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PAKISTAN RAILWAYS

Headquarters Office, Lahore.

TENDER DOCUMENTS

For

**DESIGN, SUPPLY, INSTALLATION & COMMISSIONING
OF SOLAR SYSTEM AT 41 Nos. OF RAILWAY STATIONS
ON TURN KEY BASIS**

on

Single Stage-Two Envelope Basis

TECHNICAL PROPOSAL

Volume 1 of 2

Bid Reference No. 14-Elect/Agreement Solar/181

**OFFICE OF THE PROJECT DIRECTOR / SOLAR
DEPUTY CHIEF ELECTRICAL ENGINEER / POWER,
PAKISTAN RAILWAYS, HEADQUARTERS OFFICE, LAHORE**

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Annexure

1. List of Stations 41 Nos. CBI Railway Stations (Annexure –A)

ININVITATION FOR BIDS

PAKISTAN RAILWAYS
HEADQUARTERS OFFICE, LAHORE PAKISTAN

**DESIGN, SUPPLY, INSTALLATION & COMMISSIONING OF SOLAR
SYSTEM AT DIFFERENT LOCATIONS OF PAKISTAN RAILWAYS.**

Pakistan Railways invites sealed Bids on prescribed documents for the following work under Single Stage Two Envelope procedure as per PPRA Rules 36 (b) 2004 by experienced firms / contractors, who are on the Active Taxpayers List (ATL) of the Federal Board of Revenue. The contracting firms who are registered with PPIB in category C-1 and Pakistan Engineering Council (PEC) in C-3 or above category are eligible to apply for the work as mentioned below:

Sr.#	Name of Work	Nos. of Stations	Tender closing date and time	Tender opening time	Bid Security
1.	Design, Supply, Installation & Commissioning of Hybrid Solar System at 41 Nos. CBI Railway Stations on turn-key basis along with Allied Electrical Material	41 Nos .	08.08.2024 11.00AM	08.08.2024 11.30 AM	Rs.2.00 Million

1. Bids submitted through E-Pak Acquisition and Disposal System (EPADS) will only be entertained (www.eprocure.gov.pk). Bid security will be submitted before opening of tender physically in the office of Deputy Chief Electrical Engineer / Power (PD /Solar). Bidder will also upload the complete scanned copy of their bid in EPADS.
Note: EPADS Tender No. F-240785160.
2. Interested firm can download bidding documents from Pakistan Railways website (www.pakrail.pk), PPRA website (www.ppra.org.pk) or EPADS portal (www.eprocure.gov.pk).
3. Bidder need to get registered at EPADS, PPRA to access the tender documents and other relevant information.
4. The bid prepared in accordance with the instructions contained in the bidding documents must be submitted on **EPADS** as per the schedule mentioned in the table above.
5. Pakistan Railways reserves the right to accept or reject any or all bids as per provision of PPRA rule 33(1).

(Engr. Ziaullah Dahri)
Project Director / Solar
P.R Headquarters Office, Lahore.
Ph:-+92 42 99201803

INSTRUCTIONS
TO
BIDDERS

INSTRUCTIONS TO BIDDERS

(Note: These Instructions to Bidders along with Bidding Data will not be part of the Contract and will cease to have effect once the Contract is signed.)

A. GENERAL

IB.1 Scope of Bid

- 1.1 The Purchaser as defined in the Bidding Data hereinafter called “the Purchaser” wishes to receive bids for the supply of Engineering Goods as described in these Bidding Documents, and summarised in the Bidding Data hereinafter referred to as the “Goods”.
- 1.2 The successful Bidder will be expected to supply the Goods within the time specified in the Bidding Documents.
- 1.3 All Goods to be supplied under the Contract shall have as their country of origin an eligible country as per Appendix-A to Bid.
- 1.4 For purposes of this Clause, the term “Goods” includes commodities, raw material, machinery, equipment, and industrial plants.
- 1.5 The term “country of origin” means the country where the goods have been mined, grown, cultivated, produced, manufactured, or processed; or through manufacture, processing, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its imported components.
- 1.6 The nationality of the firm that produces, assembles, distributes, or sells the goods shall not determine their origin.
- 1.7 The bidding is open to National/International Competitive Bidding as indicated in the Bidding Data.

IB.2 Source of Funds

- 2.1 The Purchaser has applied for/received a loan/credit from the source(s) indicated in the Bidding Data in various currencies towards the cost of the project specified in the Bidding Data and it is intended that part of the proceeds of this loan/credit will be applied to eligible payments under the Contract for which these Bidding Documents are issued.

IB.3 Eligible Bidders

- 3.1 This Invitation for Bids is open to all Bidders meeting the following requirements:
 - a. A Bidder having the nationality of an eligible country.
 - b. Duly prequalified/licensed with:
 - i. Duly licensed by PPIB / AEDB in C1 category and Pakistan Engineering Council (PEC) in C-3 category or above. AEDB / PPIB Certificate shall only be admissible if updated & valid in all respects on the date of submission of Tender. No under process AEDB / PPIB certificates shall be entertained at any stage of Bid evaluation process under any circumstances.
 - ii. Having valid NTN and Sales Tax Number and must be active on ATL (active tax list).
 - c. The bidder / JV partner must not be involved in any kind of litigation with Pakistan Railways currently or in past.

IB.4 One Bid per Bidder

- 4.1 Each Bidder shall submit only one bid either by himself, or as a partner in a joint venture (in each Package). Alternate bids are not acceptable at any stage of the tendering process. A Bidder who submits or participates in more than one bid (other than alternatives pursuant to Clause IB.20) will be disqualified.

IB.5 Cost of Bidding

5.1 The Bidders shall bear all costs associated with the preparation and submission of their respective bids and the Purchaser will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

IB.6 Site Visit

6.1 The Bidders are advised to visit and inspect the Location of Delivery and its surroundings and obtain for themselves on their own responsibility all information that may be necessary for preparing the bid and entering into a Contract for Supply of Goods. All cost in this respect shall be at the bidder's own expense.

6.2 The Bidders and any of their personnel or agents will be granted permission by the Purchaser to enter upon his premises and lands for the purpose of such inspection, but only upon the express condition that the Bidders, their personnel and agents, will release and indemnify the Purchaser, his personnel and agents 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 such inspection.

B. BIDDING DOCUMENTS

IB.7 Contents of Bidding Documents

7.1 The Bidding Documents, in addition to Invitation for Bids, are those stated below and should be read in conjunction with any Addenda issued in accordance with Clause IB.9.

1. Instructions to Bidders
2. Bidding Data
3. Form of Bid and Appendices to Bid
4. Schedules to Bid

Purchaser's country

- a) Schedule A: List of engineering goods to be supplied
Purchaser's country
- b) Schedule B: Delivery and Completion Schedule
- c) Schedule C: Inspection and Test to be carried out

5. General Conditions of Contract (GCC), Part-I

6. Particular Conditions of Contract (PCC), Part-II

7. Standard Forms

- a. Form of Bid Security
- b. Form of Performance Security
- c. Form of Contract Agreement
- d. Form of Advance Payment Security

8. Specifications: Special & Technical Provisions

9. Drawings

7.2 The bidders are expected to examine carefully the contents of all the above documents. Failure to comply with the requirements of bid submission will be at the Bidder's own risk. Pursuant to Clause IB.30, bids which are not substantially responsive to the requirements of the Bidding Documents will be rejected.

IB.8 Clarification of Bidding Documents

8.1 Any prospective Bidder requiring any clarification(s) in respect of the Bidding Documents may notify the Purchaser in writing at the Purchaser's address indicated in the Invitation for Bids. The Purchaser will respond to any request for clarification which he receives earlier than the time, stated in the Bidding Data, prior to the deadline for submission of

bids. Copies of the Purchaser's response will be forwarded to all purchasers of the Bidding Documents, including a description of the enquiry but without identifying its source.

IB.9 Amendment of Bidding Documents

- 9.1 At any time prior to the deadline for submission of bids, the Purchaser may, for any reason, whether at his own initiative or in response to a clarification requested by a prospective Bidder, modify the Bidding Documents by issuing addendum.
- 9.2 Any addendum thus issued shall be part of the Bidding Documents pursuant to Sub-Clause 7.1 hereof and shall be communicated in writing to all purchasers of the Bidding Documents. Prospective Bidders shall acknowledge receipt of each addendum in writing to the Purchaser.
- 9.3 To afford prospective Bidders reasonable time in which to take an addendum into account in preparing their bids, the Purchaser may extend the deadline for submission of bids in accordance with Clause IB.24

C. PREPARATION OF BIDS

IB.10 Language of Bid

- 10.1 The bids well as all correspondence and documents related to the bid exchanged by a bidder and the Purchaser shall be in the bid language stipulated in the Bidding Data and Particular Conditions of Contract. Supporting documents and printed literature furnished by the Bidders may be in any other language, provided the same are accompanied by an accurate translation of the relevant parts in the bid language, in which case, for purposes of evaluation of the bid, the translation in bid language shall prevail.

IB.11 Documents Comprising the Bid

- 11.1 The Bid shall comprise two envelopes submitted simultaneously, one called the Technical Bid and the other the Financial Bid, containing the documents listed in Bidding Data Sheet. Both envelopes to be enclosed together in an outer single envelope called the Bid. Each bidder shall furnish all the documents as specified in Bidding Data Sheet.
- 11.2 The Bidder shall furnish, as part of the Technical Bid, a Technical Proposal including a statement of work methods, equipment, personnel, schedule and any other information as stipulated Bidding Forms, in sufficient detail to demonstrate the adequacy of the Bidders' proposal to meet the work requirements and the completion time referred to in Sub-Clause. Each Bidder shall:
- (a) submit a written power of attorney authorizing the signatory of the bid to act for and on behalf of the Bidder;
 - (b) update the information indicated and listed in the Bidding Data and previously submitted with the registration with PEC documents which as a minimum, would include the following application for prequalification, and continue to meet the minimum criteria set out in the:
 - (i) Evidence of access to financial resources along with average annual turnover;
 - (ii) Financial predictions for the current year and the two following years including the effect of known commitments;
 - (iii) Supply commitments since prequalification;
 - (iv) Current litigation information; and
 - (v) Availability of critical equipment.
- and
- (c) furnish a technical proposal taking into account the various Appendices to Bid specially the following:
- | | |
|-------------------|--------------------------------------|
| Appendix-A to Bid | Method of Assuring Quality of Goods |
| Appendix-B to Bid | List of Manufacturers/Subcontractors |

mobilization programme, technical literature, brochures, company profile, work experience etc (under Appendix C to Bid) etc;

11.3 Bids submitted by a joint venture of two (2) or more firms shall comply with the following requirements:

- (a) the bid and in case of a successful bid, the Form of Contract Agreement shall be signed so as to be legally binding on all partners;
- (b) one of the joint venture partners shall be nominated as being in charge; and this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the joint venture partners;
- (c) the partner-in-charge shall always be duly authorized to deal with the Purchaser regarding all matters related with and/or incidental to the supply of Goods as per the terms and Conditions of Contract and in this regard to incur any and all liabilities, receive instructions, give binding undertakings and receive payments on behalf of the joint venture;
- (d) all partners of the joint venture shall at all times and under all circumstances be liable jointly and severally for the execution of the Contract in accordance with the Contract terms and a statement to this effect shall be included in the authorization mentioned under Sub-Para(b) above as well as in the Form of Bid and in the Form of Contract Agreement (in case of a successful bid); and
- (e) a copy of the agreement entered into by the joint venture partners shall be submitted with the bid stating the conditions under which it will function, its period of duration, the persons authorized to represent and obligate it and which persons will be directly responsible for due performance of the Contract and can give valid receipts on behalf of the joint venture, the proportionate participation of the several firms forming the joint venture, and any other information necessary to permit a full appraisal of its functioning. No amendments/modifications whatsoever in the joint venture agreement shall be agreed to between the joint venture partners without prior written consent of the Purchaser.

