documents have been met without material deviation or reservation.

27.3. If after the examination of the terms and conditions and the technical evaluation, the Procuring agency/Employer determines that the bid is not substantially responsive in accordance with ITB 27, it shall reject the bid.

28. Correction of Arithmetic Errors

28.1. Bids determined to be substantially responsive will be checked for any arithmetic errors. Errors will be corrected as follows: -

28.1.1. if there is a discrepancy between unit prices and the sub-total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the sub-total price shall be corrected, unless in the opinion of the Procuring agency/Employer there is an obvious misplacement of the decimal point in the unit price, in which the total price as quoted shall govern and the unit price shall be corrected;

28.1.2. if there is an error in a total corresponding to the addition or subtraction of sub-totals, the sub-totals shall prevail, and the total shall be corrected; and

28.1.3. where there is a discrepancy between the amounts in figures and in words, the amount in words will govern.

28.1.4. Where there is discrepancy between grand total of price schedule and amount mentioned on the Form of Bid, the amount referred in Price Schedule shall be treated as correct subject to elimination of other errors.

28.2. The amount stated in the Bid will, be rectified by the Procuring agency/Employer in accordance with the above procedure for the correction of errors and, with, the concurrence of the bidder, shall be considered as binding upon the bidder. If the bidder does not accept the corrected amount, its bid shall be rejected after forfeiture of Bid Security or execution of the Bid Securing Declaration, as the case may be, in accordance with **ITB 41.3**.

29. Conversion to Single Currency

29.1. The unit rates and the prices shall be quoted by the bidder entirely in Pak rupees. A bidder expecting to incur expenditures in other currencies for inputs to the Works from outside the Procuring agency/Employer's country (referred to as the "Foreign Currency Requirements") shall indicate the same in the letter of bid-financial proposal. The proportion of the Bid Price (excluding Provisional Sums) needed by him for the payment of such Foreign Currency Requirements either (i) entirely in the currency of the Bidder's home country or, (ii) at the bidder's option, entirely in Pak rupees provided always that a bidder expecting to incur expenditures in a currency or currencies other than those stated in (i) and (ii) above for a portion of the foreign currency requirements, and wishing to be paid accordingly, shall indicate the respective portions in his bid. Comparison of bids quoted in different currencies and conversion of bids into a single currency shall be carried out in accordance with Rule 30(2) of the Public Procurement Rules, 2004.

30. Evaluation of Bids

30.1. The Procuring agency/Employer shall evaluate and compare only the bids determined to be substantially responsive, pursuant to **ITB 27**.

30.2. In evaluating the Technical Proposal of each Bid, the Procuring agency/Employer shall use the criteria and methodologies listed in the BDS

and in terms of works requirement. No other evaluation criteria or methodologies shall be permitted.

30.3. The Procuring agency/Employer's evaluation of a bid will take into account:

30.3.1. the bid price, excluding provisional sums and the provision, if any, for contingencies in the summary bill of quantities, but including day work items, where priced competitively;

30.3.2. converting the amount resulting from applying above, if relevant, to a single currency in accordance with ITB 29;

30.4. The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in bid evaluation.

30.5. If these bidding documents allow bidders to quote separate prices for different lots, and the award to a single bidder of multiple lots, the methodology of evaluation to determine the lowest evaluated lot combinations in the Form of Bid, is specified in the **BDS**.

30.6. If the bid, which results in the Evaluated Bid Price (Successful Bid), is seriously unbalanced or front loaded in the opinion of the Employer, the Employer may require the Bidder to produce detailed price analyses for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, taking into consideration the schedule of estimated Contract payments, the Employer may require that the amount of the performance security be increased at the expense of the Bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract.

Explanation:

"Unbalanced" or "front-loaded" bids consist of deliberately submitting bids with artificially high prices or unit rates for the early stages of a construction project, offset by artificially low prices or unit rates for the later stages of the project, to improve the contractor's cash flow.

31. Domestic Preference

31.1. If the **BDS** so specifies, the Procuring agency/Employer will grant a margin of preference to the domestic contractor in line with the rules, regulations, regulatory guides or instructions issued by the Authority from time to time.

32. Determination of Successful Bid

32.1. The Procuring agency/Employer shall compare the evaluated bids in accordance with the predefined bidding procedure, of all substantially responsive bids to determine the Successful bidder.

33. Qualification of Bidder

33.1. The Procuring agency/Employer shall determine to its satisfaction whether the bidder is substantially responsive and whose bid is declared as Successful bid either continues to meet (if prequalification applies) or meets (if post-qualification applies) the qualifying criteria specified in Evaluation and Qualification Criteria.

Note: In case of international bidding, the parameters for incorporation or licensing within Pakistan may be fulfilled as part of post qualification.

33.2. The determination shall be based upon an examination of the documentary evidence of the bidder's qualifications submitted by the bidder, pursuant to **ITB 11**.

33.3. Prior to contract award, the Procuring agency/Employer will verify that the successful bidder (including each member of a JV) is not blacklisted/debarred. The Procuring agency/Employer will conduct the same verification for each sub-contractor proposed by the successful bidder.

34. Sub-Contractors

34.1. The bidder shall provide details regarding any specialized sub-contractor to the Procuring agency/Employer. In case change of sub-contractors, the bidder shall promptly notify the Procuring agency/Employer and obtain approval for replacement of sub-contractors.

34.2. Bidders may propose sub-contracting up to the percentage of total value of contracts or the volume of works as specified in the **BDS**.

35. **Abnormally Low Financial Bid**

35.1. A procuring Agency may reject abnormally low bids. The decision of the Procuring agency/Employer to reject a bid and reasons for the decision shall be recorded in the procurement proceedings and promptly communicated to the bidder concerned. Moreover, the Procuring agency/Employer shall not incur any liability solely by rejecting abnormally bid

Guidance for Procuring agency/Employer:

An abnormally low bid means, in the light of the Procuring agency/Employer's estimate and of all the bids submitted, the bid appears to be abnormally low by not providing a margin for normal levels of profit. In order to identify the Abnormally Low Bid (ALB) following approaches can be considered to minimize the scope of subjectivity:

35.1.1. Comparing the bid price with the cost estimate;

35.1.2. Comparing the bid price with the bids offered by other bidders submitting substantially responsive bids; and

35.1.3. Comparing the bid price with prices paid in similar contracts in the recent past either government- or development partner-funded.

35.2. The Procuring agency/Employer will determine to its satisfaction whether the bidder that is selected as having submitted the successful bid is qualified to perform the contract satisfactorily, in accordance with the criteria listed in **ITB 11**

35.3. 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 11**, as well as such other information as the Procuring agency/Employer deems necessary and appropriate. Factors not included in these bidding documents shall not be used in the evaluation of the bidders' qualifications.

35.4. Procuring agency/Employer may seek “Certificate for Independent Price Determination” from the bidder and the results of reference checks may be used in determining award of contract.

Explanation: The Certificate shall be furnished by the bidder. The bidder shall certify that the price is determined keeping in view of all the essential aspects such as raw material, its processing, value addition, optimization of resources due to economy of scale, transportation, insurance and margin of profit etc.

35.5. An affirmative determination will be a prerequisite for award of the contract to the bidder. A negative determination will result in rejection of the bidder’s bid, in which event the Procuring agency/Employer will proceed to the next ranked bidder to make a similar determination of that bidder’s capabilities to perform satisfactorily.

F. AWARD OF CONTRACT

36. Criteria of Award

36.1. Subject to **ITB 36 and 37**, the Procuring agency/Employer will award the Contract to the bidder whose bid has been determined to be substantially responsive to the bidding documents and who has been declared as Successful Bidder, provided that such bidder has been determined to be:

36.1.1. eligible in accordance with the provisions of **ITB 3**;

36.1.2. is determined to be qualified to perform the Contract satisfactorily;
and

36.1.3. Successful negotiations have been concluded, if any.

37. Negotiations

37.1. The Committee of the Procuring agency/Employer may negotiate with the Most Advantageous Bidder relating to the following areas:

37.1.1. a minor alteration to the technical (drawings, design technical specifications) details of the statement of works;

37.1.2. Methodology, work plan, staffing in view to streamline the work;

37.1.3. a minor amendment to the Particular conditions of Contract;

37.1.4. finalizing payment arrangements;

37.1.5. clarifying details that were not apparent or could not be finalized at the time of Bidding;

37.2. Where negotiation fails to result into an agreement, the Procuring agency/Employer may invite the next ranked bidder for negotiations. Where negotiations are commenced with the next ranked bidder, the Procuring agency/Employer shall not reopen earlier negotiations.

38. Procuring agency's Right to reject All Bids

38.1. The procuring agency has the right to reject all bids in accordance with Rule 33 of the Public Procurement Rules, 2004. However, the Authority (i.e. **PPRA**) may call from the Procuring agency/Employer the justification of those grounds.

39. Notification of Award

39.1. The procuring agency shall announce and publish the evaluation result in accordance with Rule 35 of the Public Procurement Rules, 2004.

39.2. Where no complaints have been lodged, the bidder whose bid has been accepted will be notified of the award by the Procuring agency/Employer prior to expiration of the bid validity period through EPADS. However, the Procuring agency/Employer shall not award any procurement contract at least for five (05) days after the announcement of final evaluation report. The notification letter (herein after and in the condition of the contract and contract form called "Letter of Acceptance" will specify the sum that the Procuring agency/Employer will pay the successful bidder in consideration for the execution and completion of the

works as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price).

39.3. The notification of award will constitute the formation of the Contract, subject to the bidder furnishing the Performance Security (or guarantee) in accordance with **ITB 41** and signing of the contract in accordance with **ITB 40**.

39.4. Upon the successful bidder's furnishing of the performance security (or guarantee) pursuant to **ITB 41**, the Procuring agency/Employer will promptly notify each unsuccessful bidder, the name of the successful bidder and the Contract amount and will discharge the Bid Security or Bid Securing Declaration of the bidder(s) pursuant to **ITB 17**.

40. Signing of Contract

40.1. Promptly after notification of award, Procuring agency/Employer shall send the successful bidder the draft agreement, incorporating all terms and conditions as agreed by the parties to the contract.

40.2. Immediately after the Redressal of grievance by the **GRC**, and after fulfillment of all conditions precedent of the Contract Form, the successful bidder and the Procuring agency/Employer shall sign the contract.

40.3. Where no formal signing of a contract is required, work order issued to the bidder shall be construed to be the contract.

41. Performance Security (or Guarantee)

41.1. After the receipt of the Letter of Acceptance, the successful bidder, within the specified time, shall deliver to the Procuring agency/Employer a Performance Guarantee in the amount and in the form stipulated in the BDS and PCC, denominated in the type and proportions of currencies in the Letter of Acceptance and in accordance with the Conditions of Contract.

41.2. If the Performance Guarantee is provided by the successful bidder and it shall be in the form specified in the BDS which shall be in any of the following:

41.2.1. certified cheque, cashier's or manager's cheque, or bank draft;

41.2.2. irrevocable letter of credit issued by a scheduled bank of Pakistan or in the case of an irrevocable letter of credit issued by a foreign bank, the letter shall be confirmed or authenticated by a scheduled bank of Pakistan;

41.2.3. bank guarantee confirmed by a reputable local bank or, in the case of a successful foreign bidder, bonded by a foreign bank; or

41.2.4. surety bond callable upon demand issued by any reputable surety or insurance company.

Any Performance Guarantee submitted shall be enforceable in Pakistan.

41.3. Failure of the Most Advantageous Bidder to comply with the requirement of **ITB 40** shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security or declare blacklisted (in case bid securing declaration is submitted) in which event the Procuring agency/Employer may make the award to the next most advantageous bidder or reinitiate the procurement process afresh (as a case may be).

42. **Advance Payment**

42.1. Advance payment will be provided to the bidder in percentage and in the manner as agreed by the both parties in terms of Conditions of the Contract.

42.2. The Procuring agency/Employer will provide an advance payment as stipulated in the Conditions of Contract, subject to a maximum amount, as stated and/or Conditions of the Contract. The advance payment request shall be accompanied by an advance payment security (guarantee) in the form provided in Section X. For the purpose of receiving the advance payment, the bidder shall make and estimate of, and include in its bid, the expenses that will relate to the purchase of equipment, machinery, materials, and on the engagement of labor during the first month beginning with the date of the Procuring agency/Employer's "**Notice to Commence**" as specified in the **PCC**.

43. General Performance of the Bidders

43.1. The Procuring agency/Employer reserves the right to obtain information regarding performance of the bidders on their previously awarded contracts / works. The Procuring agency/Employer may seek information / report from the previous employer for consideration. However, the Procuring agency/Employer shall incorporate such parameters in the evaluation criteria and accordingly decide the fate of the bid submitted.

44. Corrupt & Fraudulent Practices

44.1. Procuring agencies (including beneficiaries of Government funded projects and procurement) as well as Bidders/Suppliers/Contractors under Government financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts, and will avoid to engage in any corrupt and fraudulent practices.

G. GRIEVANCE REDRESSAL & COMPLAINT REVIEW MECHANISM

45. Grievance Redressal

45.1. Grievance Redressal shall be carried out in accordance with Rule 48 of the Public Procurement Rules, 2004 i.e. Redressal of grievances by the procuring agency and "Redressal of Grievances Regulations 2021".

H. MECHANISM OF BLACKLISTING

46. Mechanism of Blacklisting

46.1. The Procuring agency/Employer shall proceed Blacklisting of Bidders/Contractors in accordance with Rule 19 of the Public Procurement Rules, 2004 i.e. Blacklisting and "Blacklisting and Debarment of Bidders or Contractors Regulations 2024.



Bid Data Sheet

Bids Data Sheet (BDS)

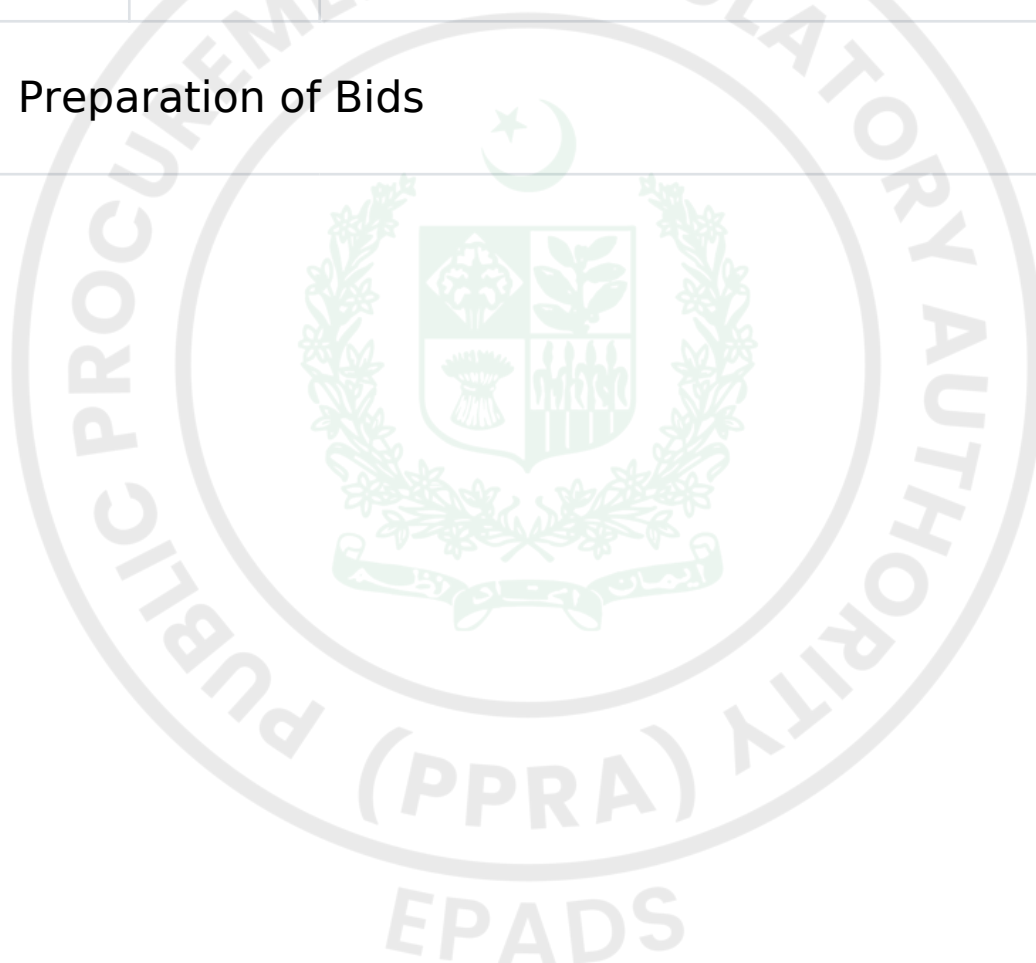
The following specific data for the procurement of Goods to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

BDS Clause Number	ITB Number	Amendments of, and Supplements to, Clauses in the Instruction to Bidders
A. Introduction		
1	1.1	Name of Procuring Agency: Divisional Superintendent, Pakistan Railways, Karachi Division (Electrical Departement) The subject of procurement is: DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING GRID-TIED SOLAR SYSTEMS INTO HYBRID SOLAR SYSTEMS AT 21 NOS RAILWAY STATIONS ACROSS KARACHI DIVISION ON A TURNKEY BASIS. Expected commencement date: Tuesday, October 20, 2026
2.	2.1	Financial year for the operations of the Procuring Agency: 2026-27 Name and identification number of the Contract: P78964
3.	3.1	JV/Consortium or Association Allowed: Yes Number of JV/Consortium Members: 2

B. Bidding Documents

4.	6.2 & 6.4	The Bidders may seek clarifications through EPADS v2.0 : Clarification Date: Tuesday, August 25, 2026
5.	7.2	Any addendum, in case issued, shall be published on Divisional Superintendent, Pakistan Railways, Karachi Division (Electrical Departement) website and on EPADS v2.0 .