11.4 Bidders shall also submit proposals of supply and transportation methods and schedule, in sufficient detail to demonstrate the adequacy of the Bidders' proposals to meet the technical specifications and the completion time referred to in Sub-Clause 1.2 hereof.

IB.12 Bid Prices

- 12.1 The Bidder shall submit the Form of Bid using the form attached herewith. This form must be completed without any alterations to its format, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested.
- 12.2 The Bidder shall submit the Price Schedules for Goods, according to their origin as appropriate, using the forms furnished in Appendices to Bid along with Manufacturer's Authorization (on the format provided) in case the Bidder is not himself the manufacturer.
- 12.3 Unless stated otherwise in the Bidding Documents (in Lots under Schedule D to Bid), the Contract shall be for the whole of the Goods as described in Sub-Clause 1.1 hereof, based on the unit rates and/or prices submitted by the bidder.
- 12.4 The Bidders shall fill in rates and prices for all items of the Goods described in the Price Schedules. Items against which no rate or price is entered by a bidder will not be paid for by the Purchaser when delivered and shall be deemed covered by rates and prices for other items in the Price Schedules.

- 12.5 All duties, taxes and other levies payable by the Contractor under the Contract, or for any other cause, as on the date 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 a Bidder.
Additional duties, taxes and levies due to subsequent additions or changes in legislation shall be added in Invoices to Pakistan Railways under whole effect of the change of legislation of duty / taxes on project bid prices.
- 12.6 The rates and prices quoted by the Bidders are subject to adjustment during the performance of the Contract in accordance with the provisions of Clause 15 of the General Conditions of Contract. The Bidders shall furnish the prescribed information for the price adjustment formulae if required under Sub-Clause 15.2 of General Conditions of Contract, and shall submit with their bids such other supporting information as required under the said Clause.

IB.13 Currencies of Bid and Payment

- 13.1 The unit rates and the prices shall be quoted by the Bidder entirely in Pak rupees. 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.
- 13.2 The rates of exchange to be used by the Bidder for currency conversion shall be the TT&OD Selling Rates published or authorized by the State Bank of Pakistan prevailing on the date 28 days prior to the deadline for submission of bids. For the purpose of payments, the exchange rates used in bid preparation shall apply for the duration of the Contract.

IB.14 Documents Establishing the Eligibility of the Bidder

To establish their eligibility in accordance with IB 4, Bidders shall:

- (a) Provide the eligibility documents as per IB Clause 3; and
- (b) If the Bidder is an existing solar company or under JV in accordance with IB 4.1 and 11.2, submit a copy of the JV Agreement. The qualification criteria mentioned in IB No.3 shall only be considered for the lead partner of the JV agreement. The respective document shall be signed by all legally authorized signatories of all the parties to the existing as appropriate.

IB.15 Documents Establishing the Eligibility of the Goods

15.1 To establish the eligibility of the Goods in accordance with IB Clause1-3, Bidders shall complete the country of origin declarations in the Price Schedule Forms, & Appendices to Bid.

IB.16 Documents Establishing the Conformity of the Goods to the Bidding Document

16.1 To establish the conformity of the Goods to the Bidding Document, the Bidder shall furnish as part of its Bid the documentary evidence that the Goods to be supplied conform to the specified requirements.

16.2 The documentary evidence may be in the form of literature, drawings or data, and shall consist of a detailed item-by-item description of the essential technical and performance characteristics of the Goods.

16.3 Standards for workmanship, process, material, and equipment, as well as references to brand names or catalogue numbers specified by the Purchaser in the Delivery and Completion Schedule, are intended to be descriptive only and not restrictive. The Bidder may offer other standards of quality, brand names, and/or catalogue numbers, provided that it demonstrates, to the Purchaser's satisfaction, that the substitutions ensure substantial equivalence or are superior to those specified in Delivery and Completion Schedule of Supply.

IB.17 Documents Establishing the Qualification of the Bidder

17.1 The documentary evidence of the Bidder's qualifications to perform the contract, if its bid is accepted, shall establish to the Purchaser's satisfaction that the Bidder meets each of the qualification criterion specified in Bidding Documents.

17.2 If so required in the Bidding Data, a Bidder that does not manufacture or produce the Goods it offers to supply shall submit the Manufacturer's Authorization using the appended form to demonstrate that it has been duly authorized by the manufacturer or producer of the Goods to supply these Goods in the Purchaser's country.

17.3 If so required in the Bidding Data, a Bidder that does not conduct business within the Purchaser's Country shall submit evidence that it will be represented by an Agent in the country equipped and able to carry out the Supplier's maintenance, repair and spare parts-stocking obligations prescribed in the Conditions of Contract and/or Technical Specifications.

IB.18 Bid Validity

18.1 Bids shall remain valid for the period stipulated in the Bidding Data after the Date of Bid Opening specified in Clause IB.27.

18.2 In exceptional circumstances, prior to expiry of the original bid validity period, the Purchaser may request that the Bidders extend the period of validity for a specified additional period which shall in no case be more than the original bid validity period. The request and the responses thereto shall be made in writing. A Bidder may refuse the request without forfeiting his Bid Security. A Bidder agreeing to

the request will not be required or permitted to modify his bid, but will be required to extend the validity of his Bid Security for the period of the extension, and in compliance with Clause IB.19 in all respects.

IB.19 Bid Security

- 19.1 Each Bidder shall furnish, as part of his bid, a Bid Security in the amount stipulated in the Bidding Data in Pak Rupees or an equivalent amount in a freely convertible currency.
- 19.2 The Bid Security shall be, in the form of Call at Deposit (CDR) or a Bank Guarantee issued by a Scheduled Bank in Pakistan or from a foreign bank duly counter guaranteed by a Scheduled Bank in Pakistan in favour of the FA&CAO / PR valid for a **period of 28 days** beyond the Bid Validity date.
- 19.3 Any bid not accompanied by an acceptable Bid Security shall be rejected by the Purchaser as non-responsive.
- 19.4 The bid securities of unsuccessful Bidders will be returned as promptly as possible, after completion of official formalities.
- 19.5 The Bid Security of the successful Bidder will be returned when the Bidder has furnished the required Performance Security and signed the Contract Agreement.
- 19.6 The Bid Security may be forfeited:
 - (a) If the Bidder withdraws his bid except as provided in Sub-Clause 26.1;
 - (b) If the Bidder does not accept the correction of his Bid Price pursuant to Sub-Clause 31.2 hereof; or
 - (c) In the case of successful Bidder, if he fails within the specified time limit to:
 - (i) Furnish the required Performance Security; or
 - (ii) Sign the Contract Agreement.

IB.20 Alternate Proposals by Bidder

20.1 Alternate or Modified Bids are not admissible at any stage of tendering process.

IB.21 Pre-Bid Meeting

21.1 The Purchaser may, on his own motion or at the request of any prospective Bidder(s), hold a pre-bid meeting to clarify issues and to answer any questions on matters related to the Bidding Documents. The date, time and venue of pre-bid meeting, if convened, is as stipulated in the Bidding Data. All prospective Bidders or their authorized representatives shall be invited to attend such a pre-bid meeting.

21.2 The Bidders are requested to submit questions, if any, in writing so as to reach the Purchaser not later than seven (7) days before the proposed pre-bid meeting.

21.3 Minutes of the pre-bid meeting, including the text of the questions raised and the replies given, will be transmitted without delay to all purchasers of the Bidding Documents. Any modification of the Bidding Documents listed in Sub-Clause 7.1 hereof which may become necessary as a result of the pre-bid meeting shall be made by the Purchaser exclusively through the issue of an Addendum pursuant to Clause IB.9 and not through the minutes of the pre-bid meeting.

21.4 Absence at the pre-bid meeting will not be a cause for disqualification of a Bidder.

IB.22 Format and Signing of Bid

22.1 Bidders are particularly directed that the amount entered on the Form of Bid shall be for performing the Contract strictly in accordance with the Bidding Documents.

22.2 All Appendices and Schedules to Bid are to be properly completed and signed.

22.3 No alteration is to be made in the Form of Bid nor in the Appendices and Schedules thereto except in filling up the blanks as directed. If any such alterations be made or if these instructions be not fully complied with, the bid may be rejected.

22.4 Each Bidder shall prepare by filling out the forms completely and without alterations one (1) original and number of copies, specified in the Bidding Data, of the documents comprising the bid as described in Clause IB.7 and clearly mark them "ORIGINAL" and "COPY" as appropriate. In the event of discrepancy between them, the original shall prevail.

22.5 The original and all copies of the bid shall be typed or written in indelible ink (in the case of copies, photostats are also acceptable) and shall be signed by a person or persons duly authorized to sign on behalf of the Bidder pursuant to Sub-Clauses 11.1(a) and 11.2 hereof. All pages of the bid shall be initialled and stamped by the person or persons signing the bid.

22.6 The bid shall contain no alterations, omissions or additions, except to comply with instructions issued by the Purchaser, or as are necessary to correct errors made by the Bidder, in which case such corrections shall be initialled by the person or persons signing the bid.

22.7 Bidders shall indicate in the space provided in the Form of Bid their full and proper addresses at which notices may be legally served on them and to which all correspondence in connection with their bids and the Contract is to be sent.

22.8 Bidders should retain a copy of the Bidding Documents as their file copy.

D. SUBMISSION OF BIDS

IB.23 Sealing and Marking of Bids

23.1 Each Bidder shall submit his bid as under:

Bid/ Tender shall be submitted in accordance with Single Stage- Two Envelopes Procedure of Public Procurement Rules-2004 (PPRA-2004) where under the bid shall comprise:

i) A Single Package (duly sealed) containing Two Separate Envelopes (duly sealed).