C. Preparation of Bids



6.	8.1	List of documents required along with the bid: 1. Original Bid Security (CDR/Pay Order/BankGuarantee) of Rs. 889,300/- (Eight Lac Eighty-Nine Thousand Three Hundred Rupees Only) in favor of Divisional Accounts Officer, Pakistan Railways, Karachi. 2. Pakistan Engineering Council (PEC) Registration Certificate (Category C-5 or higher) and PPIB Certification in Category C-2 or above. 3. NTN (National Tax Number) Certificate and Active Taxpayer List (ATL) Status Proof issued by FBR 4. Affidavit on Judicial Stamp Paper declaring that the firm Has never been blacklisted by any Government/Semi Government/Autonomous/State-Owned Organization and is not facing any blacklisting case in any Court of Law. & Undertaking that the firm/JV partner is not involved in litigation with Pakistan Railways and will not subcontract any firm involved in litigation with Pakistan Railways 5. Audited Financial Statements/Audit Reports for FY 2022-23, 2023-24 & 2024-25. 6. Documentary evidence of successful completion of at least two (02) similar projects during the last five (05) years, including Completion Certificates. 7. Joint Venture (JV) Agreement (if applicable), clearly indicating the Lead Partner and Partner(s). 8. Technical & Financial Proposal, duly signed and stamped. along with Confirmation of compliance with all Railway Specifications, Technical Requirements, and Scope of Work. The Confirmation of Bid Validity as specified in
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7.	9.1	The qualification criteria to establish the supply / production capability of the bidder. <i>see Eligibility Criteria</i>
8.	11.2	Works and Their related documents: <i>See section Required Scope of Work</i>
9.	11.1	Price schedule will be provided according to the format defined and acquired. <i>see section price schedule.</i>
10.	11.4	Specifications: <i>see section of specifications.</i>
11.	11.5 & 13.5	The price shall be Fixed . The bid price shall be adjusted in accordance with Appendix provided - Formula for Price Adjustment.
12.	14.1	Currency of the Bids shall be : PKR
13.	16.1	The Bids/Bid Validity period shall be: 120 Days
14.	17.1	The amount of Bid Security shall be as defined in Bid Security Section for items and lots given in BDS 6
15.	17.2	The Bid Security shall be in the form of: Pay Order, Call at Deposit, Bank Guarantee
16.	15.1	Alternative Bids to the requirements of the bidding documents will not be permitted.

D. Submission of Bids

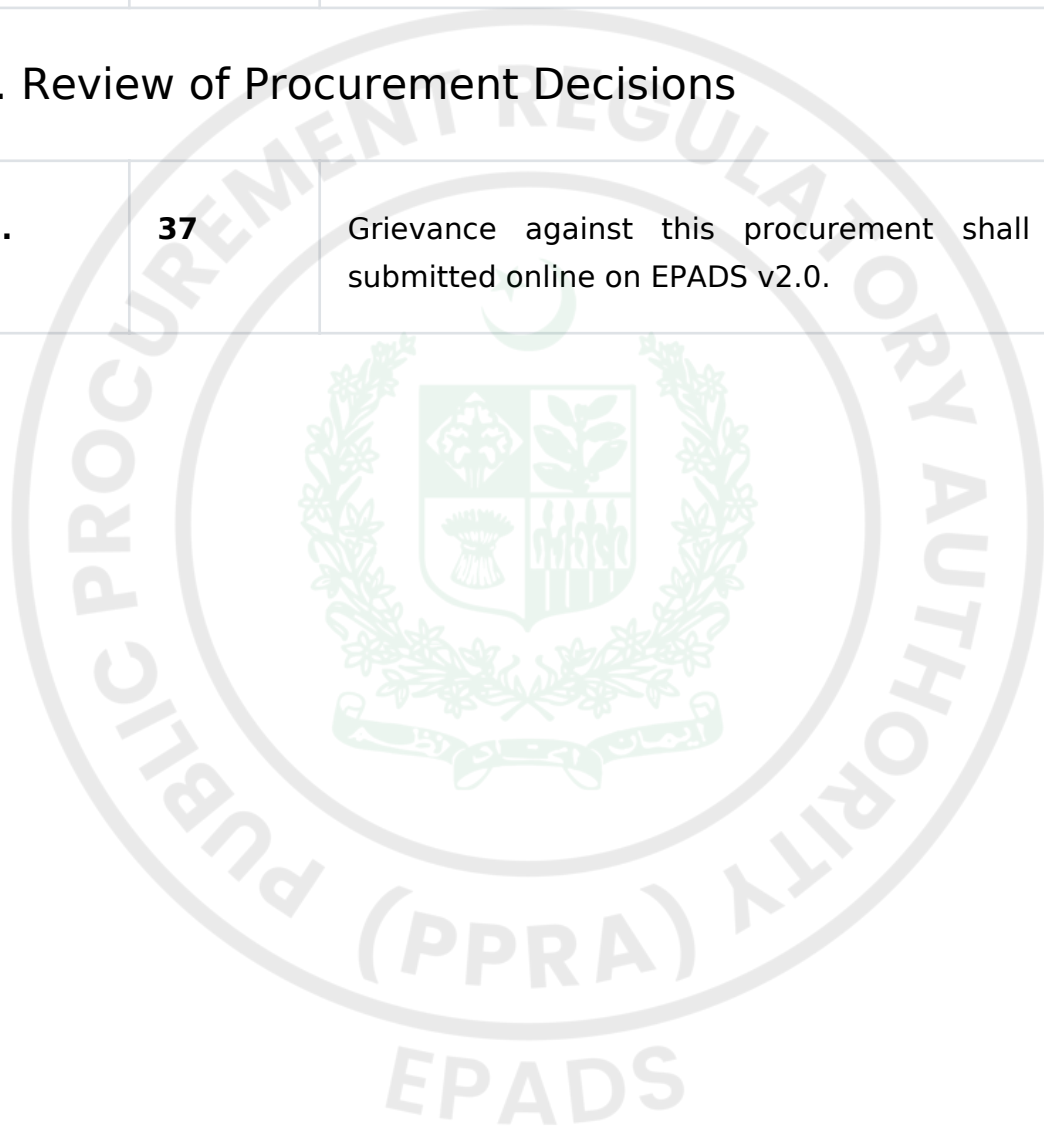
17.	18.1 & 21.1	Bid shall be submitted online on EPADS v2.0 whereas hard copy of the bid security should be submitted to the following; Divisional Superintendent Office Pakistan Railways, I.I Chundrigar Road Karachi, Sindh (Province). Bids that are not submitted on EPADS v2.0 shall be disqualified. The deadline for Bids submission is: Wednesday, September 2, 2026 11:00 AM
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E. Opening and Evaluation of Bids

18.	24.1	The Bids opening shall take place on EPADS v2.0. Day : Wednesday Date: September 02, 2026 Time : 11:30 AM
19.	30.2	Selection technique adopted will be: Least Cost Based Selection (LCBS) <i>see Evaluation Criteria</i>

F. Award of Contract

20.	41.1 & 41.2	The Performance guarantee shall: 5.00%. The Performance Guarantee shall be acceptable in the form of: Pay Order, Call at Deposit, Bank Guarantee
21.	45.1	Arbitrator shall be appointed by mutual consent of the both parties.
G. Review of Procurement Decisions		
22.	37	Grievance against this procurement shall be submitted online on EPADS v2.0.



Eligibility Criteria

Bidder's Type	Required Registration
Any	NADRA CITIZENSHIP (CNIC/NICOP) FBR (NTN) FBR (GSTN) PEC

Eligibility Criteria	Document
1. General: The Technical proposal of the Bidders shall be evaluated for the post-qualification of bidders based on the criteria given in succeeding paras regarding the Bidders Basic Eligibility, Work Experience, Personnel Capabilities, and Financial Soundness.	Yes
2. Weightage/Marks: The weightage/ distribution of the marks of following sections shall be as given below:- i. Work Experience 60 Marks, ii. Personnel Capabilities 15 Marks, iii. Financial Soundness 25 Marks.	No
3. Mandatory Requirement: The Firms fulfilling the following Mandatory requirements shall only be considered for further evaluation (relevant documents to be attached)	Yes
3-(a). The bidder shall provide documentary evidence of Pakistan Engineering Council (PEC) registration in Financial Category C-5 or higher and PPIB Certification in Category C-2 or above.	Yes
3-(b). Firms must have Proof of Registration of Income Tax Department, and the Bidders must be on the Active Taxpayers list	Yes
3-(c). Firms must provide an affidavit on legal stamp paper, declaring that the Firm has never been blacklisted by any Government/ Semi Government, Autonomous or State-Owned Organization and that their cases regarding blacklisting are not under trial in any Court of Law.	Yes

3-(d). Firms must attach Audit Report for Last 3 Financial Years i.e. FY 2022-23, 2023-24 & 2024-25	Yes
3-(e). The Bidder shall furnish documentary evidence demonstrating the successful completion of at least two (02) similar projects during the last five (05) years. For the purpose of this bidding document, similar projects shall mean the Design, Supply, Installation, Testing and Commissioning (ITC) of Hybrid/On-Grid/Off-Grid Solar Systems, with each individual project having a minimum contract value of PKR 05.00 million.	Yes
3-(f). Original Bid Security amounting to Rs. Rs. 889,300/- (Eight Lac Eighty-Nine Thousand Three Hundred Rupees Only.) in the shape of Deposit at Call Receipt/ Bank Guarantee in favor of Divisional Accounts Officer Pakistan Railways Karachi., from any ..Scheduled Bank in Pakistan, to be attached with technical.	Yes
3-(g). In case of Joint Venture, the JV Agreement between all the firms, showing the Lead Firm and Partner firm, must be attached.	Yes
4. Relevant Work Experience (Total Marks = 60). Marking for work experience of the firms shall be evaluated as per following criteria. i. Experience of completion of Projects of Similar Nature (As defined in Para 3(e) mandatory requirement) will be evaluated as [a. For Two Projects = 30 Marks], [b. For Three Projects = 45 Marks] [c. For Four and above Projects = 60 Marks], Note: Proof of projects completed shall be in the shape of completion certificates.	Yes
5. Professional Capabilities (Total Marks = 15) Marking for personal capabilities of the firms shall be evaluated on the basis of following criteria. i. BSc. Electrical Engineer, minimum experience of 2 Years or more=11 Marks. ii. One DAE Electrical, with minimum experience of 2 Years =4 Marks.	Yes
6. Financial Capabilities (Total Marks = 25) Marking for financial position of the firm shall be evaluated on the basis of the following criteria. Works Turnover (Attach three-year Audit Report) [i. If Less than Rs. 10.00 Million= 10 Marks], [ii. Between Rs. 10.00 Million and Rs. 20.00 Million=15 Marks], [Between Rs. 20.00 Million and Rs. 30.00 Million=20 Marks], [Above Rs. 30.00 Million =25 Marks]	Yes
7. Qualification Marks. All the Bidding Firms / JV partners must secure at least 60% marks for Technical Qualification in the Tender.	Yes

Evaluation Criteria

Least Cost Based Selection (LCBS)

Technical Marks	100
Passing Marks	60
1. Work Experience (60 Marks): Work experience shall be evaluated based on the successful completion of SITC/ITC of Hybrid/On-Grid/Off-Grid Solar Systems, each having a minimum contract value of PKR 05.00 million.	
1(a)- For Successful Completion of Two (02) Projects in Total. (Qualitative)(Doc Required)	30
1(b)- For Successful Completion of each Additional Project. i.e. Three (2+1=3) Projects in Total. (Qualitative)(Doc Required)	15
1(c)- For Successful Completion of each Additional Project. i.e. Four (3+1=4) or more Projects in Total. (Qualitative)(Doc Required)	15
2. Professional Capabilities (Total Marks 15) Marking for personal capabilities of the firms shall be evaluated on the basis of following criteria.	
2(a)- .BSc. Electrical Engineer, minimum experience of 2 Years or more. (Qualitative)(Doc Required)	11
2(b)- One DAE Electrical, with minimum experience of 2 Years. (Qualitative)(Doc Required)	4
3. Financial Capabilities Marking for financial position of the firm shall be evaluated on the basis of the following criteria.	

3(a)- Works Turnover if Less than Rs. 10.00 Million. (Qualitative)(Doc Required)	10
3(b)- Works Turnover if Between Rs. 10.00 Million and Rs. 20.00 Million (Qualitative)(Doc Required)	5
3(c)- Works Turnover if Between Rs. 20.00 Million and Rs. 30.00 Million. (Qualitative)(Doc Required)	5
3(d)- Works Turnover if more than Rs. 30.00 Million. (Qualitative)(Doc Required)	5

Jobs/Lots

Jobs Without Lots :

Job	Delivery Schedule	Quantity	Bid Security
DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 07-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT JHAMPIR RAILWAY STATION OVER KARACHI DIVISION.	Address: Jhampir Railway Station Schedule: 45 Days Quantity: 1/job	1/job	31300 PKR
DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 08-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT JUNGSHAHI RAILWAY STATION OVER KARACHI DIVISION.	Address: Jungshahi Railway Station Schedule: 45 Days Quantity: 1/job	1/job	31300 PKR

Job	Delivery Schedule	Quantity	Bid Security
DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT ALADINO SAND RAILWAY STATION OVER KARACHI DIVISION.	Address: Aladino Sand - Railway Station Schedule: 45 Days Quantity: 1/job	1/job	28200 PKR
DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT DETHA RAILWAY STATION OVER KARACHI DIVISION.	Address: Detha Railway Station Schedule: 45 Days Quantity: 1/job	1/job	28200 PKR
DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT GOPANG RAILWAY STATION OVER KARACHI DIVISION.	Address: Gopang Railway Station Schedule: 45 Days Quantity: 1/job	1/job	28200 PKR
DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT KHANNOTE RAILWAY STATION OVER KARACHI DIVISION.	Address: Khannote Railway Station Schedule: 45 Days Quantity: 1/job	1/job	28200 PKR
DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT ODERO LAL RAILWAY STATION OVER KARACHI DIVISION.	Address: Odero Lal Railway Station Schedule: 45 Days Quantity: 1/job	1/job	28200 PKR

Job	Delivery Schedule	Quantity	Bid Security
DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT PALI JANI RAILWAY STATION OVER KARACHI DIVISION.	Address: Pali Jani Railway Station Schedule: 45 Days Quantity: 1/job	1/job	28200 PKR
DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT SINDH UNIVERSITY RAILWAY STATION OVER KARACHI DIVISION.	Address: Sindh University Railway Station Schedule: 45 Days Quantity: 1/job	1/job	28200 PKR
DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT WAHAB SHAH RAILWAY STATION OVER KARACHI DIVISION.	Address: Wahab Shah Railway Station Schedule: 45 Days Quantity: 1/job	1/job	28200 PKR
DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT RANPATHANI RAILWAY STATION OVER KARACHI DIVISION.	Address: Ranpathani Railway Station Schedule: 45 Days Quantity: 1/job	1/job	34200 PKR
DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT BOLARI RAILWAY STATION OVER KARACHI DIVISION.	Address: Bolari Railway Station Schedule: 45 Days Quantity: 1/job	1/job	34200 PKR

Job	Delivery Schedule	Quantity	Bid Security
DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT BUDHAPUR RAILWAY STATION OVER KARACHI DIVISION.	Address: Budhapur Railway Station Schedule: 45 Days Quantity: 1/job	1/job	34200 PKR
DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT SAN RAILWAY STATION OVER KARACHI DIVISION.	Address: SAN Railway Station Schedule: 45 Days Quantity: 1/job	1/job	34200 PKR
DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 15-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT MALIR CITY RAILWAY STATION OVER KARACHI DIVISION.	Address: MALIR CITY Railway Station Schedule: 45 Days Quantity: 1/job	1/job	44200 PKR
DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 15-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT DHABEJI RAILWAY STATION OVER KARACHI DIVISION.	Address: DHABEJI Railway Station Schedule: 45 Days Quantity: 1/job	1/job	56200 PKR
DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 15-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT JUMMA GOTH RAILWAY STATION OVER KARACHI DIVISION.	Address: JUMMA GOTH Jhampir Railway Station Schedule: 45 Days Quantity: 1/job	1/job	62200 PKR

Job	Delivery Schedule	Quantity	Bid Security
DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 20-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT TANDO-ADAM RAILWAY STATION OVER KARACHI DIVISION.	Address: TANDO-ADAM Railway Station Schedule: 45 Days Quantity: 1/job	1/job	89700 PKR
DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 25-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT DRIGH-ROAD RAILWAY STATION OVER KARACHI DIVISION.	Address: DRIGH-ROAD RAILWAY STATION Schedule: 45 Days Quantity: 1/job	1/job	84200 PKR
DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 30-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT KOTRI RAILWAY STATION OVER KARACHI DIVISION.	Address: KOTRI RAILWAY STATION Schedule: 45 Days Quantity: 1/job	1/job	90100 PKR
DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 35-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT BIN-QASIM RAILWAY STATION OVER KARACHI DIVISION.	Address: BIN-QASIM RAILWAY STATION Schedule: 45 Days Quantity: 1/job	1/job	37700 PKR

Related Services :

No



Work Specifications and Market Rates

Jobs Without Lots :

Job: DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 07-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT JHAMPIR RAILWAY STATION OVER KARACHI DIVISION.

Specifications / Requirements:

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
1	P78964	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement	500000	Five Lac Rupees Only	500000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
2	P78964	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	2	300000	Three Lac Rupees Only	600000
3	P78964	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	1	80000	Eighty Thousand Rupees Only	80000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
4	P78964	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. i. Three Phase Four Pole 200-A MCCB for Mains Supply from Utility. ii. Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. iii. Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. iv. DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter v. SPDTs, Three Phase Four Pole 150A Manual Change over Switch. Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	1	170000	One Lac Seventy Thousand Rupees Only	170000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
5	P78964	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	120000	One Lac Twenty Thousand Rupees Only	120000
6	P78964	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	1	95000	Ninety-Five Thousand Rupees Only	95000
						GRAND TOTAL:	Rs1,565,000.00

Job: DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 08-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT JUNGSHAHI RAILWAY STATION OVER KARACHI DIVISION.

Specifications / Requirements:

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
1	P78964	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement	500000	Five Lac Rupees Only	500000
2	P78964	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	2	300000	Three Lac Rupees Only	600000
3	P78964	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	1	80000	Eighty Thousand Rupees Only	80000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
4	P78964	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. i. Three Phase Four Pole 200-A MCCB for Mains Supply from Utility. ii. Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. iii. Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. iv. DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter v. SPDTs, Three Phase Four Pole 150A Manual Change over Switch. Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	1	170000	One Lac Seventy Thousand Rupees Only	170000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
5	P78964	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	120000	One Lac Twenty Thousand Rupees Only	120000
6	P78964	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	1	95000	Ninety-Five Thousand Rupees Only	95000
						GRAND TOTAL:	Rs1,565,000.00

Job: DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT ALADINO SAND RAILWAY STATION OVER KARACHI DIVISION.

Specifications / Requirements:

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
1	P78964	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement	575000	Five Lac Seventy-Five Thousand Rupees Only	575000
2	P78964	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	1	300000	Three Lac Rupees Only	300000
3	P78964	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	1	80000	Eighty Thousand Rupees Only	80000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
4	P78964	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. i. Three Phase Four Pole 200-A MCCB for Mains Supply from Utility. ii. Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. iii. Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. iv. DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter v. SPDTs, Three Phase Four Pole 150A Manual Change over Switch. Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	1	200000	Two Lac Rupees Only	200000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
5	P78964	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	150000	One Lac Fifty Thousand Rupees Only	150000
6	P78964	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	1	105000	One Lac Five Thousand Rupees Only	105000
						GRAND TOTAL:	Rs1,410,000.00

Job: DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT DETHA RAILWAY STATION OVER KARACHI DIVISION.

Specifications / Requirements:

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
1	P78964	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement	575000	Five Lac Seventy-Five Thousand Rupees Only	575000
2	P78964	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	1	300000	Three Lac Rupees Only	300000
3	P78964	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	1	80000	Eighty Thousand Rupees Only	80000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
4	P78964	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. i. Three Phase Four Pole 200-A MCCB for Mains Supply from Utility. ii. Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. iii. Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. iv. DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter v. SPDTs, Three Phase Four Pole 150A Manual Change over Switch. Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	1	200000	Two Lac Rupees Only	200000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
5	P78964	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	150000	One Lac Fifty Thousand Rupees Only	150000
6	P78964	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	1	105000	One Lac Five Thousand Rupees Only	105000
						GRAND TOTAL:	Rs1,410,000.00

Job: DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT GOPANG RAILWAY STATION OVER KARACHI DIVISION.

Specifications / Requirements:

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
1	P78964	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement	575000	Five Lac Seventy-Five Thousand Rupees Only	575000
2	P78964	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	1	300000	Three Lac Rupees Only	300000
3	P78964	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	1	80000	Eighty Thousand Rupees Only	80000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
4	P78964	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. i. Three Phase Four Pole 200-A MCCB for Mains Supply from Utility. ii. Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. iii. Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. iv. DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter v. SPDs, Three Phase Four Pole 150A Manual Change over Switch. Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	1	200000	Two Lac Rupees Only	200000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
5	P78964	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	150000	One Lac Fifty Thousand Rupees Only	150000
6	P78964	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	1	105000	One Lac Five Thousand Rupees Only	105000
						GRAND TOTAL:	Rs1,410,000.00

Job: DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT KHANNOTE RAILWAY STATION OVER KARACHI DIVISION.

Specifications / Requirements:

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
1	P78964	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement	575000	Five Lac Seventy-Five Thousand Rupees Only	575000
2	P78964	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	1	300000	Three Lac Rupees Only	300000
3	P78964	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	1	80000	Eighty Thousand Rupees Only	80000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
4	P78964	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. i. Three Phase Four Pole 200-A MCCB for Mains Supply from Utility. ii. Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. iii. Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. iv. DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter v. SPDTs, Three Phase Four Pole 150A Manual Change over Switch. Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	1	200000	Two Lac Rupees Only	200000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
5	P78964	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	150000	One Lac Fifty Thousand Rupees Only	150000
6	P78964	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	1	105000	One Lac Five Thousand Rupees Only	105000
						GRAND TOTAL:	Rs1,410,000.00

Job: DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT ODERO LAL RAILWAY STATION OVER KARACHI DIVISION.

Specifications / Requirements:

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
1	P78964	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement	575000	Five Lac Seventy-Five Thousand Rupees Only	575000
2	P78964	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	1	300000	Three Lac Rupees Only	300000
3	P78964	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	1	80000	Eighty Thousand Rupees Only	80000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
4	P78964	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. i. Three Phase Four Pole 200-A MCCB for Mains Supply from Utility. ii. Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. iii. Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. iv. DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter v. SPDs, Three Phase Four Pole 150A Manual Change over Switch. Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	1	200000	Two Lac Rupees Only	200000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
5	P78964	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	150000	One Lac Fifty Thousand Rupees Only	150000
6	P78964	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	1	105000	One Lac Five Thousand Rupees Only	105000
						GRAND TOTAL:	Rs1,410,000.00

Job: DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT PALI JANI RAILWAY STATION OVER KARACHI DIVISION.

Specifications / Requirements:

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
1	P78964	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement	575000	Five Lac Seventy-Five Thousand Rupees Only	575000
2	P78964	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	1	300000	Three Lac Rupees Only	300000
3	P78964	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	1	80000	Eighty Thousand Rupees Only	80000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
4	P78964	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. i. Three Phase Four Pole 200-A MCCB for Mains Supply from Utility. ii. Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. iii. Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. iv. DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter v. SPDs, Three Phase Four Pole 150A Manual Change over Switch. Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	1	200000	Two Lac Rupees Only	200000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
5	P78964	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	150000	One Lac Fifty Thousand Rupees Only	150000
6	P78964	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	1	105000	One Lac Five Thousand Rupees Only	105000
						GRAND TOTAL:	Rs1,410,000.00

Job: DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT SINDH UNIVERSITY RAILWAY STATION OVER KARACHI DIVISION.

Specifications / Requirements:

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
1	P78964	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement	575000	Five Lac Seventy-Five Thousand Rupees Only	575000
2	P78964	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	1	300000	Three Lac Rupees Only	300000
3	P78964	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	1	80000	Eighty Thousand Rupees Only	80000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
4	P78964	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. i. Three Phase Four Pole 200-A MCCB for Mains Supply from Utility. ii. Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. iii. Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. iv. DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter v. SPDTs, Three Phase Four Pole 150A Manual Change over Switch. Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	1	200000	Two Lac Rupees Only	200000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
5	P78964	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	150000	One Lac Fifty Thousand Rupees Only	150000
6	P78964	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	1	105000	One Lac Five Thousand Rupees Only	105000
						GRAND TOTAL:	Rs1,410,000.00

Job: DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT WAHAB SHAH RAILWAY STATION OVER KARACHI DIVISION.

Specifications / Requirements:

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
1	P78964	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement	575000	Five Lac Seventy-Five Thousand Rupees Only	575000
2	P78964	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	1	300000	Three Lac Rupees Only	300000
3	P78964	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	1	80000	Eighty Thousand Rupees Only	80000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
4	P78964	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. i. Three Phase Four Pole 200-A MCCB for Mains Supply from Utility. ii. Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. iii. Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. iv. DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter v. SPDs, Three Phase Four Pole 150A Manual Change over Switch. Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	1	200000	Two Lac Rupees Only	200000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
5	P78964	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	150000	One Lac Fifty Thousand Rupees Only	150000
6	P78964	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	1	105000	One Lac Five Thousand Rupees Only	105000
						GRAND TOTAL:	Rs1,410,000.00

Job: DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT RANPATHANI RAILWAY STATION OVER KARACHI DIVISION.

Specifications / Requirements:

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
1	P78964	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement	575000	Five Lac Seventy-Five Thousand Rupees Only	575000
2	P78964	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	2	300000	Three Lac Rupees Only	600000
3	P78964	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	1	80000	Eighty Thousand Rupees Only	80000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
4	P78964	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. i. Three Phase Four Pole 200-A MCCB for Mains Supply from Utility. ii. Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. iii. Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. iv. DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter v. SPDTs, Three Phase Four Pole 150A Manual Change over Switch. Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	1	200000	Two Lac Rupees Only	200000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
5	P78964	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	150000	One Lac Fifty Thousand Rupees Only	150000
6	P78964	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	1	105000	One Lac Five Thousand Rupees Only	105000
						GRAND TOTAL:	Rs1,710,000.00

Job: DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT BOLARI RAILWAY STATION OVER KARACHI DIVISION.

Specifications / Requirements:

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
1	P78964	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement	575000	Five Lac Seventy-Five Thousand Rupees Only	575000
2	P78964	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	2	300000	Three Lac Rupees Only	600000
3	P78964	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	1	80000	Eighty Thousand Rupees Only	80000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
4	P78964	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. i. Three Phase Four Pole 200-A MCCB for Mains Supply from Utility. ii. Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. iii. Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. iv. DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter v. SPDTs, Three Phase Four Pole 150A Manual Change over Switch. Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	1	200000	Two Lac Rupees Only	200000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
5	P78964	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	150000	One Lac Fifty Thousand Rupees Only	150000
6	P78964	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	1	105000	One Lac Five Thousand Rupees Only	105000
						GRAND TOTAL:	Rs1,710,000.00

Job: DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT BUDHAPUR RAILWAY STATION OVER KARACHI DIVISION.

Specifications / Requirements:

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
1	P78964	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement	575000	Five Lac Seventy-Five Thousand Rupees Only	575000
2	P78964	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	2	300000	Three Lac Rupees Only	600000
3	P78964	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	1	80000	Eighty Thousand Rupees Only	80000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
4	P78964	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. i. Three Phase Four Pole 200-A MCCB for Mains Supply from Utility. ii. Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. iii. Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. iv. DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter v. SPDTs, Three Phase Four Pole 150A Manual Change over Switch. Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	1	200000	Two Lac Rupees Only	200000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
5	P78964	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	150000	One Lac Fifty Thousand Rupees Only	150000
6	P78964	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	1	105000	One Lac Five Thousand Rupees Only	105000
						GRAND TOTAL:	Rs1,710,000.00

Job: DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT SAN RAILWAY STATION OVER KARACHI DIVISION.

Specifications / Requirements:

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
1	P78964	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement	575000	Five Lac Seventy-Five Thousand Rupees Only	575000
2	P78964	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	2	300000	Three Lac Rupees Only	600000
3	P78964	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	1	80000	Eighty Thousand Rupees Only	80000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
4	P78964	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. i. Three Phase Four Pole 200-A MCCB for Mains Supply from Utility. ii. Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. iii. Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. iv. DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter v. SPDTs, Three Phase Four Pole 150A Manual Change over Switch. Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	1	200000	Two Lac Rupees Only	200000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
5	P78964	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	150000	One Lac Fifty Thousand Rupees Only	150000
6	P78964	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	1	105000	One Lac Five Thousand Rupees Only	105000
						GRAND TOTAL:	Rs1,710,000.00

Job: DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 15-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT MALIR CITY RAILWAY STATION OVER KARACHI DIVISION.

Specifications / Requirements:

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
1	P78964	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement	1230000	Twelve Lac Thirty Thousand Rupees Only	1230000
2	P78964	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	1	300000	Three Lac Rupees Only	300000
3	P78964	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	1	110000	One Lac Ten Thousand Rupees Only	110000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
4	P78964	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. i. Three Phase Four Pole 200-A MCCB for Mains Supply from Utility. ii. Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. iii. Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. iv. DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter v. SPDTs, Three Phase Four Pole 150A Manual Change over Switch. Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	1	240000	Two Lac Forty Thousand Rupees Only	240000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
5	P78964	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	200000	Two Lac Rupees Only	200000
6	P78964	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	1	130000	One Lac Thirty Thousand Rupees Only	130000
						GRAND TOTAL:	Rs2,210,000.00

Job: DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 15-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT DHABEJI RAILWAY STATION OVER KARACHI DIVISION.

Specifications / Requirements:

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
1	P78964	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement	1230000	Twelve Lac Thirty Thousand Rupees Only	1230000
2	P78964	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	3	300000	Three Lac Rupees Only	900000
3	P78964	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	1	110000	One Lac Ten Thousand Rupees Only	110000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
4	P78964	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. i. Three Phase Four Pole 200-A MCCB for Mains Supply from Utility. ii. Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. iii. Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. iv. DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter v. SPDTs, Three Phase Four Pole 150A Manual Change over Switch. Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	1	240000	Two Lac Forty Thousand Rupees Only	240000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
5	P78964	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	200000	Two Lac Rupees Only	200000
6	P78964	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	1	130000	One Lac Thirty Thousand Rupees Only	130000
						GRAND TOTAL:	Rs2,810,000.00

Job: DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 15-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT JUMMA GOTH RAILWAY STATION OVER KARACHI DIVISION.

Specifications / Requirements:

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
1	P78964	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement	1230000	Twelve Lac Thirty Thousand Rupees Only	1230000
2	P78964	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	4	300000	Three Lac Rupees Only	1200000
3	P78964	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	1	110000	One Lac Ten Thousand Rupees Only	110000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
4	P78964	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. i. Three Phase Four Pole 200-A MCCB for Mains Supply from Utility. ii. Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. iii. Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. iv. DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter v. SPDTs, Three Phase Four Pole 150A Manual Change over Switch. Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	1	240000	Two Lac Forty Thousand Rupees Only	240000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
5	P78964	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	200000	Two Lac Rupees Only	200000
6	P78964	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	1	130000	One Lac Thirty Thousand Rupees Only	130000
						GRAND TOTAL:	Rs3,110,000.00

Job: DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 20-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT TANDO-ADAM RAILWAY STATION OVER KARACHI DIVISION.

Specifications / Requirements:

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
1	P78964	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement	1845000	Eighteen Lac Forty-Five Thousand Rupees Only	1845000
2	P78964	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	6	300000	Three Lac Rupees Only	1800000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
3	P78964	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	1	110000	One Lac Ten Thousand Rupees Only	110000



Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
4	P78964	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. i. Three Phase Four Pole 200-A MCCB for Mains Supply from Utility. ii. Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. iii. Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. iv. DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter v. SPDTs, Three Phase Four Pole 200A Manual Change over Switch. Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	1	310000	Three Lac Ten Thousand Rupees Only	310000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
5	P78964	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	275000	Two Lac Seventy-Five Thousand Rupees Only	275000
6	P78964	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	1	145000	One Lac Forty-Five Thousand Rupees Only	145000
						GRAND TOTAL:	Rs4,485,000.00

Job: DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 25-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT DRIGH-ROAD RAILWAY STATION OVER KARACHI DIVISION.

Specifications / Requirements:

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
1	P78964	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement	2015000	Twenty Lac Fifteen Thousand Rupees Only	2015000
2	P78964	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	4	300000	Three Lac Rupees Only	1200000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
3	P78964	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	1	140000	One Lac Forty Thousand Rupees Only	140000



Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
4	P78964	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. i. Three Phase Four Pole 200-A MCCB for Mains Supply from Utility. ii. Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. iii. Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. iv. DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter v. SPDTs, Three Phase Four Pole 200A Manual Change over Switch. Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	1	365000	Three Lac Sixty-Five Thousand Rupees Only	365000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
5	P78964	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	330000	Three Lac Thirty Thousand Rupees Only	330000
6	P78964	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	1	160000	One Lac Sixty Thousand Rupees Only	160000
						GRAND TOTAL:	Rs4,210,000.00

Job: DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 30-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT KOTRI RAILWAY STATION OVER KARACHI DIVISION.

Specifications / Requirements:

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
1	P78964	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement	2307000	Twenty Three Lac Seven Thousand Rupees Only	2307000
2	P78964	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	4	300000	Three Lac Rupees Only	1200000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
3	P78964	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	1	140000	One Lac Forty Thousand Rupees Only	140000



Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
4	P78964	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. i. Three Phase Four Pole 200-A MCCB for Mains Supply from Utility. ii. Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. iii. Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. iv. DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter v. SPDTs, Three Phase Four Pole 200A Manual Change over Switch. Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	1	365000	Three Lac Sixty-Five Thousand Rupees Only	365000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
5	P78964	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	333000	Three Lac Thirty-Three Thousand Rupees Only	333000
6	P78964	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	1	160000	One Lac Sixty Thousand Rupees Only	160000
						GRAND TOTAL:	Rs4,505,000.00

Job: DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 35-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT BIN-QASIM RAILWAY STATION OVER KARACHI DIVISION.

Specifications / Requirements:

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
1	P78964	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers. Note: The Hybrid Inverter has already been installed at Bin Qasim Railway Station. Therefore, the scope under this BOQ is limited to the supply and installation of batteries and all associated equipment and works required to complete the conversion into a fully functional Hybrid Solar PV System.	Each	4	300000	Three Lac Rupees Only	1200000
2	P78964	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	1	130000	One Lac Thirty Thousand Rupees Only	130000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
3	P78964	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. i. Three Phase Four Pole 200-A MCCB for Mains Supply from Utility. ii. Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. iii. Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. iv. DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter v. SPDTs, Three Phase Four Pole 200A Manual Change over Switch. Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	1	245000	Two Lac Forty-Five Thousand Rupees Only	245000

Sr. No	Ref. No.	Description	Unit	Qty	Rate		Amount
4	P78964	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	165000	One Lac Sixty-Five Thousand Rupees Only	165000
5	P78964	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	1	145000	One Lac Forty-Five Thousand Rupees Only	145000
						GRAND TOTAL:	Rs1,885,000.00

Scope of Work

The Contractor shall be responsible for the complete **Design, Supply, Installation, Testing and Commissioning for the conversion of the existing Grid-Tied Solar Systems into Hybrid Solar PV Systems at twenty-one (21) Railway Stations over Karachi Division on a Turnkey Basis**, including all engineering, equipment, accessories, allied works, electrical works, testing, commissioning, documentation, training and warranty services required to deliver a safe, reliable and fully operational Hybrid Solar PV System.

The scope of work shall include, but shall not be limited to, the following:

1. Conduct detailed site surveys at each Railway Station and verify the existing solar PV installations, electrical infrastructure, load requirements, cable routing, equipment locations, and all site conditions before commencement of work.
2. Prepare all detailed engineering drawings, layout drawings, single-line diagrams (SLD), wiring diagrams, interconnection drawings and any other technical documentation required for successful execution of the project.
3. Supply, install, test and commission Three-Phase Hybrid Solar Inverters of suitable capacity compatible with the existing Solar PV Arrays, complete with:
 4. Built-in Online Monitoring System.
 5. Wi-Fi / LAN Monitoring Device (Dongle).
 6. IP-65 or higher enclosure.
 7. Built-in DC & AC Surge Protection Devices.

8. Anti-Islanding Protection.
9. Automatic Synchronization with Utility Grid.
10. Battery Charging and Battery Management Functions.
11. All necessary communication interfaces.
12. Minimum 10 Years Manufacturer Warranty.
13. Exception for Bin Qasim Railway Station (35 kW):
 14. The Hybrid Inverter has already been installed at Bin Qasim Railway Station. Therefore, under this station, the Contractor shall only supply, install, test and commission the remaining equipment including batteries, protection system, distribution boards, cabling, interconnections, accessories, and all other allied works required to complete the Hybrid Solar PV System.
15. Supply, install and commission Lithium-Ion Battery Energy Storage Systems (BESS) of specified capacity as mentioned in the BOQ for each station, having 05 Years Warranty.
16. Supply and install dust-proof powder-coated metallic Distribution Boards suitable for indoor/outdoor installation having IP-54 or higher protection rating, complete with all internal wiring, bus bars, terminals, gland plates, cable glands, labels and accessories.
17. Supply, install and commission all additional protection equipment required for safe conversion of Grid-Tied Solar Systems into Hybrid Solar Systems including but not limited to: Three Phase Four Pole MCCBs, Three/Four Pole MCB, DC Circuit Breakers, DC Fuses, Surge Protection Devices (AC & DC), Over Voltage Protection, Under Voltage Protection, Phase Sequence Protection, Manual Changeover Switches, Contactors, Relays, Current Transformers, Voltage Monitoring Devices, Protection Relays, Auxiliary Control Components, Terminal Blocks, Cable Lugs, All associated accessories.