- ii) Each envelop shall contain separately, the “FINANCIAL PROPOSAL” and the “TECHNICAL PROPOSAL”.
- iii) The envelopes should be marked as Financial Proposal & Technical Proposal in Bold and Legible letters to avoid confusion.
 - (a) ORIGINAL and each copy of the Bid shall be separately sealed and put in separate envelopes and marked as such.
 - (b) The envelopes containing the ORIGINAL and copies will be put in one sealed envelope and addressed/identified as given in Sub-Clause 23.2 hereof.

23.2 The inner and outer envelopes shall:

- (a) be addressed to the Purchaser at the address provided in the Bidding Data;
- (b) bear the name and identification number of the Contract as defined in the Bidding Data; and
- (c) provide a warning not to open before the time and date for bid opening, as specified in the Bidding Data.

23.3 In addition to the identification required in Sub- Clause 23.2 hereof, the inner envelope shall indicate the name and address of the Bidder to enable the bid to be returned unopened in case it is declared “late” pursuant to Clause IB.25

23.4 If the outer envelope is not sealed and marked as above, the Purchaser will assume no responsibility for the misplacement or premature opening of the Bid.

IB.24 Deadline for Submission of Bids

- 24.1
- (a) Bids must be received by the Purchaser at the address specified no later than the time and date stipulated in the Bidding Data.
 - (b) Bids with charges payable will not be accepted, nor will arrangements be undertaken to collect the bids from any delivery point other than that specified above. Bidders shall bear all expenses incurred in the preparation and delivery of bids. No claims will be entertained for refund of such expenses.
 - (c) Where delivery of a bid is by mail and the Bidder wishes to receive an acknowledgment of receipt of such bid, he shall make a request for such acknowledgment in a separate letter attached to but not included in the sealed bid package.
 - (d) Upon request, acknowledgment of receipt of bids will be provided to those making delivery in person or by messenger.

24.2 The Purchaser may, at his discretion, extend the deadline for submission of bids by issuing an amendment in accordance with Clause IB.9, in which case all rights and obligations of the Purchaser and the Bidders previously subject to the original deadline will thereafter be subject to the deadline as extended.

IB.25 Late Bids

- 25.1
- (a) Any bid received by the Purchaser after the deadline for submission of bids prescribed in Clause IB.24 will be returned unopened to such bidder.
 - (b) Delays in the mail, delays of person in transit, or delivery of a bid to the wrong office shall not be accepted as an excuse for failure to deliver a bid at the proper place and time. It shall be the Bidder’s responsibility to determine the manner in which timely delivery of his bid will be accomplished either in person, by messenger or by mail.

IB.26 Withdrawal of Bids

26.1 Any Bidder may withdraw his bid after bid submission provided that the written notice of withdrawal is received by the Purchaser prior to the deadline for submission of bids.

26.2 No bid may be modified by a Bidder after the deadline for submission of bids

- 26.3 Withdrawal of a bid during the interval between the deadline for submission of bids and the expiration of the period of bid validity specified in the Form of Bid may result in forfeiture of the Bid Security in pursuance to Clause IB.19.

E. BID OPENING AND EVALUATION

IB.27 Bid Opening

- 27.1 The Purchaser will open the Technical bids, including withdrawals, substitution and modifications made pursuant to Clause IB.26, in the presence of Bidders' representatives who choose to attend, at the time, date and location stipulated in the Bidding Data. The Bidders' representatives who are present shall sign a register evidencing their attendance. The Financial Bids will remain unopened and will be held in custody of the Employer until the specified time of their opening.
- 27.2 Bids for which an acceptable notice of withdrawal has been submitted pursuant to Clause IB.26 shall not be opened.
- 27.3 The Bidder's name, bid modifications, substitution and withdrawals, the presence or absence of Bid Security, and such other details as the Purchaser may consider appropriate, will be announced by the Purchaser at the opening of Technical Bids. No Bid shall be rejected at the opening of Technical Bids except for late bids, in accordance with IB 21.1. Only Technical Bids read out and recorded at bid opening shall be considered for evaluation.
- 27.4 Purchaser shall prepare minutes of the bid opening, including the information disclosed to those present in accordance with the Sub-Clause 27.3.
- 27.5 a) The Employer shall first examine qualification and experience submitted by the Bidder. The technical proposal examination of those bidders only shall be taken in hand who meet the minimum requirement only substantially responsive qualification shall be considered for further evaluation.
b) The Employer shall examine the Technical Bid to confirm that all the documents have been provided, and to determine the completeness of each document submitted.
- 27.6 The Employer shall confirm that all the documents and information have been provided for evaluation of Technical bid as required under these bidding documents.
- 27.7 At the end of the evaluation of the Technical Bids, the Employer will invite only those bidders who have submitted substantially responsive Technical Bids and who have been determined as being qualified for award to attend the opening of the Financial Bids.
- 27.8 The date, time, and location of the opening of Financial Bids will be advised in writing by the Employer. Bidders shall be given reasonable notice for the opening of Financial Bids.
- 27.9 The Employer will notify Bidders in writing who have been rejected on the grounds of their Technical Bids being substantially non-responsive to the requirements of the Bidding Document and return their Financial Bids unopened before inviting others, who are determined as being qualified, to attend the opening of Financial Bids.
- 27.10 The Employer shall conduct the opening of Financial Bids of all Bidders who submitted substantially responsive Technical Bids, publically in the presence of Bidders' representatives who choose to attend at the address, date and time specified by the Employer. The Bidder's representatives who are present shall be requested to sign a register evidencing their attendance.
- 27.11 All envelopes containing Financial Bids shall be opened one at a time and the following read out and recorded:
(a) The name of the Bidder;
(b) Whether there is a modification or substitution;

- (c) The Bid Prices, including any discounts and alternative offers; and
- (d) Any other details as the Employer may consider appropriate.

Only Financial Bids and discounts, read out and recorded during the opening of Financial Bids shall be considered for evaluation. No Bid shall be rejected at the opening of Financial Bids.

- 27.12 If this Bidding Document allows Bidders to quote separate prices for different contracts, and the award to a single Bidder of multiple contracts, the methodology to determine the lowest evaluated price of the contract combinations is that which is most economical to the Employer.

IB.28 Process to be Confidential

- 28.1 Information relating to the examination, clarification, evaluation and comparison of bid and recommendations for the award of a Contract shall not be disclosed to Bidders or any other person not officially concerned with such process before the announcement of bid evaluation report which shall be done at least ten (10) days prior to issue of Letter of Acceptance. The announcement to all Bidders will include table(s) comprising read out prices, discounted prices, price adjustments made, final evaluated prices and recommendations against all the bids evaluated. Any effort by a Bidder to influence the Purchaser's processing of bids or award decisions may result in the rejection of such Bidder's bid. Whereas any Bidder feeling aggrieved may lodge a written complaint not later than fifteen (15) days after the announcement of the bid evaluation report; however mere fact of lodging a complaint shall not warrant suspension of the procurement process.

IB.29 Clarification of Bids

- 29.1 To assist in the examination, evaluation and comparison of bids, the Purchaser may, at his discretion, ask any Bidder for clarification of his bid, including breakdowns of unit rates. The request for clarification and the response shall be in writing but no change in the price or substance of the bid shall be sought, offered or permitted except as required to confirm the correction of arithmetic errors discovered by the Purchaser in the evaluation of the bids in accordance with Clause IB.32.

IB.30 Examination of Bids and Determination of Responsiveness

- 30.1 Prior to the detailed evaluation of bids, the Purchaser will determine whether each bid is substantially responsive to the requirements of the Bidding Documents.
- 30.2 A substantially responsive bid is one which (i) meets the eligibility criteria; (ii) has been properly signed; (iii) is accompanied by the required Bid Security; and (iv) conforms to all the terms, conditions and specifications of the Bidding Documents, without material deviation or reservation. A material deviation or reservation is one (i) which affect in any substantial way the scope, quality or performance of the Goods; (ii) which limits in any substantial way, inconsistent with the Bidding Documents, the Purchaser's rights or the Bidder's obligations under the Contract; or (iii) adoption/rectification whereof would affect unfairly the competitive position of other Bidders presenting substantially responsive bids.
- 30.3 If a bid is not substantially responsive, it will be rejected by the Purchaser, and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.

IB.31 Correction of Errors

- 31.1 Bids determined to be substantially responsive will be checked by the Purchaser for any arithmetic errors. Errors will be corrected by the Purchaser as follows:
 - (a) where there is a discrepancy between the amounts in figures and in words, the amount in words will govern; and

- (b) where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern, unless in the opinion of the Purchaser there is an obviously gross misplacement of the decimal point in the unit rate, in which case the line item total as quoted will govern and the unit rate will be corrected.
- 31.2 The amount stated in the Form of Bid will be adjusted by the Purchaser 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 Bid Price, his Bid will be rejected, and the Bid Security shall be forfeited in accordance with Sub-Clause 19.6(b) hereof.

IB.32 Evaluation and Comparison of Bids

- 32.1 The Purchaser will evaluate and compare only the Bids determined to be substantially responsive in accordance with Clause IB.30.
- 32.2 In evaluating the Bids, the Purchaser will determine for each Bid the evaluated Bid Price by adjusting the Bid Price as follows:
 - (a) making any correction for errors pursuant to Clause IB.31;
 - (b) excluding Provisional Sums and the provision, if any, for contingencies; and
 - (c) making an appropriate adjustment for any other acceptable variation or deviation from specification or performance criteria
- 32.3 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.
- 32.4 If the Bid of the successful Bidder is seriously unbalanced in relation to the Purchaser's estimate of the cost of Goods to be delivered under the Contract, the Purchaser may require the Bidder to produce detailed price analyses for any or all items of the Price Schedules to demonstrate the internal consistency of those prices with the manufacturing methodology and schedule proposed. After evaluation of the price analysis, the Purchaser may require that the amount of the Performance Security set forth in Clause IB.37 be increased at the expense of the successful Bidder to a level sufficient to protect the Purchaser against financial loss in the event of default of the successful bidder under the Contract.

IB.33 Post Qualification of the Bidder

- 33.1 The Purchaser shall determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated and substantially responsive Bid is qualified to perform the Contract satisfactorily.
- 33.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder.
- 33.3 An affirmative determination shall be a prerequisite for award of the Contract to the Bidder. A negative determination shall result in disqualification of the Bid, in which event the Purchaser shall proceed to the next lowest evaluated bid to make a similar determination of that Bidder's capabilities to perform satisfactorily.

F. AWARD OF CONTRACT

IB.34 Award

- 34.1 Subject to Clauses IB.35 and IB.39, the Purchaser will award the Contract to the Bidder whose bid has been determined to be substantially responsive to the Bidding Documents and who has offered the lowest evaluated Bid Price, provided that such Bidder has been determined to be eligible in accordance with the provisions of Clause IB.3 and qualify pursuant to Sub-Clause IB.33.2.

- 34.2 The Purchaser, at any stage of the bid evaluation, having credible reasons for or *prima facie* evidence of any defect in supplier's or contractor's capacities, may require the suppliers or contractors to provide information concerning their professional, technical, financial, legal or managerial competence:
Provided that such qualification shall only be laid down after recording reasons thereof in writing. They shall form part of the records of that bid evaluation report.
- IB.35 Purchaser's Right to Accept any Bid and to Reject any or all Bids
- 35.1 Notwithstanding Clause IB.34, the Purchaser reserves the right to accept or reject any Bid, and to annul the bidding process and reject all bids, at any time prior to award of Contract, without thereby incurring any liability to the affected Bidders or any obligation, except that the grounds for rejection of all bids shall upon request be communicated to any Bidder who submitted a bid, without justification of grounds. Rejection of all bids shall be notified to all Bidders promptly.
- 35.2 At the time the Contract is awarded, the Purchaser reserves the right to increase or decrease the quantity of Goods originally specified in Delivery and Completion Schedules, provided this does not exceed the percentages indicated in the Bidding Data, and without any change in the unit prices or other terms and conditions of the Bid and the Bidding Document.
- IB.36 Notification of Award
- 36.1 Prior to expiration of the period of bid validity prescribed by the Purchaser, the Purchaser will notify the successful Bidder in writing ("Letter of Acceptance") that his Bid has been accepted. This letter shall name the sum which the Purchaser will pay the Contractor in consideration of the delivery of Goods by the Contractor as prescribed by the Contract (hereinafter and in the Conditions of Contract called the "Contract Price").
- 36.2 No Negotiation with the Bidder having evaluated as lowest responsive or any other Bidder shall be permitted, however, Purchaser may seek clarification in writing to clarify any item in the bid evaluation report; and response of the Bidder shall also be in writing.
- 36.3 The notification of award and its acceptance by the Bidder will constitute the formation of the Contract, binding the Purchaser and the Bidder till signing of the formal Contract Agreement.
- 36.3 Upon furnishing by the successful Bidder of a Performance Security, the Purchaser will promptly notify the other Bidders that their Bids have been unsuccessful and return their bid securities.
- IB.37 Performance Security
- 37.1 The successful Bidder shall furnish to the Purchaser a Performance Security in the form and the amount stipulated in the Bidding Data and the Conditions of Contract within a period of 28 days after the receipt of Letter of Acceptance.
- 37.2 Failure of the successful Bidder to comply with the requirements of Sub-Clause IB.37.1 or Clauses IB.38 or IB.40 shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security.
- IB.38 Signing of Contract Agreement
- 38.1 Within 14 days from the date of furnishing of acceptable Performance Security under the Conditions of Contract, the Purchaser will send the successful Bidder the Contract Agreement in the form provided in the Bidding Documents, incorporating all agreements between the parties.
- 38.2 The formal Agreement between the Purchaser and the successful Bidder shall be executed within 14 days of the receipt of the Contract Agreement by the successful Bidder from the Purchaser.

IB.39 General Performance of the Bidders

39.1 The Purchaser reserves the right to obtain information regarding performance of the bidders on their previously awarded contracts. The Purchaser may in case of consistent poor performance of any Bidder as reported by the purchasers of the previously awarded contracts, inter alia, reject his bid and proceed in accordance with Rule 19 of the Public Procurement Rules 2004, to take such action as may be deemed appropriate under the circumstances of the case including black listing of such Bidder and debarring him from participation in future bidding for supply of Goods.

IB.40 Integrity Pact

40.1 The Bidder shall sign and stamp the Integrity Pact provided at Appendix-G to Bid in the Bidding Documents for all Federal Government procurement contracts exceeding Rupees ten million. Failure to provide such Integrity Pact shall make the bidder non-responsive.

IB.41 Instructions not Part of Contract

41.1 Bids shall be prepared and submitted in accordance with these Instructions which are provided to assist Bidders in preparing their bids, and do not constitute part of the Bid or the Contract Documents.

IB.42 Margin of Preference

42.1 Unless otherwise specified in the Bidding Data, no margin of preference shall apply.

[Domestic Preference shall be applicable in case of International Competitive Bidding as per policy of the government, in accordance with the procedure given in the Bidding Data.]

Bidding Data

The bids will be evaluated on overall basis. The work will be carried out on Turn Key basis. The firm will be responsible for supply and ITC of the equipment.

Instructions to Bidders Clause Reference:

1.1 Project Director / Solar / Deputy Chief Electrical Engineer / Power

Pakistan Railways,
Headquarters Office, Lahore.
Ph: 042-99201803

1.7 The bidding is open to National competition as per policy of the Government.

2.1 Source of Funding:

“Public Sector Development Programme” (PSDP) of Government of Pakistan.

8.1 Time limit for clarification for bidders:

07 Days

10.1 Bid language:

English

11.1 Prequalification Information to be updated:

Documents as mentioned in Tender Documents.

11.2 Following Shall also be provided.

- a) Complete Technical Specifications of the offered equipments along-with mandatory Quantities and Site Design as per site surveys executed by bidder along-with mandatory Solar power generation data for each site respectively
- b) Valid & Updated Certification in all respects as per the date of submission of Bid from PPIB in C-I category and valid & updated PEC certificate of C3 category or above in all respects as per the date of submission of Bid.
- c) Valid Income Tax & GST Certificate with active ATL appearance on date of submission of Bid.

13.1 Currencies of Bid and Payment:

In Pak Rupees.

18.1 Period of Bid Validity:

90 days after opening of bid.

19.1 Amount of Bid Security:

Rs. 2.00 Million Bid Money / CDR in the favour of FA&CAO / PR, Pakistan Railways, Headquarters Office, Empress Road Lahore. The Bid security criteria shall be governed by IB.19

21.1 Venue, time, and date of the pre-Bid meeting:

N/A

22.4 Number of copies of the Bid to be completed and returned:

Bidder will submit bid on EPADS portal (www.eprocure.gov.pk).

23.2(a) Purchaser's address for the purpose of Bid Security Submission:

Office of the Project Director / Solar / Deputy Chief Electrical Engineer / Power, Pakistan Railways, Head Quarters Office, Lahore.

23.2(b) Name and Number of the Contract:

**Design, Supply, Installation and Commissioning of Solar System at 41 Nos. CBI Railway Stations on turn-key basis.
No. 14-Elect/Agreement Solar/181**

24.1(a) Deadline for submission of bids:

08.08.2024 till 11:00 HRS

27.1 Venue, time, and date of Bid opening:

08.08.2024, 11:30 HRS

At Office of the Project Director / Solar, Pakistan Railways, Headquarters Office, Lahore.

35.2 Percentage increase or decrease shall not exceed _____%.

N/A

37.1 Standard form and amount of Performance Security acceptable to the Purchaser:

Five Percent (05%) of Contract amount as Bank Guarantee in accordance with format provided in the Bidding Documents.

Appendix-A to Bid

METHOD OF ASSURING QUALITY OF GOODS

[The Bidder is required to submit a narrative outlining the method of assuring quality of Goods ensuring submission of documents / reports / certification like PSI, CoC, Flash Test Reports, EL Test Reports and other documents prescribed in the PROCESS FLOW FOR IMPORT OF SOLAR PV EQUIPMENT IN PAKISTAN document prepared by AEDB, adapted by FBR via SRO 604 (I) 2019 and incorporated in WEBOC.

Appendix-B to Bid

LIST OF MANUFACTURERS/SUBCONTRACTORS

I/We intend to supply Goods from the following manufactures or engage the following subcontractors for supply of Goods. In my/our opinion, the manufacturers/subcontractors named hereunder are reliable and competent to supply of Goods for which each is listed.

Enclosed are documentation outlining experience of manufacturers/subcontractors, the curriculum vitae and experience of their key personnel who will be assigned to the Contract, Goods to be supplied or transportation to be done, size, location and type of contracts performed in the past.

Description of Goods (Give Details)	Manufacturers/Subcontractors (With Complete Address)
1	2

Note:

In case, the Bidder is itself either manufacturer or transporter or both, the above table should be filled and requisite documentation be submitted accordingly.

Appendix-C to Bid

ORGANIZATION CHART FOR THE SUPERVISORY STAFF AND LABOUR

[The Bidder shall provide organization charts for: (a) procurement of Goods from its source, (b) transportation of Goods from source (Ware House) to delivery point, and (c) the staff to deal with the contractual and other related matters with the Purchaser]

Appendix-D to Bid

(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 No. _____ Dated _____
Contract Value: *[To be filled in at the time of signing of Contract]*
Contract Title: _____

..... [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 (GOP) or any administrative subdivision or agency thereof or any other entity owned or controlled by 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, fees 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 consultation fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from 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, representation or warranty.

[Name of Supplier] accepts full responsibility and strict liability for making any false declaration, not making full disclosure, misrepresenting facts or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right, interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other rights and remedies available to 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.

Name of Buyer:
Signature:

[Seal]

Name of Seller/Supplier:
Signature:

[Seal]

Schedule-A

List of Engineering Goods to be supplied (not applicable)

[Separate tables shall be used only in case of procurement of very large quantities, required to be split in lots for multiple Contracts, keeping in view capacity of Supplier's against the Goods supply. The evaluation of Bids shall, therefore, be done lot wise. However the award is made on least cost combination to the Purchaser.

In case of quantities manageable by a single supplier through a single Contract, only one table shall be used without referring to any lot.]

Lot No. : [if applicable]				
Lot Name : [if applicable]				
Item No.	Name of Goods	Description	Unit of Measurement	Quantity
01				

Lot No. : [if applicable]				
Lot Name : [if applicable]				
Item No.	Name of Goods	Description	Unit of Measurement	Quantity
02				

Schedule-B

Delivery and Completion Schedule

The completion period (List of Railway Stations attached as Annexure –A) is 12 months from the date of signing of contract agreement with successful bidder.

Schedule C

Inspection and Tests to be carried out

Purchaser shall list down the Inspection and Tests to be carried out under GCC Clause 26 and PCC Sub-Clause 26.2.

The Bidder is required to submit a narrative outlining the method of assuring quality of Goods ensuring submission of documents / reports / certification like PSI, CoC, Flash Test Reports EL Test Reports and other documents prescribed in the PROCESS FLOW FOR IMPORT OF SOLAR PV EQUIPMENT IN PAKISTAN document prepared by PPIB, adapted by FBR via SRO 604 (I) 2019 and incorporated in WEBOC.