18. Supply and install all additional DC and AC power cables required for integration of the Hybrid Solar System with the existing Solar PV installation and Railway electrical distribution network. Cable sizes and lengths shall be determined during site survey and shall include all cable trays, conduits, trunking, saddles, clamps, glands, lugs, connectors and accessories.
19. Carry out all required electrical wiring, control wiring, communication wiring, battery wiring and interconnections between:
- 20. Existing Solar PV Array.
 - 21. Hybrid Inverter.
 - 22. Battery Bank.,
 - 23. Utility Grid,
 - 24. Existing Electrical Panels.,
 - 25. Distribution Boards.,
 - 26. Critical Load Distribution.
27. Modify the existing electrical system wherever required to ensure complete compatibility between the existing Grid-Tied Solar System and the proposed Hybrid Solar System without affecting normal operation.
28. Execute all civil works necessary for successful installation including foundations, pedestals, supports, equipment bases, cable trenches, cable routing, wall cutting, core drilling, grouting, patch work, and restoration of existing structures to original condition.
29. Provide complete earthing and bonding for all newly installed equipment in accordance with applicable standards. Existing earthing systems shall be tested and upgraded wherever required.
30. Configure, integrate and commission the complete Hybrid Solar PV System including:

- 
31. Grid Synchronization.
 32. Battery Charging/Discharging.
 33. Changeover.
 34. Backup Operation.
 35. Load Sharing.
 36. Online Monitoring.
 37. Alarm Functions.
 38. Data Logging.mCommunication Functions. Performance Optimization.
 39. Demonstrate satisfactory operation of the complete Hybrid Solar System under Grid Mode, Solar Mode, Battery Mode in the presence of the Engineer/Employer.
 40. The Contractor shall ensure that all supplied equipment is brand new, unused, genuine and of the latest available model. Refurbished or used equipment shall not be accepted.
 41. The Contractor shall arrange transportation, loading, unloading, storage, lifting, shifting and protection of all materials and equipment until successful handing over of the project.
 42. The Contractor shall be responsible for obtaining all approvals, clearances, coordination and permissions required for execution of the works from concerned Railway authorities wherever applicable.

43. Existing Railway operations shall remain uninterrupted during execution of the works. The Contractor shall carefully plan all shutdowns, changeovers and testing activities in consultation with the Engineer.
44. The Contractor shall ensure proper housekeeping, safety arrangements, barricading, warning signs, personal protective equipment (PPE) and compliance with all applicable safety regulations throughout the execution period.
45. Any damage caused to Railway property, buildings, electrical systems, civil works or existing installations during execution shall be repaired or replaced by the Contractor at no additional cost to the Employer.
46. The Contractor shall provide complete operation and maintenance manuals, manufacturer's literature, warranty certificates, test certificates, calibration certificates (where applicable), as-built drawings, Single Line Diagrams (SLDs), wiring diagrams and all other project documentation before handing over.
47. The Contractor shall impart operational training to the Employer's operating and maintenance staff regarding system operation, monitoring, troubleshooting and routine maintenance.
48. The Contractor shall carry out successful testing and commissioning of each station individually and obtain acceptance from the Engineer before final handing over.
49. The Contractor shall provide comprehensive warranty for the complete installed system, including all supplied equipment, workmanship and accessories, and shall rectify any defects arising during the warranty period without any additional cost to the Employer.
50. The Contractor shall be responsible for complete integration of all supplied equipment into a fully functional Hybrid Solar PV System capable of automatic operation with the existing Solar PV installation, utility grid and battery energy storage system.
51. Any item, accessory, component or work not specifically mentioned in the BOQ but required for successful completion, safe operation, compliance with applicable standards and satisfactory performance of the Hybrid Solar PV System shall be deemed to

be included in the Contractor's scope of work and quoted rates without any additional payment.

52. The work shall be completed in accordance with the Technical Specifications, BOQ, Employer's Requirements and instructions of the Engineer, ensuring successful commissioning and reliable operation of all twenty-one (21) Hybrid Solar PV Systems.



Price Schedule

For Individual Jobs

#	Job Title	Quantity	Unit Price (PKR)	Total Price (PKR)	Delivery Location	Delivery Period / Year	Country of Origin
1							
2							

For Lots

#	Lot Title	Total Lot Price (PKR)	Country of Origin
1	[Lot 1 Title]		





General Conditions of Contract

A. General

1. Definitions

1.1. Unless the context otherwise requires, the following terms whenever used in this Contract shall have the same meaning and shall be interpreted as indicated

1.1.1. “Applicable Law” means the laws and any other instruments having the force of law in the Government’s Country, or in such other country as may be specified in the Special Conditions of the Contract (SC), as they may be issued and in force from time to time;

1.1.2. “The Contract” means an agreement enforceable by law;

1.1.3. “The Contract Price” means the price payable to the Contractor under the Contract for the full and proper performance of its contractual obligations;

1.1.4. “The Services” means the work to be performed by the Contractor pursuant to this Contract and as prescribed in the Specifications and Schedule of Activities included in the Contractor’s Bid;

1.1.5. “Ancillary Services” means those services ancillary to the provision of Services, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Contractor covered under the Contract;

1.1.6. “GCC” means the General Conditions of Contract contained in this section;

1.1.7. “SCC” means the Special Conditions of Contract by which the GCC may be amended or supplemented;

1.1.8. “Day” means calendar day unless indicated otherwise;

1.1.9. “Effective Date” means the date on which this Contract comes into force and effect;

1.1.10. “The Contractor” means the individual or corporate body whose Bids to provide the Services has been accepted by the Procuring Agency;

1.1.11. “The Project Site,” where applicable, means the place or places named in Bid Data Sheet and technical Specifications;

1.1.12. “Government” means the Government of Pakistan;

1.1.13. “Local Currency” means the currency of Pakistan;

1.1.14. “In Writing” means communicated in written form with proof of receipt;

1.1.15. “Completion Date” means the date of completion of the Services by the Contractor as certified by the Procuring Agency;

1.1.16. “Foreign Currency” means any currency other than the currency of the country of the Procuring Agency;

1.1.17. "Party" means the Procuring Agency or the Contractor, as the case may be, and "Parties" means both of them;

1.1.18. "Service" means any object of procurement other than goods or works;

1.1.19. "Subcontractor" means any entity to which the Bidder subcontracts any part of the Services.

2. Applicable Law

2.1. The contract shall be governed and interpreted in accordance with the laws of Pakistan, unless otherwise specified in SCC.

3. Language

3.1. The Contract as well as all correspondence and documents relating to the Contract exchanged between the Contractor and the Procuring Agency, shall be written in the **English language** unless otherwise stated in the SCC. Supporting documents and printed literature that are part of the Contract may be in another language provided these are accompanied by an accurate translation of the relevant passages in English, in which case, for purposes of interpretation of the Contract, this translation shall govern.

4. Notices

4.1. Any notice, request, or consent made pursuant to this Contract shall be in writing and shall be deemed to have been made when delivered in person to an authorized representative of the Party to whom the communication is addressed, or when sent by registered mail, telex, telegram, or facsimile to such Party at the address specified in the SCC.

5. Location

5.1. The Services shall be performed at such locations as the Procuring Agency may approve and as specified in SCC.

5.2. A {DOCUMENTS}

6. Authorized Representatives / Authority of Member in charge

6.1. Any action required or permitted to be taken, and any document required or permitted to be executed, under this Contract by the Procuring Agency or the Contractor may be taken or executed by the officials specified in the SCC.

B. Commencement, Completion, Modification, and Termination of Contract

7. Effectiveness of Contract

7.1. This Contract shall come into effect on the date the Contract is signed by both parties and such other later date as may be stated in the SCC.

8. Commencement of Services

8.1. The Contractor shall confirm availability of Key Experts and begin carrying out the Services not later than the number of days after the Effective Date specified in the SCC.

9. Program schedule

9.1. Before commencement of the Services, the Contractor shall submit to the Procuring Agency for approval a Program showing the general methods, arrangements, order and timing for all activities. The Services shall be carried out in accordance with the approved Program as updated.

10. Starting Date/Expiration Date

10.1. The Contractor shall start carrying out the Services Five (05) days after the date the Contract becomes effective, or at such other date as may be specified in the SCC.

10.2. Unless terminated earlier pursuant to Clause **GCC 14** hereof, this Contract shall expire at the end of such time period after the Effective Date as specified in the SCC.

11. Entire Agreement

11.1. This Contract contains all covenants, stipulations and provisions agreed by the Parties. No agent or representative of either Party has authority to make, and the Parties shall not be bound by or be liable for, any statement, representation, promise or agreement not set forth herein.

12. Modification

12.1. Any modification or variation of the terms and conditions of this Contract, including any modification or variation of the scope of the Services, may only be made by written agreement between the Parties. However, each Party shall give due consideration to any modification(s) or variation(s) made by the other Party.

12.2. In cases of any modification(s) or variation(s), the prior written consent of the Procuring Agency is required.

13. Force Majeure

13.1. Definition

For the purposes of this Contract, "Force Majeure" means an event which is beyond the reasonable control of a Contractor and which makes a Contractor's performance of its obligations under the Contract impossible or so impractical as to be considered impossible under the circumstances.

13.2. No Breach of Contract

The failure of a Party to fulfill any of its obligations under the contract shall not be considered to be a breach of, or default under, this Contract in so far as such inability arises from an event of Force Majeure, provided that the Party affected by such an event (a) has taken all reasonable precautions, due care and reasonable alternative

measures in order to carry out the terms and conditions of this Contract, and (b) has informed the other Party as soon as possible about the occurrence of such an event.

13.3. Extension of Time

Any period within which a Contractor shall, pursuant to this Contract, complete any action or task, shall be extended for a period equal to the time during which such Party was unable to perform such action as a result of Force Majeure.

13.4. Payments

During the period of their inability to perform the Services as a result of an event of Force Majeure, the Contractor shall be entitled to continue to be paid under the terms of this Contract, as well as to be reimbursed for additional costs reasonably and necessarily incurred by them during such period for the purposes of the Services and in reactivating the Service after the end of such period.

14. Termination

14.1. By the Procuring Agency

The Procuring Agency may terminate this Contract in case of the occurrence of any of the events specified in paragraphs (a) through (e) of this Clause. In such an occurrence the Procuring Agency shall give at least thirty (30) calendar days' written notice of termination to the Contractor in case of the events referred to in (a) through (d); at least sixty (60) calendar days' written notice in case of the event referred to in (e);

14.1.1. If the Contractor fails to remedy a failure in the performance of its obligations hereunder, as specified in a notice of suspension;

14.1.2. If the Contractor becomes (or, if the Contractor consists of more than one entity, if any of its members becomes) insolvent or bankrupt or enter into any agreements with their creditors for relief of debt or take advantage of any law for the benefit of debtors or go into liquidation or receivership whether compulsory or voluntary;

14.1.3. If the Contractor fails to comply with any final decision reached as a result of arbitration proceedings;

14.1.4. If, as the result of Force Majeure, the Contractor is unable to perform a material portion of the Services for a period of not less than sixty (60) calendar days;

14.1.5. If the Procuring Agency, in its sole discretion and for any reason whatsoever, decides to terminate this Contract;

14.2. By the Contractor

The Contractor may terminate this Contract, by not less than thirty (30) calendar days' written notice to the Procuring Agency, in case of the occurrence of any of the events specified in paragraphs (a) through (d) of this Clause.

14.2.1. If the Procuring Agency fails to pay any money due to the Contractor pursuant to this Contract and not subject to dispute within forty-five (45) calendar days after receiving written notice from the Contractor that such payment is overdue;

14.2.2. If, as the result of Force Majeure, the Contractor is unable to perform a material portion of the Services for a period of not less than sixty (60) calendar days;

14.2.3. If the Procuring Agency fails to comply with any final decision reached as a result of arbitration;

14.2.4. If the Procuring Agency is in material breach of its obligations pursuant to this Contract and has not remedied the same within forty-five (45) days (or such longer period as the Bidder may have subsequently approved in writing) following the receipt by the Procuring Agency of the Contractor's notice specifying such breach.

C. Obligations of the Contractor

15. General

15.1. Standard of Performance

15.1.1. The Contractor shall perform the Services and carry out the Services with all due diligence, efficiency and economy, in accordance with generally accepted professional standards and practices, and shall observe sound management practices, and employ appropriate technology and safe and effective equipment, machinery, materials and methods. The Contractor shall always act, in respect of any matter relating to this Contract or to the Services, as a faithful adviser to the Procuring Agency, and shall at all times support and safeguard the Procuring Agency's legitimate interests in any dealings with the third parties;

15.1.2. The Contractor shall employ and provide such qualified and experienced Experts and Sub-Contractors as are required to carry out the Services.

15.2. Law Applicable to Services

The Contractor shall perform the Services in accordance with the Contract and in accordance with the Law of Pakistan and shall take all practicable steps to ensure that any of its Experts and Sub-Bidders, comply with the Applicable Law.

16. Conflict of Interests

16.1. Contractor Not to Benefit from Commissions and Discounts

The remuneration of the Contractor shall constitute the Contractor's sole remuneration in connection with this Contract or the Services, and the Contractor shall not accept for their own benefit any trade commission, discount, or similar payment in connection with activities pursuant to this Contract or to the Services or in the discharge of their obligations under the Contract, and the Contractor shall use their best efforts to ensure that the Personnel, any Subcontractors, and agents of either of them similarly shall not receive any such additional remuneration.

16.2. Contractor and Affiliates Not to be Otherwise Interested in Project

The Contractor agree that, during the term of this Contract and after its termination, the Contractor and its affiliates, as well as any Subcontractor and any of its affiliates, shall be disqualified from providing Services (other than the Services and any continuation thereof) for any project resulting from or closely related to the Services.

16.3. Prohibition of Conflicting Activities

Neither the Bidder nor its Subcontractors nor the Personnel shall engage, either directly or indirectly, in any of the following activities:

16.3.1. during the term of this Contract, any business or professional activities in the Government's country which would conflict with the activities assigned to them under this Contract;

16.3.2. during the term of this Contract, neither the Contractor nor their Subcontractors shall hire public employees in active duty or on any type of leave, to perform any activity under this Contract;

16.3.3. after the termination of this Contract, such other activities as may be specified in the SCC.

17. Insurance to be Taken Out by the Contractor

17.1. The Contractor(a) shall take out and maintain, and shall cause any Subcontractors to take out and maintain, at its (or the Sub-contractors', as the case may be) own cost but on terms and conditions approved by the Procuring Agency, insurance against the risks, and for the coverage, as shall be specified in the SCC; and (b) at the Procuring Agency's request, shall provide evidence to the Procuring Agency showing that such insurance has been taken out and maintained and that the current premiums have been paid.

18. Contractor's Actions Requiring Procuring Agency's Prior Approval

18.1. The Contractor shall obtain the Procuring Agency's prior approval in writing before taking any of the following actions:

18.1.1. appointing such members of the Personnel not provided by the Contractor;

18.1.2. changing the Program of activities; and

18.1.3. any other action that may be specified in the SCC.

19. Reporting Obligations

19.1. The Contractor shall submit to the Procuring Agency the reports and documents in the numbers, and within the periods as prescribed by the Procuring Agency.

20. Liquidated Damages

20.1. Payments of Liquidated Damages

The Contractor shall pay liquidated damages to the Procuring Agency at the rate per day stated in the SCC for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount defined in the SCC. The Procuring Agency may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities.

20.2. Correction for Over-payment

If the Intended Completion Date is extended after liquidated damages have been paid, the Procuring Agency shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The

Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in SCC.

20.3. Lack of performance penalty

If the Contractor has not corrected a Defect within the time specified in the Procuring Agency's notice, a penalty for Lack of performance will be paid by the Contractor. The amount to be paid will be calculated as a percentage of the cost of having the Defect corrected, assessed as specified in the Contractor

21. Performance Guarantee

21.1. Within the time stipulated in the acceptance letter from the Procuring Agency, the successful Bidder shall furnish the Performance Guarantee in shape and amount **specified in SCC.**

21.2. The proceeds of the Performance Guarantee shall be payable to the Procuring agency as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

21.3. The Performance Guarantee shall be denominated in the currency of the Contract, or in a freely convertible currency acceptable to the Procuring agency and shall be in the acceptable form as specified in SCC.

21.4. The Performance Guarantee will be discharged by the Procuring agency and returned to the Supplier not later than thirty (30) days following the date of completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless otherwise **specified in SCC.**

22. Sustainable Procurement

22.1. The Contractor shall conform to the sustainable procurement contractual provisions, if and as specified in the SCC.

D. Contractor's Personnel

23. Description of Personnel

23.1. The titles, agreed job descriptions, minimum qualifications, and estimated periods of engagement in the carrying out of the Services of the Contractor's Key Personnel. The Key Personnel listed by title as well as by name are hereby approved by the Procuring Agency.

24. Removal and / or Replacement of Personnel

24.1. Except as the Procuring Agency may otherwise agree, no changes shall be made in the Key Personnel. If, for any reason beyond the reasonable control of the Contractor, it becomes necessary to replace any of the Key Personnel, the Contractor shall provide as a replacement a person of equivalent or better qualifications.

24.2. If the Procuring Agency finds that any of the Personnel have (i) committed serious misconduct or have been charged with having committed a criminal action, or (ii) have reasonable cause to be dissatisfied with the performance of any of the Personnel, then the Contractor shall, at the Procuring Agency's written request specifying the grounds thereof, provide as a replacement a person with qualifications and experience acceptable to the Procuring Agency.

24.3. The Contractor shall have no claim for additional costs arising out of or incidental to any removal and/or replacement of Personnel.

E. Obligations of the Procuring Agency

25. Change in the Applicable Law

25.1. If, after the date of this Contract, there is any change in the Applicable Law with respect to taxes and duties which increases or decreases the cost of the Services rendered by the Contractor, then the remuneration and reimbursable expenses otherwise payable to the Contractor under this Contract shall be increased or decreased accordingly by agreement between the Parties, and corresponding adjustments shall be made to the amounts referred in the SCC.

26. Services and Facilities

26.1. The Procuring Agency shall make available to the Contractor and the Experts, for the purposes of the Services and free of any charge, the services, facilities and property described in the Terms of Reference, at the times and in the manner specified in the Terms of Reference.

26.2. In case that such services, facilities and property shall not be made available to the Contractor, the Parties shall agree on (i) any time extension that it may be appropriate to grant to the Contractor for the performance of the Services, (ii) the manner in which the Contractor shall procure any such services, facilities and property from other sources, and (iii) the additional payments, if any, to be made to the Contractor as a result thereof.

F. Payments to the Contractor

27. Contract Price

27.1. The price payable shall be in Pakistani Rupees unless otherwise specified in the SCC.

28. Terms and Conditions of Payment

28.1. Payments will be made to the Contractor according to the payment schedule stated in the SCC and as per actual invoice submitted by the Contractor.