STANDARD FORMS

BID SECURITY
PERFORMANCE SECURITY
CONTRACT AGREEMENT
ADVANCE PAYMENT SECURITY

FORM OF BID SECURITY

(Bank Guarantee)

Security Executed on _____
(Date)

Name of Surety (Bank) with Address: _____
(Scheduled Bank in Pakistan)

Name of Principal (Bidder) with Address _____

Penal Sum of Security Rupees. _____ (Rs. _____)

Bid Reference No. _____

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

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

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

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

- (1) that the Bid Security shall remain in force up to and including the date 28 days after the deadline for validity of bids as stated in the Instructions to Bidders or as it may be extended by the Purchaser, notice of which extension(s) to the Surety is hereby waived;
- (2) that the Bid Security of unsuccessful Bidders will be returned by the Purchaser after expiry of its validity or upon signing of the Contract Agreement; and
- (3) that in the event of failure of the successful Bidder to execute the proposed Contract Agreement and furnish the required Performance Security, the entire said sum be paid immediately to the said Purchaser pursuant to Clause 19.6 of the Instruction to Bidders for the successful Bidder's failure to perform.

NOW THEREFORE, if the successful Bidder shall, within the period specified therefore, on the prescribed form presented to him for signature enter into a formal Contract with the said Purchaser in accordance with his Bid as accepted and furnish within twenty eight (28) days of his being requested to do so, a Performance Security with good and sufficient surety, as may be required, upon the form prescribed by the said Purchaser for the faithful performance and proper fulfilment of the said Contract or in the event of non-withdrawal of the said Bid within the time specified for its validity then this obligation shall be void and of no effect, but otherwise to remain in full force and effect.

PROVIDED THAT the Surety shall forthwith pay the Purchaser the said sum upon first written demand of the Purchaser (without cavil or argument) and without requiring the Purchaser to prove

or to show grounds or reasons for such demand, notice of which shall be sent by the Purchaser by registered post duly addressed to the Surety at its address given above.

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

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

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

Name, Title & Address	

FORM OF PERFORMANCE SECURITY

(Bank Guarantee)

Guarantee No. _____

Executed on _____

Expiry date _____

[Letter by the Guarantor to the Purchaser]

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

Name of Principal (Supplier/Contractor) with address: _____

Penal Sum of Security (express in words and figures): _____

Letter of Acceptance No. _____ Dated _____

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

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

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

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

We, _____ (the Guarantor), waiving all objections and defences under the Contract, do hereby irrevocably and independently guarantee to pay to the Purchaser without delay upon the Purchaser's first written demand without cavil or arguments and without requiring the Purchaser to prove or to show grounds or reasons for such demand any sum

or sums up to the amount stated above, against the Purchaser's written declaration that the Principal has refused or failed to perform the obligations under the Contract which payment will be effected by the Guarantor to Purchaser's designated Bank & Account Number.

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

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

Guarantor (Bank)

Witness:

1. _____

Signature _____

Name _____

Corporate Secretary (Seal)

Title _____

2. _____

Name, Title & Address

Corporate Guarantor (Seal)

FORM OF CONTRACT AGREEMENT

THIS AGREEMENT made on the _____ day of _____, 20____, between _____ of _____ (hereinafter "the Purchaser"), of the one part, and _____ of _____ (hereinafter called "the Supplier"), of the other part:

WHEREAS the Purchaser invited bids for certain Goods viz., _____ and has accepted a Bid by the Supplier for the supply of those Goods in the sum of _____ (hereinafter called "the Contract Price").

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:
 - (a) the Purchaser's Notification to the Supplier of Award of Contract (Letter of Acceptance);
 - (b) the Form of Bid and the Price Schedules submitted by the Supplier;
 - (c) the Particular Conditions of Contract; Part-II
 - (d) the General Conditions of Contract; Part-I
 - (e) the Schedule to Bid (other than Price Schedule);
 - (f) Appendices to Bid;
 - (g) Specifications;
 - (h) Drawings; and
 - (i) Any other Item

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

3. In consideration of the payments to be made by the Purchaser to the Supplier as indicated in this Agreement, the Supplier hereby covenants with the Purchaser to provide the Goods and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the 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 the parties hereto have caused this Agreement to be executed in accordance with the laws of _____ on the day, month and year indicated above.

Signature of the Supplier

Signature of the Purchaser

(Seal)

(Seal)

Signed, Sealed and Delivered in the presence of:

Witness:

Witness

(Name, Title and Address)

(Name, Title and Address)

Form of Advance Payment Security

Date: _____

Contract Name and No. : _____

To: _____

In accordance with the payment provision included in the Contract, in relation to advance payments, _____ (hereinafter called “the Supplier”) shall deposit with the Purchaser a security consisting of _____, to guarantee its proper and faithful performance of the obligations imposed by said Clause of the Contract, in the amount of _____.

We, the undersigned _____, legally domiciled in _____ (hereinafter “the Guarantor”), as instructed by the Supplier, agree unconditionally and irrevocably to guarantee as primary obligor and not as surety merely, the payment to the Purchaser on its first demand without whatsoever right of objection on our part and without its first claim to the Supplier, in the amount _____ not exceeding _____.

This security shall remain valid and in full effect from the date of the advance payment received by the Supplier under the Contract until _____, _____.

Name _____

In the capacity of _____

Signed _____

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

Date _____

WARRANTY CERTIFICATE

- 1.1. The seller warrants that the equipment will be in accordance with the technical specifications/requirements mentioned in the bidding documents.
- 1.2. The seller warrants that the equipment will be brand new and free from defects in material and workmanship.
- 1.3. The seller's obligation under the warranties expressed in sub-paragraphs (1) & (2) above shall be limited to replacement which at the time of receipt by the purchaser or under normal use and maintenance prove defective in material workmanship or fail to comply with the required performance in the normal course of service. The warranty shall be valid for a period 25years for Solar Panels, 10 years for Inverters, and 05 years for Lithium batteries after complete ITC of system.
- 1.4. The seller's liability (except as to title) arising out of the supplying material or its use. Whether on warranties or otherwise shall not in any case exceed the cost of correcting defect in material except that the seller shall be liable for any direct damages excluding consequential and indirect damages that may be sustained by the purchaser as a result of the failure of the material to meet the warranties in this clause.
- 1.5. The purchaser would be entitled to retain an amount equal to 05% of the purchase order until expiry of the DLP period for equipment, following receipt of satisfactory completion report from the purchaser or end user.

General Conditions of Contract

1. Definitions

1.1 The following words and expressions shall have the meanings hereby assigned to them:

- (a) “Contract” means the Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to therein, including all attachments, appendices, schedules and all documents incorporated by reference therein.
- (b) “Contract Documents” means the documents listed in the Agreement, including any amendments thereto.
- (c) “Contract Price” means the price payable to the Supplier as specified in the Agreement, subject to such additions and adjustments thereto or deductions therefrom, as may be made pursuant to the Contract.
- (d) “Day” means calendar day.
- (e) “Delivery” means the transfer of the Goods from the Supplier to the Purchaser in accordance with the terms and conditions set forth in the Contract.
- (f) “Completion” means the fulfilment of the supply of Goods by the Supplier in accordance with the terms and conditions set forth in the Contract.
- (g) “Eligible Countries” means the countries as per Appendix-A.
- (h) “GCC” means the General Conditions of Contract.
- (i) “Goods” means execution of all works including all related equipments and / or other Material required for successful operation of the Solar System
- (j) “Purchaser’s Country” is the country specified in the Particular Conditions of Contract (PCC).
- (k) The “Purchaser” means the Employer who is the entity purchasing the Goods, as specified in the PCC, and includes the legal successors or assigns of the Purchaser.
- (l) “PCC” means the Particular Conditions of Contract.
- (m) “Subcontractor” means any natural person, private or government entity or a combination of the above, including its legal successors or permitted assigns, to whom any part of the Goods to be supplied is subcontracted by the Supplier.
- (n) “Supplier” means the natural person, private or government entity, or a combination of the above, whose bid to perform the Contract has been accepted by the Purchaser and is named as such in the Agreement, and includes the legal successors or permitted assigns of the Supplier.
- (o) “The Site,” where applicable, means the place named in the PCC.

2. Contract Document

Subject to the order of precedence set forth in the Agreement, all documents forming the Contract (and all parts thereof) are intended to be correlative, complementary, and mutually explanatory.

3. Corrupt and Fraudulent Practices

3.1

- (a) For the purposes of this provision, the term “Corrupt and Fraudulent Practices” includes the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official or the supplier or contractor in the procurement process or in contract execution to the detriment of the procuring agencies; or

misrepresentation of facts in order to influence a procurement process or the execution of a contract, collusive practices among bidders (prior to or after bid submission) designed to establish bid prices at artificial, non-competitive levels and to deprive the procuring agencies of the benefits of free and open competition and any request for, or solicitation of anything of value by any public official in the course of the exercise of his duty.

(b) The Purchaser will reject a proposal for award if it determines that the bidder recommended for award has, directly or through an agent, engaged in corrupt and fraudulent practices in competing for the Contract.

3.2 The Supplier shall permit the Purchaser to inspect the Supplier's accounts and records relating to the performance of the Supplier and to have them audited by auditors appointed by the Purchaser, if so required by the Purchaser.

4. Interpretation

4.1 If the context so requires it, singular means plural and vice versa where the context requires.

4.2 Incoterms

The meaning of any trade term and the rights and obligations of parties thereunder shall be as prescribed by Incoterms.

(a) EXW, CIF, DDP, and other similar terms, shall be governed by the rules prescribed in the current edition of Incoterms, published by the International Chamber of Commerce at the date of the Invitation for Bids or as specified in the PCC.

4.3 Entire Agreement

The Contract constitutes the entire agreement between the Purchaser and the Supplier and supersedes all communications, negotiations and agreements (whether written or oral) of parties with respect thereto made prior to the date of Contract.

4.4 Amendment

No amendment or other variation of the Contract shall be valid unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party thereto.

4.5 Nonwaiver0

(a) Subject to GCC Sub-Clause 4.5(b) below, no relaxation, forbearance, delay, or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect, or restrict the rights of that party under the Contract, neither shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.

(b) Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, dated, and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.

4.6 Severability

If any provision or condition of the Contract is prohibited or

rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.