28.2. Unless otherwise stated in the SCC, the advance payment shall be made against the provision by the Contractor of a bank guarantee for the same amount, and shall be valid for the period stated in the SCC. Any other payment shall be made after the conditions listed in the SCC for such payment have been met, and the Contractor have submitted an invoice to the Procuring Agency specifying the amount due.

29. Quality Control Identifying Defects

29.1. The principle and modalities of Inspection of the Services by the Procuring Agency shall be as indicated in the SCC. The Procuring Agency shall check the Contractor's performance and notify him of any Defects that are

found. Such checking shall not affect the Contractor's responsibilities. The Procuring Agency may instruct the Contractor to search for a Defect and to uncover and test any service that the Procuring Agency considers may have a Defect. Defect Liability Period is as defined in the SCC.

29.2. A {INSPECTION}

30. Correction of Defects, and Lack of Performance Penalty

30.1. The Procuring Agency shall give notice to the contractor of any Defects before the end of the Contract. The Defects liability period shall be extended for as long as Defects remain to be corrected.

30.2. Every time notice a Defect is given; the contractor shall correct the notified Defect within the length of time specified by the Procuring Agency's notice.

30.3. If the contractor has not corrected a Defect within the time specified in the Procuring Agency's notice, the Procuring Agency will assess the cost of having the Defect corrected, the contractor will pay this amount, and a Penalty for Lack of Performance.

31. Settlement of Disputes Amicable Settlement

31.1. The Parties shall use their best efforts to settle amicably all disputes arising out of or in connection with this Contract or its interpretation.

32. Dispute Settlement

32.1. Arbitration

If any dispute of any kind whatsoever shall arise between the procuring agency and the contractor in connection with or arising out of the Contract, including without prejudice to the generality of the foregoing, any question regarding its existence, validity or termination, or the execution of the contract, the parties shall seek to resolve any such dispute or difference by mutual consultation. If the parties fail to resolve such a dispute or difference even after negotiations or mediation, then the dispute shall be referred within fourteen (14) days in writing by either party to the Arbitrator, with a copy to the other party.

Any dispute in respect of which a notice of intention to commence arbitration has been given, in accordance with **GCC sub-clause 32.1**, shall be finally settled by arbitration. Arbitration may be commenced prior to or after completion of the Contract. Arbitration proceedings shall be conducted in accordance with Arbitration Act 1940. Notwithstanding any reference to arbitration herein, the parties shall continue to perform their respective obligations under the Contract unless otherwise agreed. The Procuring Agency shall continue to pay the Contractor any undisputed amounts due under the Contract during the resolution of any dispute.



Special Conditions of Contract

SECTION VIII. 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 Conditions of Contract. The corresponding clause number of the GCC is indicated in parentheses.

Number of GC Clause

Amendments of, and Supplements to, Clauses in the General Conditions of Contract

Number of GC Clause 1

Definitions

The Procuring Agency is: Divisional Superintendent, Pakistan Railways, Karachi Division (Electrical Departement), Divisional Electrical Engineer/Power Divisional Superintendent Office Pakistan Railways, I.I Chundrigar Road Karachi, Sindh (Province).

The Supplier is:

The title of the subject procurement is: DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING GRID-TIED SOLAR SYSTEMS INTO HYBRID SOLAR SYSTEMS AT 21 NOS RAILWAY STATIONS ACROSS KARACHI DIVISION ON A TURNKEY BASIS.

Number of GC Clause 2

Applicable/Governing Law:

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

Number of GC Clause 3

Language:

The language of the Contract, all correspondence and communications to be given, and all other documentation to be prepared and supplied under the Contract shall be in **English**.

Number of GC Clause 4

Notices:

The addresses for the notices are:

Procuring Agency:

Divisional Superintendent, Pakistan Railways, Karachi Division (Electrical Departement), Divisional Electrical Engineer/Power
Divisional Superintendent Office Pakistan Railways, I.I Chundrigar Road Karachi, Sindh (Province).
+92-315-362-1303
deepkc@pakrail.gov.pk

Contractor/ Bidder:

[Name, address and telephone number]

The Contractor/ Bidder's Representative(s)

[Name, address, telephone number and e-mail address]

Number of GC Clause 6.1

The Authorized Representatives are:

For the Procuring Agency:

Divisional Superintendent, Pakistan Railways, Karachi Division (Electrical Departement), Divisional Electrical Engineer/Power

Divisional Superintendent Office Pakistan Railways, I.I Chundrigar Road Karachi, Sindh (Province).

+92-315-362-1303

deepkc@pakrail.gov.pk

For the Bidder:

Name:

Designation:

Address:

Number of GC Clause 7

Effectiveness of the contract

The Contractor/Bidder shall be effective within days from the date of signature of the Contract by both parties

Number of GC Clause 8

Commencement of Contract:

The Contractor/Bidder shall provide Non-Consultancy Services from the effective date of contract.

Number of GC Clause 10.2

Expiration of Contract:

The time period shall be

Number of GC Clause 14

Termination

In the event of termination of the contract due to any reason as already defined in the General Conditions of Contract, the Bidder shall be responsible for providing to the Authority the Goods till the time of alternate arrangements.

Number of GC Clause 16

Conflict of Interest:

The Procuring Agency reserves the right to determine on a case-by-case basis whether the Bidder should be disqualified from providing goods or services due to a conflict of a nature described in Clause GCC 17.

Number of GC Clause 20

Liquidated Damages

If the Bidder fails to provide services as required under the contract or in case of any data loss/data breach or any incident compromising the data security or other such failures related to any services, the Bidder shall pay to the Procuring Agency as Liquidated Damages at a rate of **0.50% to 10.00%** of the Contract value, in accordance with the extent of performance failure & the cost of investigating such incidents as judged by the Authority.

Number of GC Clause 21

Performance Guarantee:

The amount of performance guarantee shall be **5.00%** of the contract price in acceptable form of **Pay Order, Call at Deposit, Bank Guarantee**

Number of GC Clause 27

Currency of Payment:

All the payment to be released to the contractor/Bidder shall be in Pakistani Rupees.

Number of GC Clause 28

Payment terms:

Payment will be made to the Bidder against the procured Goods and services according to the actual invoice or running bills submitted by the Bidder against the services provided within the time given in the conditions of the contract.

Number of GC Clause 29

Identifying Defects:

The Authority reserves the right at any time to inspect the premises of the provider to inspect the goods and monitor the goods being provided.

Inspections & Tests Requirements

For the Country of Origin as quoted by the Supplier (Certificate from manufacturer)

For conformance to specifications and performance parameters, through Prior to delivery inspection (Inspection Report by Procurement Committee / Inspection Team)

For successful operation at site after complete installation, testing and commissioning of the equipment (Installation, Testing and Commissioning Report by Procurement Committee / Inspection Team)

Tests and Inspections: The Purchaser/Employer reserves the right to have the testing and verification of any equipment, material, or installation carried out (at the time of delivery, during or at the end of ITC with

access to drawing and production data) by a third-party inspection agency at any stage of the project. Such testing, if conducted, shall be at the expense of the Contractor/Successful Bidder.

Delivery & Documents

Copies of the Supplier's invoice showing Goods' description, quantity, unit price, and total amount;

Copies of the packing list identifying contents of each package;

Manufacturer's or Supplier's Valid Warranty Certificate;

Inspection Certificate issued by the Nominated Inspection Agency (if any), and the Supplier's Factory Inspection Report;

Certificate of Origin.

The above documents would be required even if the equipment has already been imported and is available with the supplier ex-stock

Number of GC Clause 31

Following is the guidance for Dispute Resolution

- i. If any dispute of any kind whatsoever shall arise between the Authority and the Bidder in connection with or arising out of the Contract... (full clause unchanged)
- ii. At future of negotiation the dispute shall be resolved through mediation...
- iii. At failure of mediation, arbitration under Arbitration Act 1940...
- iv. Cost sharing equally...
- v. Proceedings may commence before/after completion...

Notwithstanding any reference to the arbitration herein, the parties shall continue to perform their respective obligations under the Contract.

Rules of procedure for arbitration proceedings:

Any dispute between the Authority and a Bidder shall be referred to arbitration under the laws of Pakistan including Arbitration Act 1940.

Place of Arbitration and Award:

The arbitration shall be conducted in English language and place shall be Islamabad. The award shall be final and binding.



Bid Securing Declaration

Form 9: Bid Securing Declaration

Date: *[insert date (as day, month and year)]*

Bid No.: **P78964**

To: **Divisional Superintendent, Pakistan Railways, Karachi Division (Electrical Departement), Divisional Electrical Engineer/Power Divisional Superintendent Office Pakistan Railways, I.I Chundrigar Road Karachi, Sindh (Province).**

We, the undersigned, declare that:

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

We accept that we will be blacklisted and henceforth cross debarred for participating in respective category of public procurement proceedings for a period of (not more than) six months, if fail to abide with a bid securing declaration, however without indulging in corrupt and fraudulent practices, if we are in breach of our obligation(s) under the Bid conditions, because we:

1. have withdrawn or modified our Bid during the period of Bid Validity specified in the Form of Bid;
2. Disagreement to arithmetical correction made to the Bid price; or
3. having been notified of the acceptance of our Bid by the Procuring Agency during the period of Bid Validity, (i) failure to sign the contract if required by Procuring Agency to do so or (ii) fail or refuse to furnish the Performance Security or to comply with any other condition precedent to signing the contract specified in the Bidding Documents.

We understand this Bid Securing Declaration shall expire if we are not the successful

Bidder, upon the earlier of (i) our receipt of your notification to us of the name of the successful Bidder; or (ii) twenty-eight (28) days after the expiration of our Bid.



Contract Form

SECTION IX: CONTRACT FORMS

THIS AGREEMENT made the ____ day of _____ 20____ between **Divisional Superintendent, Pakistan Railways, Karachi Division (Electrical Departement), Divisional Electrical Engineer/Power Divisional Superintendent Office Pakistan Railways, I.I Chundrigar Road Karachi, Sindh (Province).**

(hereinafter called “the Procuring Agency”) of the one part and [name of Bidder] of [city and country of Bidder] (hereinafter called “the Bidder”) of the other part:

WHEREAS the Procuring Agency invited Bids for provision of goods, viz., **DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING GRID-TIED SOLAR SYSTEMS INTO HYBRID SOLAR SYSTEMS AT 21 NOS RAILWAY STATIONS ACROSS KARACHI DIVISION ON A TURNKEY BASIS. (P78964)** and has accepted a Bids by the Bidder for the provision of Goods in the sum of [contract price in words and figures] (hereinafter called “the Contract Price”).

NOW THIS CONTRACT WITNESSETH AS FOLLOWS:

1. In this Contract words and expressions shall have the same meanings 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 Contract, In the event of any ambiguity or conflict between the Contract Documents listed below, the order of precedence shall be the order in which the Contract Documents are listed below:-

1. This form of Contract;
2. the Form of Bids and the Price Schedule submitted by the Bidder;
3. the Schedule of Requirements;
4. the Technical Specifications;
5. the Special Conditions of Contract;
6. the General Conditions of the Contract;
7. the Procuring Agency’s Letter of Acceptance; and
8. [add here: any other documents]

3. In consideration of the payments to be made by the Procuring Agency to the Bidder as hereinafter mentioned, the Bidder hereby covenants with the Procuring Agency to provide the Goods related services and to remedy defects therein in conformity in all respects with the provisions of the Contract.

4. The Procuring Agency hereby covenants to pay the Bidder in consideration of the provision of Goods and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the contract at the times and in the manner prescribed by the contract.

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

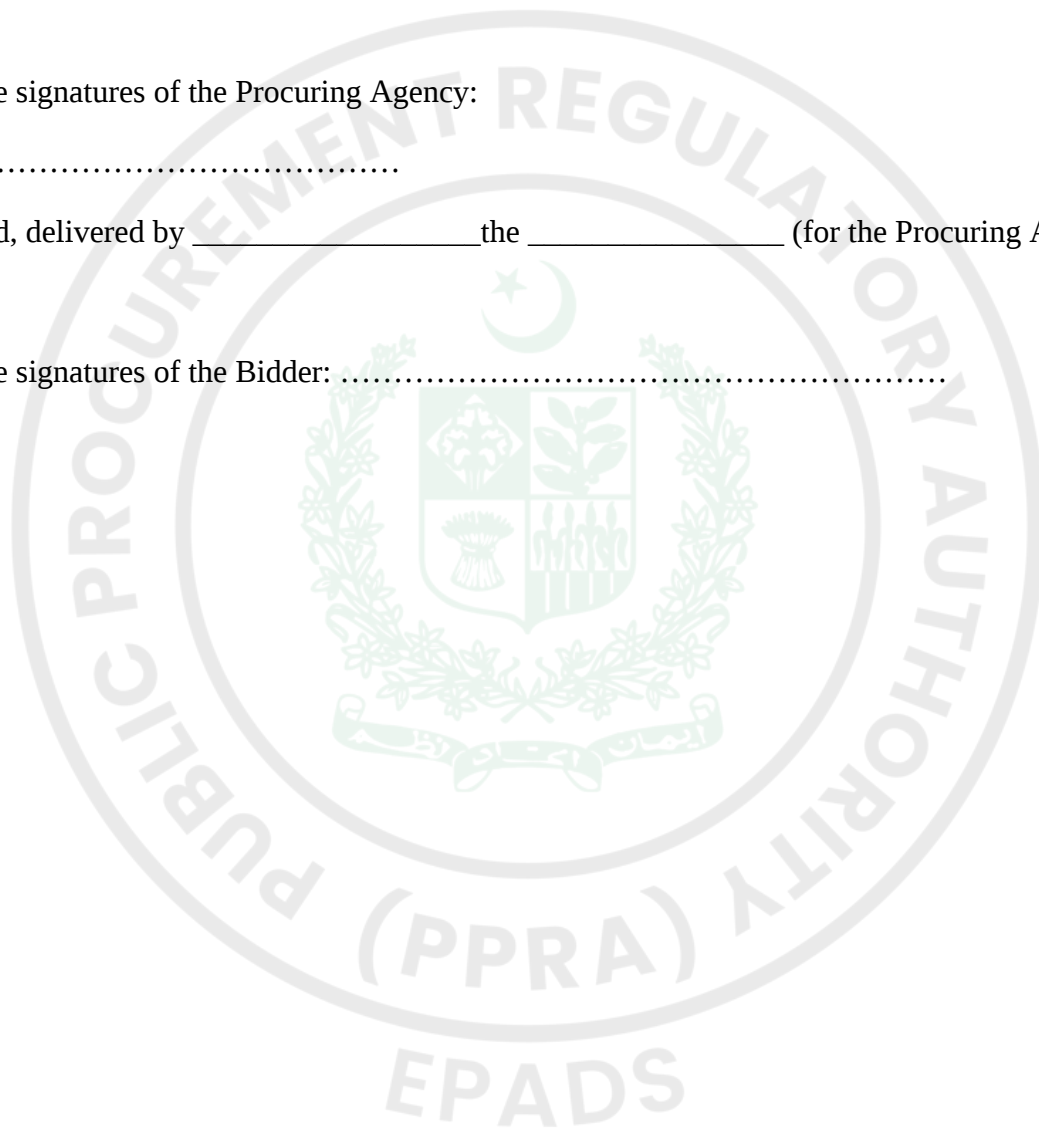
Signed, sealed, delivered by _____ the _____ (for the Procuring Agency)

Witness to the signatures of the Procuring Agency:

.....

Signed, sealed, delivered by _____ the _____ (for the Procuring Agency)

Witness to the signatures of the Bidder:





Integrity Pact

Integrity Pact

DECLARATION OF FEES, COMMISSION AND BROKERAGE ETC. PAYABLE BY THE SUPPLIERS OF GOODS, SERVICES & WORKS IN CONTRACTS WORTH RS.10.00 MILLION OR MORE

Contract

Number: Contract

Value: Contract Title:

Dated:

[Name of Supplier] hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Pakistan or any administrative subdivision or agency thereof or any other entity owned or controlled by it (GoP) through any corrupt business practice.

Without limiting the generality of the foregoing [Name of Supplier] represents and warrants that it has fully declared the brokerage, commission, fee etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultations 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 GoP, except that which has been expressly declared pursuant hereto.

[Name of Supplier] 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 GoP and has not taken any action or will not take any action to circumvent the above declaration, representative or warranty.

[Name of Supplier] accepts full responsibility and strict liability for making and false declaration, not making full disclosure, misrepresenting fact 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 right and remedies available to GoP under any law, contract or other instrument, be voidable at the option of GoP.

Notwithstanding any rights and remedies exercised by GoP in this regard, [Name of Supplier] agrees to indemnify GoP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GoP in an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by [Name of Supplier] 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 GoP.



Performance Guarantee Form

Performance Guarantee Form

To: **Divisional Superintendent, Pakistan Railways, Karachi Division (Electrical Department), Divisional Electrical Engineer/Power Divisional Superintendent Office Pakistan Railways, I.I Chundrigar Road Karachi, Sindh (Province).**

WHEREAS *[name of Bidder]* (hereinafter called “the Bidder”) has undertaken, in pursuance of Contract No. *[reference number of the contract]* dated *[insert date]* for provision of Goods (hereinafter called “the Contract”).

AND WHEREAS it has been stipulated by you in the said Contract that the Bidder shall furnish you with a Bank Guarantee by a reputable bank for the sum specified therein as security for compliance with the Bidder’s performance obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the Bidders guarantee:

THEREFORE, WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Bidder, up to a total of *[amount of the guarantee in words and figures]*, and we undertake to pay you, upon your first written demand declaring the Bidder to be in default under the Contract and without cavil or argument, any sum or sums within the limits of *[amount of guarantee]* as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the: *[insert date]*

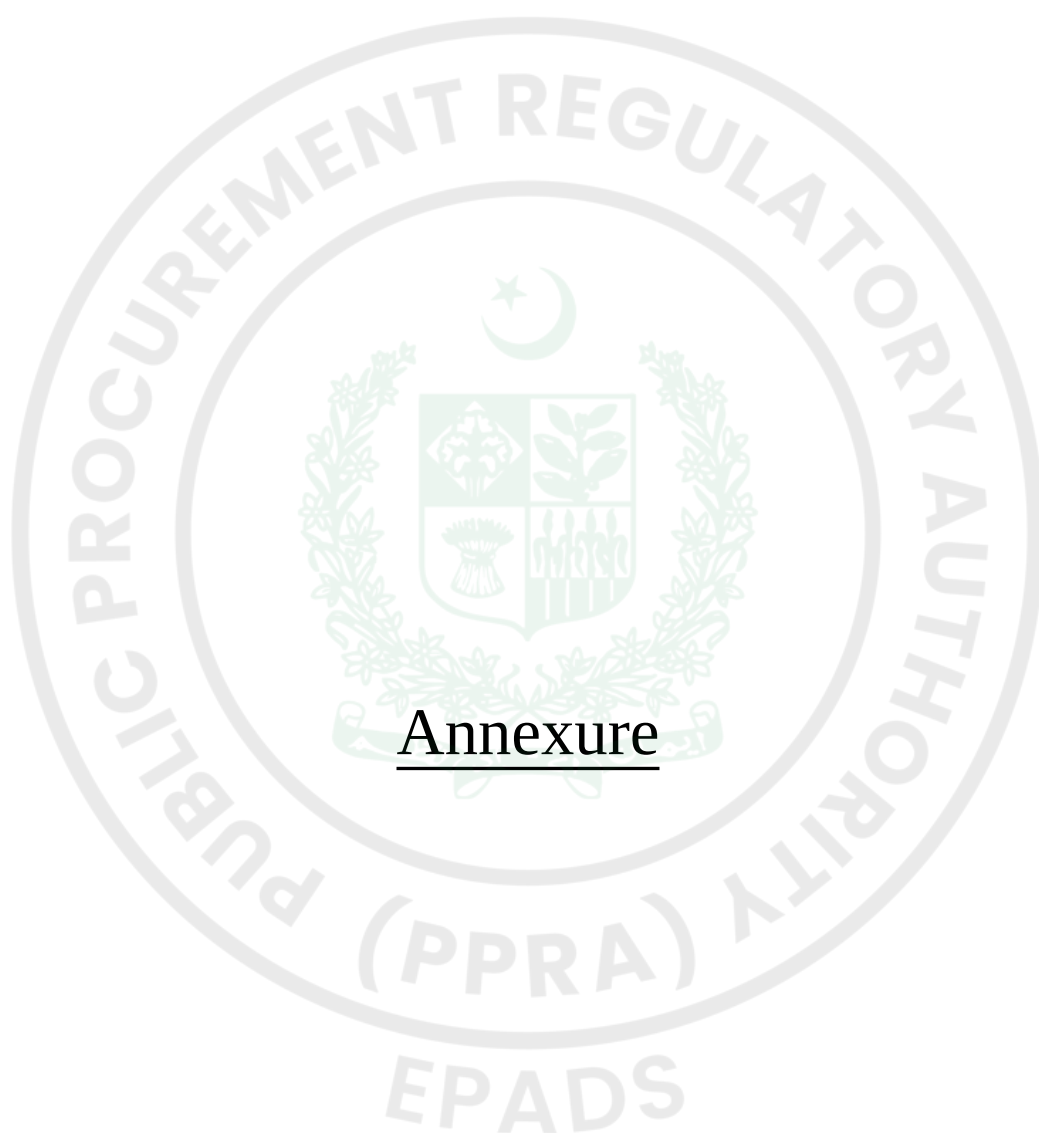
Signature and seal of the Guarantors

[name of bank or financial institution]

[address]

[date]





Annexure

Technical Proposal

Technical Proposal

Technical Submission (Vendor)

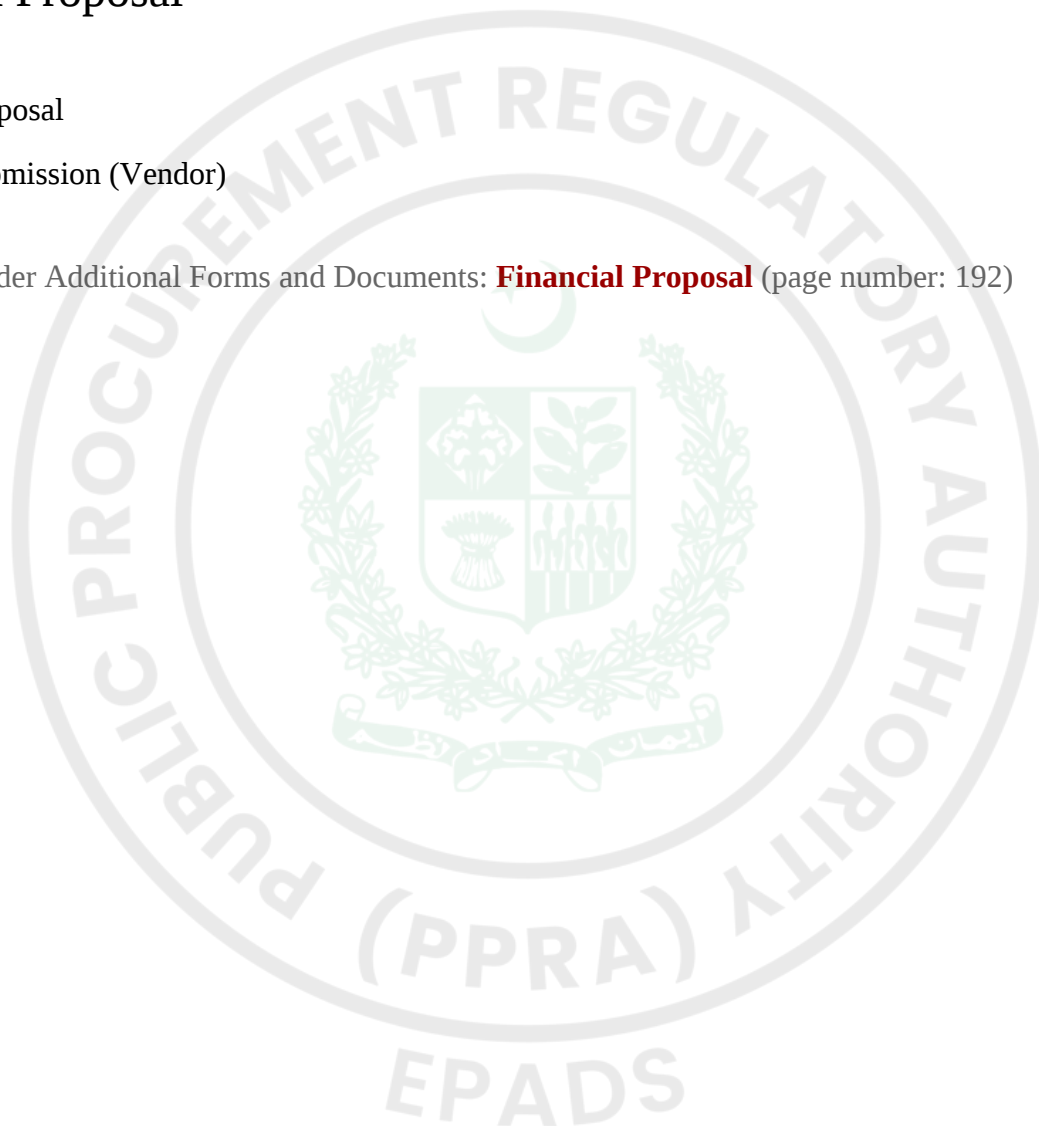
See Form Under Additional Forms and Documents: **Technical Proposal** (page number: 155)

Financial Proposal

Financial Proposal

Financial Submission (Vendor)

See Form Under Additional Forms and Documents: **Financial Proposal** (page number: 192)





Procurement Forms

Contractor's Key Personnel Representative and Their Schedules

Professional Capabilities (Marks=15)

Marking for personal capabilities of the firms shall be evaluated on the basis of following criteria.

S. no	Description	Max Marks
i.	BSc. Electrical Engineer, minimum experience of 2 Years or more	11
ii.	One DAE Electrical, with minimum experience of 2 Years	4
	Total Marks.	15

Form For List of Graduate Engineers / Designer

S.No	Name	Qualification	Experience

Form For List of Diploma / Associate Engineers

S.No	Name	Qualification	Experience

See Form Under Additional Forms and Documents: **Contractor's Key Personnel Representative and Their Schedules** (page number: 219)

Past Experience and Completed Contracts

Experience-Related Mandatory Requirements|

1. Completion of Similar Projects:

- The bidder must have successfully completed at least three (02) similar projects during the last five(05) years.
- A similar project is defined as the Supply, Installation, Testing and Commissioning (SITC/ITC) of Hybrid/On-Grid/Off-Grid Solar Systems. Each project must have a minimum contract value of PKR 05.00 million.

2. Proof of Project Completion

- Documentary evidence in the form of Completion Certificates must be provided for each similar project.

Form for List of completed Solar PV Project during last five years

S. No	Project Title	Value of Project (in Pak Rs)	Year of completion	

3.Experience Criteria Marks (60)

- Completion of 2similar projects = 30
- Completion of 3similar projects = 45
- Completion of 4or more similar projects= 60

See Form Under Additional Forms and Documents: **Past Experience and Completed Contracts** (page number: 223)

Average Annual Turnover

Financial Capabilities (25 Marks)

Marking for financial position of the firm shall be evaluated on the basis of the following criteria.

S. no	Description	Max Marks
i.	Works Turnover (Attach three-year Audit Report) Less than Rs. 10.00 Million= 10 Marks Between Rs. 10.00 Million and Rs. 20.00 Million=15 Marks Between Rs. 20.00 Million and Rs. 30.00 Million=20 Marks Above Rs. 30.00 Million =25 Marks	25
	Total Marks.	25

Form Tech-6

Financial Capabilities

Name of Firm:

Annual Turnover

For the year (amount in Million Pak. Rs)		
2022-23	2023-24	2024-25

Note:

1. For assessment purpose, average turnover of last three years shall be considered.
2. For Joint Venture, average turnover will be summed up for evaluation.
3. Audited Report of last three years must be attached.

(In case of Joint Venture, please provide above information for all partners)

See Form Under Additional Forms and Documents: **Average Annual Turnover** (page number: 224)





Additional Forms and Documents

M/s _____



PAKISTAN RAILWAYS

Karachi Division.

TENDER DOCUMENTS

For

**DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING
FOR CONVERSION OF EXISTING GRID-TIED SOLAR SYSTEMS INTO
HYBRID SOLAR SYSTEMS AT 21 NOS RAILWAY STATIONS ACROSS
KARACHI DIVISION ON A TURNKEY BASIS.**

On

Single Stage-Two Envelope Basis

TECHNICAL PROPOSAL

Volume 1 of 2

Tender No. 258-W/Genl/Solar/RS-4

**DIVISIONAL SUPERINTENDENT OFFICE
PAKISTAN RAILWAYS
KARACHI**

WARRANTY CERTIFICATE

Tender Name: **DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR
CONVERSION OF EXISTING GRID-TIED SOLAR SYSTEMS INTO HYBRID
SOLAR SYSTEMS AT 21 NOS RAILWAY STATIONS ACROSS KARACHI
DIVISION ON A TURNKEY BASIS.**

Tender No: **258-W/Genl/Solar/RS-4**

I/We, the undersigned, hereby certify, declare, and undertake that, if awarded the Contract, I/We shall comply with the following warranty obligations:

1. I/We warrant that all equipment, materials, and accessories supplied under the Contract shall strictly conform to the technical specifications, drawings, and other requirements stipulated in the Bidding Documents.
2. I/We further warrant that all equipment and materials supplied shall be brand new, unused, of the latest design and manufacture, and free from defects in design, material, workmanship, and manufacturing.
3. I/We undertake that, during the warranty period, any equipment, component, or material found to be defective due to faulty design, material, workmanship, manufacturing defects, or failure to meet the specified performance requirements under normal operating and maintenance conditions shall be repaired or replaced at my/our own cost, without any additional cost to the Procuring Agency.
4. I/We undertake to furnish a Warranty/Guarantee for the Inverter for a period of Ten (10) years and for the Lithium Ion Battery for a period of Five (05) years from the date of successful Installation, Testing and Commissioning (ITC).
5. I/We acknowledge that my/our liability under this warranty shall be limited to the repair or replacement of defective equipment, components, or materials supplied under the Contract and shall not exceed the value of the defective item(s). However, I/We shall remain liable for any direct damages sustained by the Procuring Agency due to failure of the supplied equipment to comply with the warranties provided herein, excluding consequential or indirect damages.
6. I/We further certify that the above warranty obligations shall remain valid notwithstanding the completion of supply or acceptance of the equipment and shall be fulfilled in accordance with the terms and conditions of the Contract.

I/We hereby certify that the above declarations are true and correct and shall form an integral part of my/our Bid and, upon acceptance, shall become binding obligations under the Contract.

Authorized Signatory: _____

Name: _____

Designation: _____

Name of Bidder/Firm: _____

Company Seal: _____

Date: _____

**ADDITIONAL
PARTICULAR CONDITIONS
OF
CONTRACT**

ADDITIONAL **PARTICULAR CONDITIONS OF** **CONTRACT**

The following SCCs/PCCs are addition to those in Standard Bidding Documents generated by EPADS 2.0 and shall supplement the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

Number of GC Clause

The Purchaser is: Divisional Superintendent, Pakistan Railways, Karachi.

Number of GC Clause

The Site is: **21 Nos. Railway Stations, List attached as Annexure – A.**

Number of GC Clause

For notices, the Purchaser's address shall be:

Attention: Divisional Superintendent, Pakistan Railways, Karachi

Address: Divisional Superintendent Office, Pakistan Railways, Karachi.

City: *Karachi*

Country: *Pakistan*

Telephone: + 921-99213516

[Addresses of the Supplier shall be entered before signing the Contract]

Number of GC Clause

The formal mechanism for the resolution of disputes shall be as follows:

- a. The rights and obligations of the Parties under or pursuant to these Conditions shall be governed and construed according to the Law of Islamic Republic of Pakistan.
- b. The dispute shall be referred to CEO / Sr. GM, Pakistan Railways being sole arbitrator for arbitration and finally settled in Lahore, Pakistan in accordance with the Arbitration Act, 1940, and any amendment or substitution thereof. The decision of the arbitrator (s) shall be final and shall not be challenged or assailed in any court on any ground whatsoever except under Arbitration Act 1940.

Number of GC Clause

1. The Contractor shall design/supply/install/test/commission the equipment/system at each station as specified in Annexure-A. The contractor will ensure that he/she will supply the original, newly manufactured product as per approved specifications. No refurbished/reconditioned or used product will be accepted.

Number of GC Clause

1. Details of shipping and other documents to be furnished by the Supplier. *The bidder will also provide Operation and Maintenance manuals and drawings/diagrams for the system.* The contractor shall provide detailed technical specifications which should be self-explanatory of the equipment to

be supplied with the offering bid to establish the compliance of the supplied equipment with approved specifications.

Number of GC Clause

Payments shall be released as per submitted collective Invoice of not less than PKR 5.000 million each. Once the items are delivered and its Station wise ITC has been carried out successfully, the payment shall be made after submission of an invoice or request for payment by the Supplier, subject to verification and acceptance by the purchaser.

Number of GC Clause

The transportation of the equipment safely up to the site is responsibility of the bidder. All the transportation charges of the goods upto the sites shall be borne by the Supplier

Number of GC Clause

Tests and Inspections: The Purchaser/Employer reserves the right to have the testing and verification of any equipment, material, or installation carried out (at the time of delivery, during or at the end of ITC with access to drawing and production data) by a third-party inspection agency at any stage of the project. Such testing, if conducted, shall be at the expense of the Contractor/Successful Bidder.

Number of GC Clause

The period of validity of the warranty of equipment shall be as specified in BOQ or Warranty Certificate Specimen attached with these bidding documents.

i.e. (Warranty for the Inverter for a period of Ten (10) years and for the Lithium Ion Battery for a period of Five (05) years from the date of successful Installation, Testing and Commissioning (ITC).)

Number of GC Clause

The Supplier shall correct any defects covered under the Warranty within 10 Working Days on the occurrence of such defects.

Number of GC Clause

Pakistan Railways will be entitled to carry out random testing of supplied material from any agency on expense of supplier.

Number of GC Clause

The Contractor shall be responsible for replacing parts or equipment or any component of Supplied System that becomes defective during DLP (____ no of days (As specified in SBD generated by EPADS 2.0) from date of completion of the project).

Number of GC Clause

As specified in SBD generated by EPADS 2.0

GENERAL INFORMATION OF BIDDER

Advertised Tender No.

1	Name of Firm					
2	Office Address					
3	Mobile No.					
4	Telephone No.					
5	E. Mail					
6	Web Site					
7	Sale Tax Registration No.					
8	National Tax No.					
9	Past Experience of relevant field if any	<table border="1"><tr><td>1.</td></tr><tr><td>2.</td></tr><tr><td>3.</td></tr><tr><td>4.</td></tr></table>	1.	2.	3.	4.
1.						
2.						
3.						
4.						
10	Past Experience of Supply to Railways if Any	<table border="1"><tr><td>1.</td></tr><tr><td>2.</td></tr><tr><td>3.</td></tr><tr><td>4.</td></tr></table>	1.	2.	3.	4.
1.						
2.						
3.						
4.						

Name of Firm: _____

Authorized Signature of Bidder: _____

Stamp & Date: _____

LIST OF STATIONS/SITES

The stations listed below are equipped with existing On-Grid Solar PV Systems of the respective capacities indicated against each station. The scope of this tender includes the design, supply, installation, testing, commissioning, and conversion of these existing On-Grid Solar Systems into Hybrid Solar Systems in accordance with the technical specifications and Bill of Quantities (BOQ).