- 5. Language**
- 5.1 The Contract as well as all correspondence and documents relating to the Contract exchanged by the Supplier and the Purchaser, shall be written in the language specified in the PCC. Supporting documents and printed literature that are part of the Contract may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified in the PCC, in which case, for purposes of interpretation of the Contract, this translation shall govern.
- 5.2 The Supplier shall bear all costs of translation to the governing language and all risks of the accuracy of such translation.
- 6. Joint Venture, Consortium or Association**
- 6.1 Unless otherwise specified in the PCC, if the Supplier is a joint venture, consortium, or association, all of the parties shall be jointly and severally liable to the Purchaser for the fulfilment of the provisions of the Contract and shall designate one party to act as a leader with authority to bind the joint venture, consortium, or association. The composition or the constitution of the joint venture, consortium, or association shall not be altered without the prior consent of the Purchaser.
- 7. Eligibility**
- 7.1 The Supplier and its Subcontractors shall have the nationality of an Eligible Country in case of International Competitive Bidding but only of Pakistan in case National Competitive Bidding. A Supplier or Subcontractor shall be deemed to have the nationality of a country if it is a citizen or constituted or incorporated, and operates in conformity with the provisions of the laws of that country.
- 7.2 All Goods to be supplied under the Contract and financed by the Purchaser shall have their origin in Eligible Countries. For the purpose of this Clause, origin means the country where the goods have been grown, mined, cultivated, produced, manufactured, or processed; or through manufacture, processing, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its imported components.
- 8. Notices**
- 8.1 Any Notice given by one party to the other pursuant to the Contract shall be in writing to the address specified in the PCC. The term “in writing” means communicated in written form with proof of receipt.
- 8.2 A Notice shall be effective when delivered or on the Notice’s effective date, whichever is later.
- 9. Governing Law**
- 9.1 The Contract shall be governed by and interpreted in accordance with the laws of the Purchaser’s country, unless otherwise specified in the PCC.
- 10. Settlement of Disputes**
- 10.1 The Purchaser and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.
- 10.2 If the parties fail to resolve such a dispute or difference by mutual consultation within twenty-eight (28) days from the

commencement of such consultation, either party may require that the dispute be referred for resolution to the formal mechanisms specified in the PCC.

- 11. Scope of Supply**
- 11.1 Subject to the PCC, the Goods to be supplied shall be as specified in Schedules to Bid.
- 11.2 Unless otherwise stipulated in the Contract, the Scope of Supply shall include all such items not specifically mentioned in the Contract but that can be reasonably inferred from the Contract as being required for attaining Delivery and Completion of the Goods as if such items were expressly mentioned in the Contract.
- 12. Delivery**
- 12.1 Subject to GCC Sub-Clause 33.1, the Delivery of the Goods shall be in accordance with the Delivery and Completion Schedule specified in the Schedules to Bid. The details of shipping and other documents to be furnished by the Supplier are specified in the PCC.
- 13. Supplier's Responsibilities**
- 13.1 The Supplier shall supply all the Goods included in the Scope of Supply in accordance with GCC Clause 11, and the Delivery and Completion Schedule, as per GCC Clause 12.
- 14. Purchaser's Responsibilities**
- 14.1 Whenever the supply of Goods requires that the Supplier obtain permits, approvals, and import and other licenses from local public authorities, the Purchaser shall, if so required by the Supplier, make its best effort to assist the Supplier in complying with such requirements in a timely and expeditious manner.
- 14.2 The Purchaser shall afford all costs involved in the performance of its responsibilities, in accordance with GCC Sub-Clause 14.1.
- 15. Contract Price**
- 15.1 The Contract Price shall be as specified in the Agreement subject to any additions and adjustments thereto, or deductions therefrom, as may be made pursuant to the Contract.
- 15.2 Prices charged by the Supplier for the Goods delivered under the Contract shall not vary from the prices quoted by the Supplier in its bid, with the exception of any price adjustments authorized as per the formula if given in GCC Sub-Clause 15.3.
- 15.3. *"This is a Fixed Price Contract"*
- 16. Terms of Payment**
- 16.1 The Contract Price shall be paid as specified in the PCC.
- 16.2 The Supplier's request for payment shall be made to the Purchaser in writing, accompanied by invoices describing, as appropriate, the Goods delivered by the documents submitted pursuant to GCC Clause 12 and upon fulfilment of all the obligations stipulated in the Contract.
- 16.3 Once the item is delivered and its ITC each station has been carried out successfully, its payment shall be made promptly by the Purchaser, after submission of an invoice or request for payment by the Supplier, and the Purchaser has accepted it.
- 16.4 The currency or currencies in which payments shall be made to the Supplier under this Contract shall be specified in the PCC.
- 16.5 An interest-free Mobilization Advance up to 15 % of the Contract Price stated in the Letter of Acceptance shall be paid by the Employer to the Contractor in two equal parts upon submission by the Contractor of a Mobilization Advance

Guarantee for the full amount of the Advance in the specified form from a Scheduled Bank in Pakistan:

- i. First part within 14 days after signing of the Contract Agreement or date of receipt of Engineer's Notice to Commence, whichever is earlier; and
- ii. Second part within 42 days from the date of payment of the first part, subject to the satisfaction of the Engineer as to the state of mobilization of the Contractor.

This Advance shall be recovered in equal installments; first installment at the expiry of third month after the date of payment of first part of Advance and the last installment two months before the date of completion of the Works.

17. Taxes and Duties

17.1 For Goods supplied from outside the Purchaser's Country, the Supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the Purchaser's Country.

17.2 For Goods supplied from within the Purchaser's Country, the Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser.

17.3 If any tax exemptions, reductions, allowances or privileges may be available to the Supplier in the Purchaser's Country, the Purchaser shall use its best efforts to enable the Supplier to benefit from any such tax savings to the maximum allowable extent.

18. Performance Security

18.1 The Supplier shall, within twenty-eight (28) days of the notification of Contract award, provide a Performance Security for the due performance of the Contract in the amounts and currencies specified in the PCC.

18.2 The proceeds of the Performance Security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

18.3 The Performance Security shall be denominated in the currencies of the Contract, or in a freely convertible currency acceptable to the Purchaser, and shall be in one of the forms stipulated by the Purchaser in the PCC, or in another form acceptable to the Purchaser.

18.4 The Performance Security shall be discharged by the Purchaser and returned to the Supplier not later than twenty-eight (28) days following the date of completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless specified otherwise in the PCC.

19. Copyright

19.1 The copyright in all drawings, documents, and other materials containing data and information furnished to the Purchaser by the Supplier herein shall remain vested in the Supplier, or, if they are furnished to the Purchaser directly or through the Supplier by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party.

20. Confidential

20.1 The Purchaser and the Supplier shall keep confidential and shall

Information

not, without the written consent of the other party hereto, divulge to any third party any documents, data, or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such information has been furnished prior to, during or following completion or termination of the Contract. Notwithstanding the above, the Supplier may furnish to its Subcontractor such documents, data, and other information it receives from the Purchaser to the extent required for the Subcontractor to perform its work under the Contract, in which event the Supplier shall obtain from such Subcontractor an undertaking of confidentiality similar to that imposed on the Supplier under GCC Clause 20.

20.2 The Purchaser shall not use such documents, data, and other information received from the Supplier for any purposes unrelated to the Contract. Similarly, the Supplier shall not use such documents, data, and other information received from the Purchaser for any purpose other than the design, procurement, required for the performance of the Contract.

20.3 The obligation of a party under GCC Sub-Clauses 20.1 and 20.2 above, however, shall not apply to information that:

- (a) the Purchaser or Supplier need to share with the purchaser or other institutions participating in the financing of the Contract;
- (b) now or hereafter enters the public domain through no fault of that party;
- (c) can be proven to have been possessed by that party at the time of disclosure and which was not previously obtained, directly or indirectly, from the other party; or
- (d) otherwise lawfully becomes available to that party from a third party that has no obligation of confidentiality.

20.4 The above provisions of GCC Clause 20 shall not in any way modify any undertaking of confidentiality given by either of the parties hereto prior to the date of the Contract in respect of the Supply or any part thereof.

20.5 The provisions of GCC Clause 20 shall survive completion or termination, for whatever reason, of the Contract.

21. Subcontracting

The Supplier shall notify the Purchaser in writing of all subcontracts awarded under the Contract if not already specified in the Bid. Subcontracting shall in no event relieve the Supplier from any of its obligations, duties, responsibilities, or liability under the Contract.

21.1 Subcontracts shall comply with the provisions of GCC Clauses 3 and 7.

22. Specifications and Standards

22.1 Technical Specifications and Drawings

- (a) The Supplier shall ensure that the Goods comply with the technical specifications and other provisions of the Contract.
- (b) The Supplier shall be entitled to disclaim responsibility for any design, data, drawing, specification or other document, or any modification thereof provided or designed by or on behalf of the Purchaser, by giving a notice of such disclaimer to the Purchaser.

- (c) The Goods supplied under this Contract shall conform to the standards mentioned in the Schedules to Bid and, when no applicable standard is mentioned, the standard shall be equivalent or superior to the official standards whose application is appropriate to the country of origin of the Goods.
- 22.2 Wherever references are made in the Contract to codes and standards in accordance with which it shall be executed, the edition or the revised version of such codes and standards shall be those specified in the Schedules to Bid. During Contract execution, any changes in any such codes and standards shall be applied only after approval by the Purchaser and shall be treated in accordance with GCC Clause 33.
- 23. Packing and Documents**
- 23.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. During transit, the packing shall be sufficient to withstand, without limitation, rough handling and exposure to extreme temperatures, salt and precipitation, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the final destination of the Goods and the absence of heavy handling facilities at all points in transit.
- 23.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional requirements, if any, specified in the PCC, and in any other instructions ordered by the Purchaser.
- 24. Insurance**
- 24.1 Unless otherwise specified in the PCC, the Goods supplied under the Contract shall be fully insured, in a freely convertible currency from an eligible country, against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery, in accordance with the applicable Incoterms or in the manner specified in the PCC.
- 25. Transportation**
- 25.1 Unless otherwise specified in the PCC, obligations for transportation of the Goods shall be in accordance with the Incoterms specified in the Schedules A and B to Bid.
- 26. Inspections and Tests**
- 26.1 The Supplier shall at its own expense and at no cost to the Purchaser carry out all such tests and/or inspections of the Goods as are specified in the Schedules to Bid.
- 26.2 The inspections and tests may be conducted on the premises of the Supplier or its Subcontractor, at point of delivery, and/or at the final destination of the Goods, or in another place in the Purchaser's country as specified in the PCC. Subject to GCC Sub-Clause 26.3, if conducted on the premises of the Supplier or its Subcontractor, all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Purchaser.
- 26.3 The Purchaser or its designated representative shall be entitled to attend the tests and/or inspections referred to in GCC Sub-Clause 26.2, provided that the Purchaser bear all of its own costs and expenses incurred in connection with such attendance including, but not limited to, all traveling and board

and lodging expenses.