S.No.	Station Name	Capacity (kW)	S.No.	Station Name	Capacity (kW)
1	Drigh Road	25	12	Aladino Sand	10
2	Malir City	15	13	Pali Jani	10
3	Jumma Goth	15	14	Odero Lal	10
4	Bin Qasim	35	15	Wahab Shah	10
5	Dhabeji	15	16	Tando Adam	20
6	Ranpathani	10	17	Sindh University	10
7	Jungshahi	8	18	Buddhapur	10
8	Jhampir	7	19	Khannote	10
9	Bolari	10	20	Gopang	10
10	Kotri	30	21	SAN	10
11	Detha	10	-----	-----	-----
Total Capacity (kW)			290		

TECHNICAL PROPOSAL

TECHNICAL PROPOSAL - Part-1

Name of Bidder_____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 07-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT JHAMPIR RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.			
	Description	Unit	Qty	Brand Name /Country of Origin & Technical Data
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement	
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. s: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	02	
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01	
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: • Three Phase Four Pole 200-A MCCB for Mains Supply from Utility • Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. • Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. • DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter • SPDs, Three Phase Four Pole 150A Manual Change over Switch. Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01	
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01	

Bidder Signature

TECHNICAL PROPOSAL - Part-2

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 08-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT JUNGSHAHI RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.			
	Description	Unit	Qty	Brand Name /Country of Origin & Technical Data
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1.	Each	As per System Capacity requirement	
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	02	
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01	
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: • Three Phase Four Pole 200-A MCCB for Mains Supply from Utility • Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. • Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. • DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter • SPDTs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01	
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01	

Bidder Signature _____

TECHNICAL PROPOSAL - Part-3

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT ALADINO SAND RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.			
	Description	Unit	Qty	Brand Name /Country of Origin & Technical Data
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement	
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	01	
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01	
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: • Three Phase Four Pole 200-A MCCB for Mains Supply from Utility • Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. • Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. • DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter • SPDs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01	
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01	

Bidder Signature

TECHNICAL PROPOSAL - Part-4

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT DETHA RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.			
	Description	Unit	Qty	Brand Name /Country of Origin & Technical Data
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement	
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	01	
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01	
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01	
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01	

Bidder Signature

TECHNICAL PROPOSAL - Part-5

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT GOPANG RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.			
	Description	Unit	Qty	Brand Name /Country of Origin & Technical Data
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement	
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	01	
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01	
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01	
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01	

Bidder Signature

TECHNICAL PROPOSAL - Part-6

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT KHANNOTE RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.			
	Description	Unit	Qty	Brand Name /Country of Origin & Technical Data
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement	
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	01	
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01	
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01	
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01	

Bidder Signature

TECHNICAL PROPOSAL - Part-7

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT ODERO LAL STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.			
	Description	Unit	Qty	Brand Name /Country of Origin & Technical Data
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement	
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	01	
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01	
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01	
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01	

Bidder Signature

TECHNICAL PROPOSAL - Part-8

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT PALI JANI RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.			
	Description	Unit	Qty	Brand Name /Country of Origin & Technical Data
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement	
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	01	
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01	
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: • Three Phase Four Pole 200-A MCCB for Mains Supply from Utility • Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. • Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. • DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter • SPDs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01	
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01	

Bidder Signature

TECHNICAL PROPOSAL - Part-9

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT SINDH UNIVERSITY RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.			
	Description	Unit	Qty	Brand Name /Country of Origin & Technical Data
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement	
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	01	
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01	
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: • Three Phase Four Pole 200-A MCCB for Mains Supply from Utility • Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. • Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. • DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter • SPDs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01	
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01	

Bidder Signature

TECHNICAL PROPOSAL - Part-10

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT WAHAB SHAH RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.			
	Description	Unit	Qty	Brand Name /Country of Origin & Technical Data
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement	
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	01	
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01	
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: • Three Phase Four Pole 200-A MCCB for Mains Supply from Utility • Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. • Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. • DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter • SPDs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01	
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01	

Bidder Signature

TECHNICAL PROPOSAL - Part-11

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT RANPATHANI RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.			
	Description	Unit	Qty	Brand Name /Country of Origin & Technical Data
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement	
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	02	
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01	
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: • Three Phase Four Pole 200-A MCCB for Mains Supply from Utility • Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. • Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. • DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter • SPDs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01	
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01	

Bidder Signature

TECHNICAL PROPOSAL - Part-12

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT BOLARI RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.			
	Description	Unit	Qty	Brand Name /Country of Origin & Technical Data
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement	
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	02	
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01	
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01	
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01	

Bidder Signature

TECHNICAL PROPOSAL - Part-13

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT BUDHAPUR RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.			
	Description	Unit	Qty	Brand Name /Country of Origin & Technical Data
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement	
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	02	
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01	
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: • Three Phase Four Pole 200-A MCCB for Mains Supply from Utility • Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. • Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. • DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter • SPDs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01	
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01	

Bidder Signature

TECHNICAL PROPOSAL - Part-14

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT SAN RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.			
	Description	Unit	Qty	Brand Name /Country of Origin & Technical Data
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement	
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	02	
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01	
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: • Three Phase Four Pole 200-A MCCB for Mains Supply from Utility • Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. • Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. • DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter • SPDs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01	
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01	

Bidder Signature

TECHNICAL PROPOSAL - Part-15

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 15-KW GRID-TIED SOLAR SYSTEMS INTO HYBRID SOLAR SYSTEMS AT MALIR CITY RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.]			
	Description	Unit	Qty	Brand Name /Country of Origin & Technical Data
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement	
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	01	
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01	
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: • Three Phase Four Pole 200-A MCCB for Mains Supply from Utility • Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. • Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. • DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter • SPDs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01	
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01	

Bidder Signature

TECHNICAL PROPOSAL - Part-16

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 15-KW GRID-TIED SOLAR SYSTEMS INTO HYBRID SOLAR SYSTEMS AT DHABEJI RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.			
	Description	Unit	Qty	Brand Name /Country of Origin & Technical Data
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement	
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	03	
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01	
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: • Three Phase Four Pole 200-A MCCB for Mains Supply from Utility • Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. • Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. • DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter • SPDTs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01	
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01	

Bidder Signature

TECHNICAL PROPOSAL - Part-17

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 15-KW GRID-TIED SOLAR SYSTEMS INTO HYBRID SOLAR SYSTEMS AT JUMMA-GOTH RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.			
	Description	Unit	Qty	Brand Name /Country of Origin & Technical Data
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement	
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	04	
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01	
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: • Three Phase Four Pole 200-A MCCB for Mains Supply from Utility • Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. • Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. • DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter • SPDTs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01	
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01	

Bidder Signature

TECHNICAL PROPOSAL - Part-18

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 20-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT TANDO-ADAM RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.			
	Description	Unit	Qty	Brand Name /Country of Origin & Technical Data
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement	
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	06	
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01	
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: • Three Phase Four Pole 200-A MCCB for Mains Supply from Utility • Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. • Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. • DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter • SPDs, Three Phase Four Pole 200A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01	
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01	

Bidder Signature

TECHNICAL PROPOSAL - Part-19

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 25-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT DRIGH-ROAD RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.			
	Description	Unit	Qty	Brand Name /Country of Origin & Technical Data
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement	
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	04	
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01	
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: • Three Phase Four Pole 200-A MCCB for Mains Supply from Utility • Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. • Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. • DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter • SPDs, Three Phase Four Pole 200A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01	
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01	

Bidder Signature _____

TECHNICAL PROPOSAL - Part-20

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 30-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT KOTRI RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.			
	Description	Unit	Qty	Brand Name /Country of Origin & Technical Data
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement	
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	04	
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01	
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: • Three Phase Four Pole 200-A MCCB for Mains Supply from Utility • Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. • Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. • DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter • SPDs, Three Phase Four Pole 200A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01	
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01	

Bidder Signature

TECHNICAL PROPOSAL - Part-21

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 35-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT BIN-QASIM RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.			
	Description	Unit	Qty	Brand Name /Country of Origin & Technical Data
1.1	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	04	
1.2	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01	
1.3	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 200A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01	
1.4	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement	
1.5	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01	
Note: The Hybrid Inverter has already been installed at Bin Qasim Railway Station. Therefore, the scope under this BOQ (i.e TECHNICAL PROPOSAL - Part-21) is limited to the supply and installation of batteries and all associated equipment and works required to complete the conversion into a fully functional Hybrid Solar PV System.				

Bidder Signature

BID EVALUATION CHECKLIST

BID EVALUATION OF THE TENDER FOR THE PROVISION, INSTALLATION AND COMMISSIONING OF SOLAR SYSTEM

S#.	CRITERION	YES / NO	REMARKS
1	Has the bidder attached/enclosed original bid security in the favour of DAO/Karachi / PR in form of CDR/Pay Order/Bank Guarantee with the technical proposal?		
2	Has the bidder confirmed Railway Specifications/Requirements/Descriptions as stipulated in this tender?		
3	Is the bid validity according to the tender clause?		
4	Has the bidder confirmed completion schedule as per Schedule - B?		
5	Is the offer un-conditional?		
6	Has the bidder indicated its National Tax Number?		
7	Is the bidder certified with Alternative Energy Development Board (AEDB) / PPIB and Pakistan Engineering Council (PEC) in the category mentioned in eligibility criteria?		
8	Is the bidder's name included on ATL of FBR?		
9	Has the bidder provided undertaking that his firm / JV Partner is not involved in any kind of litigation with Pakistan Railways. Moreover, the bidder will not sublet / subcontract any firm on this project which is involved in litigation with Pakistan Railways. The undertaking is to be provided on judicial E-stamp paper.		

Evaluation Criteria

1. General

The Technical proposal of the Bidders shall be evaluated for the post-qualification of bidders based on the criteria given in succeeding paras regarding the Bidders Basic Eligibility, Work Experience, Personnel Capabilities, and Financial Soundness.

2. Weightage/Marks

The weightage/ distribution of the marks of following sections shall be as given below:-

- | | |
|----------------------------|----|
| i. Work Experience | 60 |
| ii. Personnel Capabilities | 15 |
| iii. Financial Soundness | 25 |

3. Mandatory Requirement

The Firms fulfilling the following Mandatory requirements shall only be considered for further evaluation (relevant documents to be attached).

- The bidder shall provide documentary evidence of Pakistan Engineering Council (PEC) registration in Financial Category C-5 or higher and PPIB Certification in Category C-2 or above.
- Firms must have Proof of Registration of Income Tax Department, and the Bidders must be on the Active Taxpayers list.
- Firms must provide an affidavit on legal stamp paper, declaring that the Firm has never been blacklisted by any Government/ Semi Government, Autonomous or State-Owned Organization and that their cases regarding blacklisting are not under trial in any Court of Law.
- Firms must attach Audit Report for Last 3 Financial Years i.e. FY 2023-23, 2023-24 & 2024-25.
- Firms must have proof of Completion of at least Two (02) Similar Projects during the last 05 years, Similar projects means Solar PV Projects (On Grid / Hybrid), each of minimum Rs. 5.00 million, in last five years.
- Original Bid Security amounting to **Rs. 889,300/- (Eight Lac Eighty-Nine Thousand Three Hundred Rupees Only.)** in the shape of Deposit at Call Receipt/ Bank Guarantee in favor of Divisional Accounts Officer Pakistan Railways Karachi., from any Scheduled Bank in Pakistan, to be attached with technical proposal.
- In case of Joint Venture, the JV Agreement between all the firms, showing the Lead Firm and Partner firm, must be attached.

4. Relevant Work Experience

Marking for work experience of the firms shall be evaluated as per following criteria.

Marking for work experience of the firms shall be evaluated as per following criteria.		
Sr. No.	Description	Max. Marks
1	Experience of completion of Projects of Similar Nature (As defined in Para 3(e) of mandatory requirement) will be evaluated as follows:- a) For Two Projects = 30 Marks b) For Three Projects = 45 Marks c) Four and above = 60 Marks	60
Total Marks		60

Note:-Proof of projects completed shall be in the shape of completion certificate.

5. Professional Capabilities

Marking for personal capabilities of the firms shall be evaluated on the basis of following criteria.

S. no	Description	Max Marks
i.	BSc. Electrical Engineer, minimum experience of 2 Years or more	11
ii.	One DAE Electrical, with minimum experience of 2 Years	4
	Total Marks.	15

6. Financial Capabilities

Marking for financial position of the firm shall be evaluated on the basis of the following criteria.

S. no	Description	Max Marks
i.	Works Turnover (Attach three-year Audit Report) Less than Rs. 10.00 Million= 10 Marks Between Rs. 10.00 Million and Rs. 20.00 Million=15 Marks Between Rs. 20.00 Million and Rs. 30.00 Million=20 Marks Above Rs. 30.00 Million =25 Marks	25
	Total Marks.	25

7. Qualification Marks.

All the Bidding Firms / JV partners must secure at least 60% marks for Technical Qualification in the Tender.

Form Tech-1

List of completed Solar PV Project during last five years

S. No	Project Title	Value of Project (in Pak Rs)	Year of completion

Form Tech-2

Detail of completed Project

(Please fill the Form Tech-2 for each completed project separately)

Project Title:	Value of the Project (in Pak Rs):
Country: Location within country:	Completion Period (months):
Name of Client:	
Start date (month/year): Completion date (month/year):	Design Capacity (Kw): On Grid or Hybrid:
Mode of Project execution: <i>(EPC, PPP, BOT, BOOT, Lease or any other mode)</i>	
Narrative description of Project:	

Bidder Signature

\

Bidder Signature



Form Tech-5

CV of graduate Engineer and Diploma / Associate Engineer

(Please fill the Form Tech-8 for each individual separately)

1. Name of Person: _____
2. Name of Employer Firm: _____
3. Date of Birth: _____
4. Nationality: _____
5. CNIC No: _____
6. Education:

<i>Degree</i>	<i>Major/Minor</i>	<i>Institution</i>	<i>Date (MM/YYYY)</i>

7. Membership of Professional Associations: _____

8. Employment Record

[Starting with present position, list in reverse order every employment held by staff member, giving for each employment (see format here below): dates of employment, name of employing organization, positions held.]:

<i>Employer</i>	<i>Position</i>	<i>From (MM/YYYY)</i>	<i>To (MM/YYYY)</i>

9. Certification:

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience. I understand that any willful misstatement described herein may lead to my disqualification or dismissal, if engaged.

Date:

Day/Month/Year

[Signature of staff member or authorized representative]

Full name of authorized representative:

Note:

CVs must be signed by the Professional staff themselves or by the authorized official of the firm.

Bidder Signature

Form Tech-6

Financial Capabilities

Name of Firm: _____

Annual Turnover

For the year (amount in Million Pak. Rs)		
2022-23	2023-24	2024-25

Note:

1. For assessment purpose, average turnover of last three years shall be considered.
2. For Joint Venture, average turnover will be summed up for evaluation.
3. Audited Report of last three years must be attached.

(In case of Joint Venture, please provide above information for all partners)

Bidder Signature

TECHNICAL SPECIFICATIONS OF SOLAR ENERGY SYSTEM

The following are the minimum technical specifications of the equipment being parts of the solar PV System that shall be installed at the premises.

1. Inverters:

Performance and Rating Requirements:

The inverter shall be three phase Hybrid with minimum IP65 protection having CEC efficiency of not less than 94% and output frequency of 50Hz. The cumulative capacity of inverter shall be according to the total solar PV capacity to be installed and inverter's minimum input voltage shall be as per array specific design. Under all scenarios, the DC to AC ratio of the inverter shall not be more than 1.1.

The inverters shall have multiple MPPT inputs for 3-phase inverters. The Total Harmonic Distortion shall be less than 3%. The ambient operating temperature range of Inverter shall be between -25°C to 60°C. [Three phase inverters must have Diesel Generator Synchronization module for seamless integration with Generators].

Protection and Safety Requirements:

The inverter shall have AC overcurrent protection, residual current monitoring, DC reverse polarity protection, DC insulation resistance detection, PV array string fault monitoring, anti- islanding protection and Type-2 or better DC and AC SPDs. The inverter must have anti PID module to limit the harmful effects of Potential Induced Degradation of PV Modules. Inverters shall have a built-in data logger; communication interface protections and remote monitoring capability. It shall be compliant with UL 1741, IEC 62109-1/2 for safety design. AFCI compliance shall also be required.

Warranty Requirements :

As specified in warranty Certificates

2. DC cables, AC cables, Earthing wires, conduits, connectors, cable trays etc.

Copper cables with purity of 99.9 % or more with XLPO insulation and rated for 1500 V shall be used. Cables shall be low smoke Halogen free along with compliance with BS 6004, BS 7644 and UL 4703 standards. Minimum size for DC cables shall be of sizes as given in the Bills of Quantities. Under all conditions, for DC cables, voltage drop shall be less than 0.5% at STC Power and for AC cables voltage drop shall be less than 1% at STC power. 6 mm² earth wires for equipotential and lighting protection (where required) bonding shall be used. Separate DC and AC earthing each with 3 ohm or lesser resistance shall be achieved using the earthing arrangement (bore or rod type).

Perforated cable trays of 16 gauge or thicker and UPVC/corrugated PVC pipes shall be installed with seamless terminations. The cable tray shall not be physically accessible for routine works. Flexible pipes, glands, conduits, cables ducts shall be installed as per Employer Design. Conduits shall have 30% or higher spare capacity. Labeling of all cables shall be performed in compliance with IEC Standard 62491.

a) Breakers, Surge Arrester, LV Panel etc.

Circuit breaker, Protection devices and Non-Isolated Lightning Arrestors shall be installed as per Employer Design. MCB/MCCB Circuit breaker for each string shall be rated for more than 1.5 times the STC current rating of the string. Under all circumstances circuit breaker rating must be less than the fuse rating of PV Module.

In case of installation of LV panel, the panel shall be IP65 rated of galvanized material with at least 16 gauge. The panel shall have protection scheme compliant with IEC Standard 62548, input and output circuit breakers as per IEC Standards, bus bar current bearing capacity as per requirement, and isolators for bus bars and AC grounding bus bar. The panel shall have digital Ammeter and Voltmeter, RYB indicator with breather vents on both sides of cabinets with RAL Color: 6021. For cable trays 5WG gauge of 16 with at least 60 microns of zinc coating shall be ensured.

Operation Manual: An Operation, Instruction and Maintenance Manual along with diagrams of the equipment and system, in English shall be provided with the Solar PV System. The detailed diagram(s) of wiring and connection diagrams shall also be provided with the manual.

Note: Various components of solar PV system shall additionally be conformed to the relevant national / international electrical safety standards wherever applicable.

M/s _____



PAKISTAN RAILWAYS

Pakistan Railways, Karachi.

**DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING
FOR CONVERSION OF EXISTING GRID-TIED SOLAR SYSTEMS INTO
HYBRID SOLAR SYSTEMS AT 21 NOS RAILWAY STATIONS ACROSS
KARACHI DIVISION ON A TURNKEY BASIS.**

On

Single Stage-Two Envelope Basis

VOLUME 2 OF 2

(Financial Proposal Format)

Tender No. 258-W/Genl/Solar/RS-4

**OFFICE OF THE DIVISIONAL SUPERINTENDENT
PAKISTAN RAILWAYS
KARACHI**

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Description	Page No.
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FORM OF BID

Form

FINANCIAL PROPOSAL

Supply & Installation of Solar System



FORM OF BID
AND
FINANCIAL PROPOSAL FORMAT



Form of Bid

Date: _____

Bid Reference No. _____

To:

**Divisional Superintendent
Pakistan Railways,
Karachi.**

Subject: **DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING
FOR CONVERSION OF EXISTING GRID-TIED SOLAR SYSTEMS INTO
HYBRID SOLAR SYSTEMS AT 21 NOS RAILWAY STATIONS ACROSS
KARACHI DIVISION ON A TURNKEY BASIS.**

Gentleman,

I/We, the undersigned, declare that:

- (a) I/We have examined and have no reservations to the Bidding Document, including Addenda No.: _____;
- (b) I/We offer to execute the subject works in conformity with the Bidding Document and in accordance with the Completion Period.
- (c) The total price of my/our Bid is: _____;
- (d) My/Our Bid shall be valid for a period of _____ days from the date fixed for the bid submission deadline in accordance with the Bidding Document, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
- (e) If my/our Bid is accepted, we commit to obtain a Performance Security in the amount of 05% of the Contract Price for the due performance of the Contract.
- (f) I/We am/are not participating, as Bidders, in more than one Bid in this bidding process.
- (g) My/Our firm, its affiliates or subsidiaries, including any subcontractors or suppliers for any part of the Contract, has not been declared ineligible by the Purchaser.
- (h) I/We, the understand that this Bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal Contract is prepared and executed.
- (i) I/We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

- (j) I/We agree to permit the Purchaser or its representative to inspect our accounts and records and other documents relating to the bid submission and to have them audited by auditors appointed by the Bank.

Name _____

In the capacity of _____

Signed _____

Duly authorized to sign the Bid for and on behalf of _____

Date _____

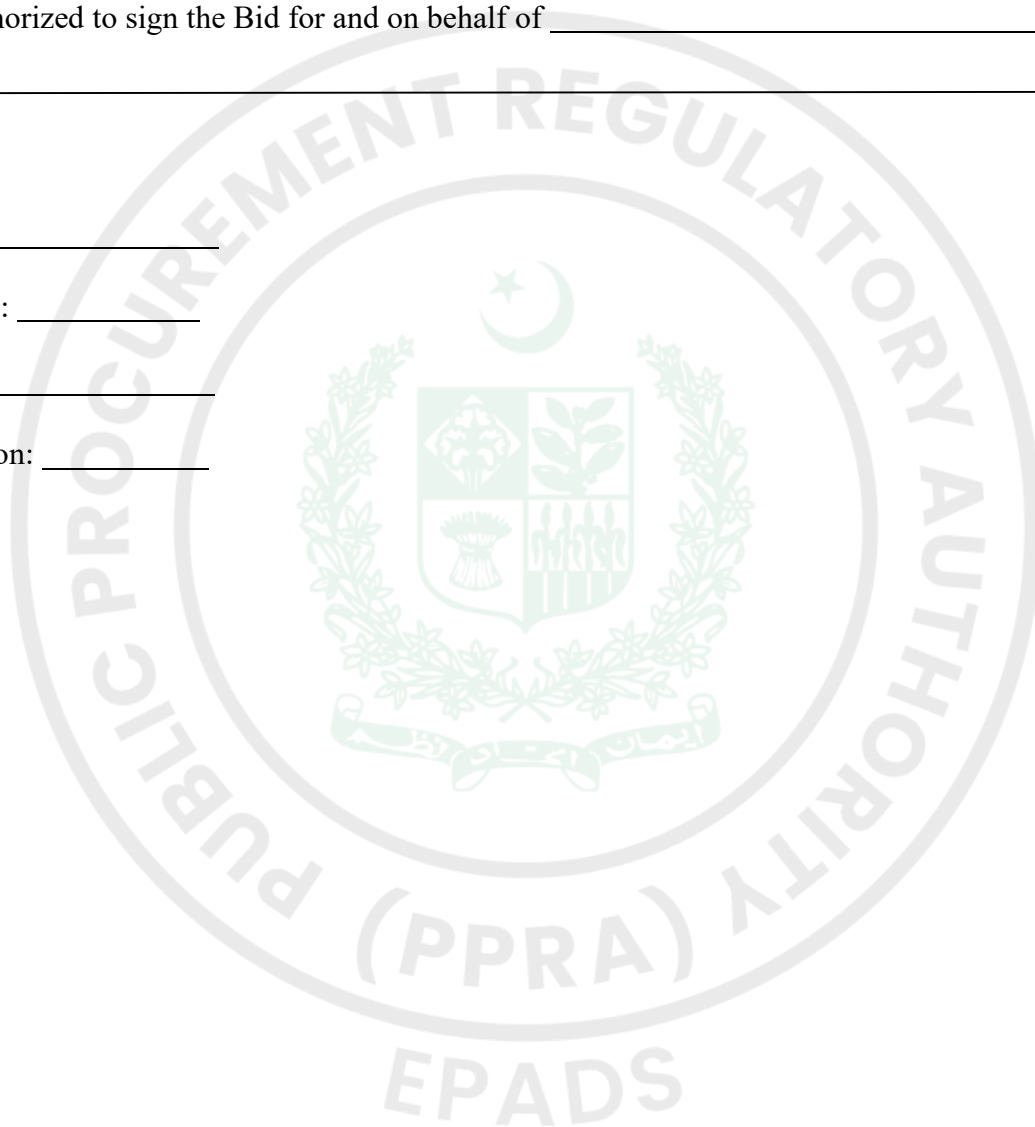
Witness:

Name: _____

Signature: _____

Address: _____

Occupation: _____



FINANCIAL PROPOSAL

Summary

S.No.	Station Name	Capacity (kW)	Amount Quoted (Rs.)
1	Drigh Road	25	
2	Malir City	15	
3	Jumma Goth	15	
4	Bin Qasim	35	
5	Dhabeji	15	
6	Ranpathani	10	
7	Jungshahi	8	
8	Jhampir	7	
9	Bolari	10	
10	Kotri	30	
11	Detha	10	
12	Aladino Sand	10	
13	Pali Jani	10	
14	Odero Lal	10	
15	Wahab Shah	10	
16	Tando Adam	20	
17	Sindh University	10	
18	Buddhapur	10	
19	Khannote	10	
20	Gopang	10	
21	SAN	10	
Grand Total (Rs).			

Bidder Signature

FINANCIAL PROPOSAL

FINANCIAL PROPOSAL - Part-1

Name of Bidder_____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 07-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT JHAMPIR RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.				
	Description	Unit	Qty	Amount (Rs.)	
				In Figures	In Words
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement		
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	02		
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01		
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01		
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement		
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01		
GRAND TOTAL OF QUOTED AMOUNT (RS.)					

Bidder Signature

FINANCIAL PROPOSAL - Part-2

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 08-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT JUNGSHAHI RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.				
	Description	Unit	Qty	Amount (Rs.)	
				In Figures	In Words
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement		
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	02		
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01		
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01		
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement		
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01		
GRAND TOTAL OF QUOTED AMOUNT (RS.)					

Bidder Signature

FINANCIAL PROPOSAL - Part-3

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEMS INTO HYBRID SOLAR SYSTEMS AT ALADINO SAND RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). <u>NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.</u>				
	Description	Unit	Qty	Amount (Rs.)	
				In Figures	In Words
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement		
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	01		
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01		
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01		
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement		
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01		
GRAND TOTAL OF QUOTED AMOUNT (RS.)					

Bidder Signature _____

FINANCIAL PROPOSAL - Part-4

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEMS INTO HYBRID SOLAR SYSTEMS AT DETHA RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.				
	Description	Unit	Qty	Amount (Rs.)	
				In Figures	In Words
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement		
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	01		
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01		
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01		
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement		
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01		
GRAND TOTAL OF QUOTED AMOUNT (RS.)					

Bidder Signature _____

FINANCIAL PROPOSAL - Part-5

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEMS INTO HYBRID SOLAR SYSTEMS AT GOPANG RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.				
	Description	Unit	Qty	Amount (Rs.)	
				In Figures	In Words
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement		
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	01		
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01		
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01		
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement		
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01		
GRAND TOTAL OF QUOTED AMOUNT (RS.)					

Bidder Signature _____

FINANCIAL PROPOSAL - Part-6

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEMS INTO HYBRID SOLAR SYSTEMS AT KHANNOTE RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.				
	Description	Unit	Qty	Amount (Rs.)	
				In Figures	In Words
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement		
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	01		
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01		
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01		
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement		
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01		
GRAND TOTAL OF QUOTED AMOUNT (RS.)					

Bidder Signature _____

FINANCIAL PROPOSAL - Part-7

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEMS INTO HYBRID SOLAR SYSTEMS AT ODERO LAL RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.				
	Description	Unit	Qty	Amount (Rs.)	
				In Figures	In Words
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement		
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	01		
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01		
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01		
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement		
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01		
GRAND TOTAL OF QUOTED AMOUNT (RS.)					

Bidder Signature _____

FINANCIAL PROPOSAL - Part-8

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEMS INTO HYBRID SOLAR SYSTEMS AT PALI JANI RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.				
	Description	Unit	Qty	Amount (Rs.)	
				In Figures	In Words
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement		
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	01		
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01		
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01		
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement		
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01		
GRAND TOTAL OF QUOTED AMOUNT (RS.)					

Bidder Signature _____

FINANCIAL PROPOSAL - Part-9

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEMS INTO HYBRID SOLAR SYSTEMS AT SINDH UNIVERSITY RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.				
	Description	Unit	Qty	Amount (Rs.)	
				In Figures	In Words
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement		
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	01		
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01		
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01		
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement		
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01		
GRAND TOTAL OF QUOTED AMOUNT (RS.)					

Bidder Signature

FINANCIAL PROPOSAL - Part-10

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEMS INTO HYBRID SOLAR SYSTEMS AT WAHAB SHAH RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.				
	Description	Unit	Qty	Amount (Rs.)	
				In Figures	In Words
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity Requirement		
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	01		
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01		
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01		
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement		
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01		
GRAND TOTAL OF QUOTED AMOUNT (RS.)					

Bidder Signature

FINANCIAL PROPOSAL - Part-11

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEMS INTO HYBRID SOLAR SYSTEMS AT RANPATHANI RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.				
	Description	Unit	Qty	Amount (Rs.)	
				In Figures	In Words
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement		
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	02		
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01		
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01		
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement		
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01		
TOTAL AMOUNT QUOTED FOR ONE STATION (RS.)					

Bidder Signature _____

FINANCIAL PROPOSAL - Part-12

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEMS INTO HYBRID SOLAR SYSTEMS AT BOLARI RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.				
	Description	Unit	Qty	Amount (Rs.)	
				In Figures	In Words
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement		
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	02		
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01		
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01		
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement		
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01		
TOTAL AMOUNT QUOTED FOR ONE STATION (RS.)					

Bidder Signature

FINANCIAL PROPOSAL - Part-13

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEMS INTO HYBRID SOLAR SYSTEMS AT BUDHAPUR RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.				
	Description	Unit	Qty	Amount (Rs.)	
				In Figures	In Words
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement		
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	02		
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01		
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01		
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement		
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01		
TOTAL AMOUNT QUOTED FOR ONE STATION (RS.)					

Bidder Signature _____

FINANCIAL PROPOSAL - Part-14

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 10-KW GRID-TIED SOLAR SYSTEMS INTO HYBRID SOLAR SYSTEMS AT SAN RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.				
	Description	Unit	Qty	Amount (Rs.)	
				In Figures	In Words
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement		
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	02		
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01		
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01		
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement		
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01		
TOTAL AMOUNT QUOTED FOR ONE STATION (RS.)					

Bidder Signature _____

FINANCIAL PROPOSAL - Part-15

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 15-KW GRID-TIED SOLAR SYSTEMS INTO HYBRID SOLAR SYSTEMS AT MALIR CITY RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.				
	Description	Unit	Qty	Amount (Rs.)	
				In Figures	In Words
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement		
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	01		
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01		
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01		
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement		
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01		
GRAND TOTAL OF QUOTED AMOUNT (RS.)					

Bidder Signature _____

FINANCIAL PROPOSAL - Part-16

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 15-KW GRID-TIED SOLAR SYSTEMS INTO HYBRID SOLAR SYSTEMS AT DHABEJI RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.				
	Description	Unit	Qty	Amount (Rs.)	
				In Figures	In Words
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement		
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	03		
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01		
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01		
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement		
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01		
GRAND TOTAL OF QUOTED AMOUNT (RS.)					

Bidder Signature _____

FINANCIAL PROPOSAL - Part-17

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 15-KW GRID-TIED SOLAR SYSTEMS INTO HYBRID SOLAR SYSTEMS AT JUMMA-GOTH RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.				
	Description	Unit	Qty	Amount (Rs.)	
				In Figures	In Words
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement		
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	04		
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01		
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 150A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01		
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement		
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01		
GRAND TOTAL OF QUOTED AMOUNT (RS.)					

Bidder Signature _____

FINANCIAL PROPOSAL - Part-18

Name of Bidder_____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 20-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT TANDO-ADAM RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.				
	Description	Unit	Qty	Amount (Rs.)	
				In Figures	In Words
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement		
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	06		
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01		
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 200A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01		
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement		
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01		
GRAND TOTAL OF QUOTED AMOUNT (RS.)					

Bidder Signature

FINANCIAL PROPOSAL - Part-19

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 25-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT DRIGH-ROAD RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.				
	Description	Unit	Qty	Amount (Rs.)	
				In Figures	In Words
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement		
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	04		
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01		
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 200A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01		
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement		
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01		
GRAND TOTAL OF QUOTED AMOUNT (RS.)					

Bidder Signature _____

FINANCIAL PROPOSAL - Part-20

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 30-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT KOTRI RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.				
	Description	Unit	Qty	Amount (Rs.)	
				In Figures	In Words
1.1	Inverter Type: Three Phase HYBRID Inverter equipped with a built-in online monitoring system and Wi-Fi-enabled monitoring device (dongle), IP-65 with built in DC and AC Surge Protection Devices. 10 years warranty. Manufacturing Brand: Inverex, GoodWe, Huawei Solis, Sungow or Equivalent Tier-1	Each	As per System Capacity requirement		
1.2	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	04		
1.3	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01		
1.4	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 200A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01		
1.5	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement		
1.6	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01		
GRAND TOTAL OF QUOTED AMOUNT (RS.)					

Bidder Signature _____

FINANCIAL PROPOSAL - Part-21

Name of Bidder _____

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING FOR CONVERSION OF EXISTING 35-KW GRID-TIED SOLAR SYSTEM INTO HYBRID SOLAR SYSTEM AT BIN-QASIM RAILWAY STATION OVER KARACHI DIVISION.

1	Design, Supply, installation, testing and commissioning work for conversion of existing Grid-Tied solar systems into Hybrid solar system at Railway Stations with all allied accessories i.e., Hybrid inverter, additional protective equipment, including all civil and electrical works, wiring, cabling. (Complete in all respects). NOTE: The bidder will fill out each BOQ separately as per mentioned System Capacity.				
	Description	Unit	Qty	Amount (Rs.)	
				In Figures	In Words
1.1	Batteries: Lithium-ion Battery, Nominal voltage: 48 V. Rated capacity: 100-AH. This includes battery cables and allied accessories. Warranty: 05 Years. Brands: Narada, Inverex, or equivalent reputed manufacturers.	Each	04		
1.2	Dust Proof Powder Coated Metallic Distribution Box, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher.	Each	01		
1.3	Additional Protective Devices Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems.: - Three Phase Four Pole 200-A MCCB for Mains Supply from Utility - Three phase Three/Four Pole MCBs for input side and output side of the inverter separately. - Three Phase Over/Under Voltage and Phase Sequence Protection Device on inverter input side and load side separately. - DC Two Pole Circuit breakers and Fuses for DC input to inverter and also between Battery/Batteries and Inverter - SPDTs, Three Phase Four Pole 200A Manual Change over Switch Brand for Circuit Breakers: Schneider, Terasaki or Equivalent.	Job	01		
1.4	Additional DC & AC Cables Required for Conversion of existing Grid-Tied Solar Systems into Hybrid Solar Systems. (Note: lengths & size may vary on each site;) Brands Newage, Allied, Fast, Pakistan Cables or equivalent	Job	As per site requirement		
1.5	Installation and Transportation Charges as per site requirement to complete the project in all respect.	Job	01		
GRAND TOTAL OF QUOTED AMOUNT (RS.)					
Note: The Hybrid Inverter has already been installed at Bin Qasim Railway Station. Therefore, the scope under this BOQ (i.e FINANCIAL PROPOSAL - Part-21) is limited to the supply and installation of batteries and all associated equipment and works required to complete the conversion into a fully functional Hybrid Solar PV System.					

Bidder Signature _____

Contractor's Representative and Key Personnel Schedule

Bidders should provide the names and details of the suitably qualified Contractor's Representative and Key Personnel to perform the Contract. The data on their experience should be supplied using the Form PER-2 below for each candidate.

Contractor' Representative and Key Personnel

1.	Title of position:	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment: for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
2.	Title of position:	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment: for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
3.	Title of position:	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment: for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
4.	Title of position:	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>

	Time commitment: for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
5.	Title of position:	
	Name of candidate	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment: for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
6.	Title of position: <i>[insert title]</i>	
	Name of candidate	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment: for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>

**Form PER-2:
Resume and Declaration
Contractor's Representative and Key Personnel**

Name of Bidder

Position [#1]: <i>[title of position from Form PER-1]</i>		
Personnel information	Name:	Date of birth:
	Address:	E-mail:
	Professional qualifications:	
	Academic qualifications:	
	Language proficiency: <i>[language and levels of speaking, reading and writing skills]</i>	
details		
	Address of Employer:	
	Telephone:	Contact (manager / personnel officer):
	Fax:	
	Job title:	Years with present Employer:

Summarize professional experience in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

Project	Role	Duration of involvement	Relevant experience
<i>[main project details]</i>	<i>[role and responsibilities on the project]</i>	<i>[time in role]</i>	<i>[describe the experience relevant to this position]</i>

Declaration

I, the undersigned [insert either “Contractor’s Representative” or “Key Personnel” as applicable] , certify that to the best of my knowledge and belief, the information contained in this Form PER-2 correctly describes myself, my qualifications and my experience.

I confirm that I am available as certified in the following table and throughout the expected time schedule for this position as provided in the Bid:

Commitment	Details
Commitment to duration of contract:	[insert period (start and end dates) for which this Contractor’s Representative orKey Personnel is available to work on this contract]
Time commitment:	[insert period (start and end dates) for which this Contractor’s Representative orKey Personnel is available to work on this contract]

I understand that any misrepresentation or omission in this Form may:

- (a) be taken into consideration during Bid evaluation;
- (b) result in my disqualification from participating in the Bid;
- (c) result in my dismissal from the contract.

Name of Contractor’s Representative or Key Personnel: [insert name]

Signature: _____

Date: (day month year): _____

Countersignature of authorized representative of the Bidder:

Signature: _____

Date: (day/month/year): _____

Past Experience / Contracts

Contracts over <i>[insert amount]</i> during the last three years:				
Procuring Agency	Value	Year	Goods/Services Supplied	Country of Destination



Average Annual Turnover (Annual Sales Value)

[The following table shall be filled in for the Applicant and for each member of a Joint Venture]

Applicant's Name: *[insert full name]*

Date: *[insert day, month, year]*

Joint Venture Member Name: *[insert full name]*

IFP No. and title: *[insert IFP number and title]*

Page *[insert page number]* of *[insert total number]* pages

Annual Turnover Data			
Year	Amount Currency	Exchange rate* (If applicable)	PKR equivalent
<i>[indicate calendar year]</i>	<i>[insert amount and indicate currency]</i>		
		Average Annual Turnover **	

* Refer ITA for date and source of exchange rate.

** Total PKR equivalent for all years divided by the total number of years. See Section III, Qualification Criteria and Requirements, ITA.