- 26.4 Whenever the Supplier is ready to carry out any such test and inspection, it shall give a reasonable advance notice, including the place and time, to the Purchaser. The Supplier shall obtain from any relevant third party or manufacturer any necessary permission or consent to enable the Purchaser or its designated representative to attend the test and/or inspection.
- 26.5 The Purchaser may require the Supplier to carry out any test and/or inspection not required by the Contract but deemed necessary to verify that the characteristics and performance of the Goods comply with the technical specifications, codes and standards under the Contract, provided that the Supplier's reasonable costs and expenses incurred in the carrying out of such test and/or inspection shall be added to the Contract Price. Further, if such test and/or inspection impedes the progress of manufacturing and/or the Supplier's performance of its other obligations under the Contract, due allowance will be made in respect of the Delivery Dates and Completion Dates and the other obligations so affected.
- 26.6 The Supplier shall provide the Purchaser with a report of the results of any such test and/or inspection.
- 26.7 The Purchaser may reject any Goods or any part thereof that fail to pass any test and/or inspection or do not conform to the specifications. The Supplier shall either rectify or replace such rejected Goods or parts thereof or make alterations necessary to meet the specifications at no cost to the Purchaser, and shall repeat the test and/or inspection, at no cost to the Purchaser, upon giving a notice pursuant to GCC Sub-Clause 26.4.
- 26.8 The Supplier agrees that neither the execution of a test and/or inspection of the Goods or any part thereof, nor the attendance by the Purchaser or its representative, nor the issue of any report pursuant to GCC Sub-Clause 26.6, shall release the Supplier from any warranties or other obligations under the Contract.

27. Liquidated Damages

- 27.1 Except as provided under GCC Clause 32, if the Supplier fails to deliver any or all of the Goods within the period specified in the Contract, the Purchaser may without prejudice to all its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in the PCC of the Contract Price for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in the PCC. Once the maximum is reached, the Purchaser may terminate the Contract pursuant to GCC Clause 35.

28. Warranty

- 28.1 The Supplier warrants that all the Goods are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.
- 28.2 Subject to GCC Sub-Clause 22.1, the Supplier further warrants that the Goods shall be free from defects arising from any act or omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions

prevailing in the country of final destination.

- 28.3 Unless otherwise specified in the PCC, the warranty shall remain valid for the specified period for each item from the date of installation, testing and commissioning of respective equipment.
- 28.4 The Purchaser shall give Notice to the Supplier stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. The Purchaser shall afford all reasonable opportunity for the Supplier to inspect such defects.
- 28.5 Upon receipt of such Notice, the Supplier shall, within the period specified in the PCC, expeditiously repair or replace the defective Goods or parts thereof, at no cost to the Purchaser.
- 28.6 If having been notified, the Supplier fails to remedy the defect within the period specified in the PCC, the Purchaser may proceed to take within a reasonable period such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

29. Patent Indemnity

- 29.1 The Supplier shall, subject to the Purchaser's compliance with GCC Sub-Clause 29.2, indemnify and hold harmless the Purchaser and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Purchaser may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of:
- (a) the installation of the Goods by the Supplier or the use of the Goods in the country where the Site is located; and
 - (b) the sale in any country of the products produced by the Goods.

Such indemnity shall not cover any use of the Goods or any part thereof other than for the purpose indicated by or to be reasonably inferred from the Contract, neither any infringement resulting from the use of the Goods or any part thereof, or any products produced thereby in association or combination with any other equipment, plant, or materials not supplied by the Supplier, pursuant to the Contract.

- 29.2 If any proceedings are brought or any claim is made against the Purchaser arising out of the matters referred to in GCC Sub-Clause 29.1, the Purchaser shall promptly give the Supplier a notice thereof, and the Supplier may at its own expense and in the Purchaser's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.
- 29.3 If the Supplier fails to notify the Purchaser within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Purchaser shall be free to conduct the same on its own behalf.
- 29.4 The Purchaser shall, at the Supplier's request, afford all

available assistance to the Supplier in conducting such proceedings or claim, and shall be reimbursed by the Supplier for all reasonable expenses incurred in so doing.

29.5 The Purchaser shall indemnify and hold harmless the Supplier and its employees, officers, and Subcontractors from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Supplier may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided or designed by or on behalf of the Purchaser.

30. Limitation of Liability

30.1 Except in cases of gross negligence or wilful misconduct:

- (a) neither party shall be liable to the other party for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Supplier to pay liquidated damages to the Purchaser; and
- (b) the aggregate liability of the Supplier to the Purchaser, whether under the Contract, in tort, or otherwise, shall not exceed the amount specified in the PCC, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the Supplier to indemnify the Purchaser with respect to patent infringement.

31. Change in Laws and Regulations

31.1 Unless otherwise specified in the Contract, if after the date of the Invitation for Bids, any law, regulation, ordinance, order or bylaw having the force of law is enacted, promulgated, abrogated, or changed in the place of the Purchaser's country where the Site is located (which shall be deemed to include any change in interpretation or application by the competent authorities) that subsequently affects the Delivery Date and/or the Contract Price, then such Delivery Date and/or Contract Price shall be correspondingly increased or decreased, to the extent that the Supplier has thereby been affected in the performance of any of its obligations under the Contract. Notwithstanding the foregoing, such additional or reduced cost shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions where applicable, in accordance with GCC Clause 15.

32. Force Majeure

32.1 The Supplier shall not be liable for forfeiture of its Performance Security, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

32.2 For purposes of this Clause, "Force Majeure" means an event or situation beyond the control of the Supplier that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Supplier. Such

events may include, but not be limited to, acts of the Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.

32.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

33. Change Orders and Contract Amendments

33.1 The Purchaser may at any time order the Supplier through Notice in accordance GCC Clause 8, to make changes within the general scope of the Contract in any one or more of the following:

- (a) drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser;
- (b) the method of shipment or packing;
- (c) the place of delivery; and
- (d) Any other

33.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or in the Delivery and Completion Schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this Clause must be asserted within twenty-eight (28) days from the date of the Supplier's receipt of the Purchaser's change order.

34. Extensions of Time

34.1 If at any time during performance of the Contract, the Supplier or its Subcontractors should encounter conditions impeding timely delivery of the Goods pursuant to GCC Clause 12, the Supplier shall promptly notify the Purchaser in writing of the delay, its likely duration, and its cause. As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may at its discretion extend the Supplier's time for performance, in which case the extension shall be ratified by the parties by amendment of the Contract.

34.2 Except in case of Force Majeure, as provided under GCC Clause 32, a delay by the Supplier in the performance of its Delivery and Completion obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 27, unless an extension of time is agreed upon, pursuant to GCC Sub-Clause 34.1.

35. Termination

35.1 Termination for Default

- (a) The Purchaser, without prejudice to any other remedy for breach of Contract, by Notice of default sent to the Supplier, may terminate the Contract in whole or in part:
 - i) if the Supplier fails to deliver any or all of the Goods within the period specified in the Contract, or within any extension thereof granted by the Purchaser pursuant to GCC Clause 34; or
 - (ii) if the Supplier fails to perform any other obligation under the Contract.

- b) In the event the /Purchaser terminates the Contract in whole or in part, pursuant to GCC Clause 35.1(a), the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Related Services similar to those undelivered or not performed, and the Supplier shall be liable to the Purchaser for any additional costs for such similar Goods. However, the Supplier shall continue performance of the Contract to the extent not terminated.
- c) if the Supplier, in the judgment of the Purchaser has engaged in corrupt and fraudulent practices, as defined in GCC Clause 3, in competing for or in executing the Contract.

35.2 Termination for Insolvency

The Purchaser may at any time terminate the Contract by giving Notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In such event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy that has accrued or will accrue thereafter to the Purchaser.

35.3 Termination for Convenience

- (a) The Purchaser, by Notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The Notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.
- (b) The Goods that are complete and ready for shipment within twenty-eight (28) days after the Supplier's receipt of the Notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:
 - (i) to have any portion completed and delivered at the Contract terms and prices; and/or
 - (ii) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and for materials and parts previously procured by the Supplier.

36. Assignment

- 36.1 The Supplier shall not assign, in whole or in part, its obligations under this Contract, except with prior written consent of the Purchaser.

Particular Conditions of Contract

PARTICULAR CONDITIONS OF CONTRACT

The following Particular Conditions of Contract (PCC) shall supplement the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

GCC Sub Clause 1.1(j)

The Purchaser's country is Islamic Republic of Pakistan.

GCC Sub Clause 1.1(k)

The Purchaser is: The Project Director / Solar, *Pakistan Railways, Headquarters Office, Lahore.*

GCC Sub Clause 1.1 (o)

The Site is: 41 Nos. Railway Station List attached as **Annexure – A**.

GCC Sub Clause 5.1

The language shall be: *English.*

GCC Sub Clause 7.1 and 7.2

The procurement is based on National Competitive Bidding.

GCC Sub Clause 8.1

For notices, the Purchaser's address shall be:

Attention: Project Director / Solar,

Address: *Office of the Deputy Chief Electrical Engineer / Power, Pakistan Railways, Headquarters Office.*

City: *Lahore*

ZIP Code: *54000*

Country: *Pakistan*

Telephone: + 92 -42-99201803

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

GCC Sub Clause 9.1

The governing law shall be the Law of Islamic Republic of Pakistan.

GCC Sub Clause 10.2

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 arbitration and finally settled in Lahore, Pakistan in accordance with the Pakistan Arbitration Act, 1940, and any amendment or substitution thereof. If the Parties cannot agree to the appointment of a sole arbitrator, each Party shall appoint an arbitrator and the arbitrators shall, before entering upon the reference, jointly appoint an umpire. The decision of the arbitrator(s) shall be final and shall not be challenged or assailed in any court on any ground whatsoever.

GCC Sub Clause 11.1

1. The bidder will provide the detailed technical specification which should be self-explanatory of the equipments to be supplied with the offering bid.
2. The contractor will ensure that he/she will supply the original, newly manufactured product. No refurbished/reconditioned or used product will be accepted.

GCC Sub Clause 12.1

Details of shipping and other documents to be furnished by the Supplier. *The bidder will also provide Operation and Maintenance manuals for the system.*

GCC Sub Clause 16.1

Payments shall be released as per submitted collective Invoice of not less than **PKR 50.00 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, and the Purchaser has accepted it.

GCC Sub Clause 16.4

The currency for payments shall be: *Pak Rupees*

GCC Sub Clause 18.3

As Clause 18.1.

GCC Sub Clause 18.4

The performance security will be discharge after completion of O&M period.

GCC Sub Clause 23.2

The packing, marking and documentation within and outside the packages shall be: *N/A*

GCC Sub Clause 24.1

The insurance coverage shall be in accordance with: *N/A*

GCC Sub Clause 25.1

Obligations for transportation of the Goods shall be in accordance with:

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.

GCC Sub Clause 26.2

Tests and Inspections specified in Schedule C to Bid, shall be carried out at the following times or milestones, and places: *at the time of delivery and at the end of ITC*

GCC Sub Clause 27.1

The liquidated damage shall be: The liquidated damage shall be: Half Percent (0.5%) of remaining work per week upto maximum of 10% of the contract amount.

GCC Sub Clause 28.3

The period of validity of the warranty of equipment shall be 25 years for Solar panels, 10 years for Inverters, 05 year of Lithium batteries from the date of successful installation, testing and Commissioning (ITC) of the equipment.

GCC Sub Clause 28.5

The Supplier shall correct any defects covered under the Warranty within 07 Working Days on the occurrence of such defects.

37. Testing of Equipments

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

38. Completion Period

The successful supplier will be responsible for complete Installation, Testing, and Commissioning of Solar System as per Delivery and Completion Schedule (Schedule – B) given in Tender Documents. **The completion period will be 12 Months from the date of signing of contract agreement with successful bidder.**

39. Defect Liability Period

The Contractor shall be responsible for arranging parts or equipment or any component of Solar System that becomes defective during DLP.

40. Retention Money in lieu of DLP

Five percent (05%) amount shall be retained from every payment. Retention shall be returned after expiry of Defect Liability Period.

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	1.
		2.
		3.
		4.
10	Past Experience of Supply to Railways if any	1.
		2.
		3.
		4.

Name of Firm: _____

Authorized Signature of Bidder: _____

Stamp & Date: _____

TECHNICAL PROPOSAL

Name of Bidder _____

DESIGN, SUPPLY & INSTALLATION OF SOLAR SYSTEM AT 41 NOS. OF RAILWAY STATIONS ON TURN-KEY BASIS.

1	<p>Design, Supply, installation, testing and commissioning of Hybrid solar system with Lithium Battery Set backup as per detailed below at Railway Stations with all allied accessories i.e. PV modules, inverter, mounting structure, protective equipment, including all civil and electrical works, wiring, cabling, net metering. (Complete in all respects).</p> <p>NOTE: The bidder will fill out BOQ of each site as per PV rating and battery backup mentioned in List of Stations at Annexure – A.</p>			
	Description	Unit	Qty	Brand Name /Country of Origin & Technical Data
1.1	Solar Panels Rating: 580Wp or above Topcon, HJT, HPBC or better, 12 Year Product, 25 Year Performance Warranty, IEC 61215 Certified & Other Certifications / Lab test reports according to PPIB Standardization Process Flow Policy as per SRO 604 issued by Government of Pakistan. 21% efficiency or higher Manufacturing Brand: Tier Manufacturer according to Bloomberg new energy finance (BNEF) latest issued ranking Canadian Solar, Longi Solar, Trina Solar; or Equivalent Tier 1.	Sum	as per Load requirement	
1.2	Inverter Type: Hybrid Inverter, Three Phase, IP-65 with built in DC and AC Surge Protection Devices, with remotely monitoring devices, and Gen Set synchronisation module, complaint with IEC 62109 – 1/2 Manufacturing Brand : SMA GERMANY, Huawei, or Equivalent	Sum	as per Load requirement	
1.3	DC Cables 1C x 6mmsq& 10mmsq DC 1500 V Copper (lengths & size may vary on each site;) CC: R+B; Imported DC Cables or Pakistani brands like Newage, Fast, Pakistan Cables or equivalent shall only be admissible with 99.9 % Copper High Grade XLPO Coated Cable; IEC 60811 or any other IEC standard applicable for DC cables and outdoor application / as per PSQCA standards in vogue	Meter	as per site requirement	
1.4	Lithium Battery Set with stand for 75 KWH or 150 KWH as per backup requirement mentioned in Annexure – A. Minimum Cycles 3000 or above at 35°C ambient. Brand: Narada /Shoto/Sacred Sun or equivalent All Equipments shall comply with PPIB / PSQCA standards in vogue	Kwh	As per site backup design requirement	
1.5	AC and DC separate DB Boxes Powder Coated, indoor/outdoor, appropriate housing space, as per site requirements complete in all respects, IP 54 or higher	Nos.	as per site design	
1.6	Panel Mounting Structure (Rooftop or Ground mount) Galvanized Iron structure, minimum Gauge 12 with 85 micron or thicker zinc coating and 100 micron for base plate, with SS Nut Bolts, with associated Civil works (as per site) Complete in all respects. All Equipments shall comply with AEDB / PSQCA standards in vogue (For sites in Karachi 125 Microns zinc coating is required or aluminium frame may be used)	Sum	as per site design	

1.7	AC/DC Circuit breakers, 1P, 2P, 3P, MCB, AC/DC Surge Arrestors, SPD, Disconnect or Switches, Changeover Switches, as per bidder submitted design & site requirements Brand: ABB, Schneider, Eaton or Equivalent.	Nos.	as per site design	
1.8	Earthing Cables & Conductors 1. AC side earthing / grounding as per Net Metering regulations <3 ohms 2. DC side earthing / grounding as per Net Metering regulations <3 ohms Brand: Newage/Fast/Pakistan or equivalent All Equipments shall comply with PPIB / PSQCA standards in vogue	Meters	as per site design	
1.9	AC cables as per site requirements and bidder submitted design complete in all respects Brand: Newage/Fast/Pakistan or equivalent All Equipments shall comply with PPIB/PSQCA standards in vogue	Meters	as per site design	
1.10	Earthing Pit As per site specific Earthing/ grounding requirements alongwith all components & accessories, Complete in all respects for Net Metering approvals and regulatory requirements All Equipments shall comply with AEDB / PSQCA standards in vogue	Job	as per site design	
1.11	BoS Items & Misc PVC Pipe, Flexible Pipe, GI Flexible Pipe, Glands, Conduits, Cables Ducts as per site design & requirements, GI Cable Trays as per site design & requirements, Nut, bolts, rawal bolts all other related Accessories and Misc. Items for installation of site complete in all respects as per site design & requirements All Equipments shall comply with PPIB / PSQCA standards in vogue	Job	as per site design	
1.12	Design, Engineering, Installation, Commissioning complete in all respects and transportation of all equipments to respective sites;	Job	as per site design	
1.13	Online Monitoring system with Proprietary Software Graphical Interface and compliant with Solar Inverters along with High Speed Internet WiFi Device on each site and capable of displaying all system parameters at Railway Headquarters Lahore on minimum 55inch LED Displays(01 Nos. each)	Job	as per site design	
1.14	Net Metering - Application preparation, submission, processing at relevant DISCOs / NEPRA along with relevant Fee & Demand Note for Electricity Meters - Application Handling, Processing - Protection Equipment -Disconnect Switches as per Electricity Inspector recommendation - Lightning Arrestor (s)	Job	as per site design	
2.	Supply of testing equipment Solar Utility Pro 1500V, 40 A PV String Checker Complete Kit make SEAWARD or equivalent with training.	Set	01	

OPERATION & MAINTENANCE

SN.	Description
1.	<u>DESIGN, SUPPLY & INSTALLATION OF SOLAR SYSTEM AT 41 NOS. OF RAILWAY STATIONS</u>

S#	Solar Power Generation KWh	KWh per year
1	Solar Power Generation (KWh) / Year for approximation & Benchmarking	3,710,744 approx.

1. Detail of O&M is provided in the Bidding Documents.
2. Contractor is required to quote rate of one KWH produced for the purpose of making payment of O&M.
3. Cost of O&M shall be paid based on per KWH unit energy produced by the Solar System and in accordance with the above quoted rate.
4. In order to measure the KWH unit of energy produced by Solar System, the Contractor shall exclusively install a separate KWH meter (other than meter installed for Net Metering) for this purpose.

Name _____

In the capacity of _____

Signed _____

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

Date _____

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 bid security in the favour of FA&CAO / PR form of CDR 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 i.e. 90 days from the date of opening of tender?		
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 design/ drawings of all stations mentioned in Annexure – A.		
10	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 / sub contract any firm on this project which is involved in litigation with Pakistan Railways. The under taking is to be provided on judicial E-stamp paper not less than Rs.200.		

*The compliance of all items of check list is mandatory to proceed further with evaluation marking. In case of non-compliance of any item, the firm will not qualify for further evaluation process.

Evaluation Criteria

1. Qualification evaluation criteria is as follows:

The firm not meetup the eligibility criteria as mentioned in clause IB.3 will be declared as technically non-responsive.

Sr.#	Category	Weightage/Marks
I.	Experience Record	40
II.	Personnel Capabilities	20
III.	Financial Soundness	40
	Total:	100

Note: *The firms scoring at least 60% marks will be qualified technically.*

b. The further detailed criteria for each category will be as given under each head as follows:

b. Experience

Credit Marks for experience shall be awarded based on following qualifications:

Sr. No.	Description	Marks Assigned	Explanation for Marks Obtained
a.	<p>Solar PV Projects (On Grid / Hybrid) completed in last three years.</p> <p>(Each of min. Rs. 50 million). No Marks will be awarded for works less than specified financial limit.</p> <p>Note: Completion certificate, issued by the Client, of all projects must be attached along with Form Tech-1 and Form Tech – 2. If completion certificate not attached project will not be considered.</p>	20	<p><input type="checkbox"/> 15 Marks will be given if the Bidder has completed at least 5 projects in last three years.</p> <p><input type="checkbox"/> For less than 5 projects completed following weightage shall be used. =15 x (A/5)</p> <p><input type="checkbox"/> For more than 5 projects but less than 10 projects completed following weightage shall be used. =15 + (A/10) x 5</p> <p>A = No. of Solar PV projects completed in last three years</p> <p><input type="checkbox"/> Full Marks will be given in case of more than 10 projects in last three years.</p>

b.	<p>Solar PV Projects awarded and are under construction and yet to be commissioned.</p> <p>(Each of min. Rs. 50 million). No Marks will be awarded for works less than specified financial limit.</p> <p>Note: Letter of Acceptance / Contract Agreement of all projects must be attached along with form Tech – 3 & Form Tech – 4. In case of non-provision project will not be considered.</p>	10	<p><input type="checkbox"/> Full Marks will be given if the Bidder has at least 5 projects in-hand.</p> <p><input type="checkbox"/> For less than 5 projects in-hand use the following weightage.</p> <p style="padding-left: 40px;">=10 x (A/5)</p> <p style="padding-left: 40px;">A = No. of projects in-hand.</p> <p>The Procuring Agency may verify the credentials of the project and progress from the Client, if required.</p>
c.	<p>O&M Experience of Solar Projects (in hand or completed) in last three (03) years (each project should be 50 KW or above)</p> <p>No marks will be awarded for Solar Projects having capacity less than 50 KW</p> <p>Note: O&M certificate issued by the client, of all completed and in hand projects in last three years to be attached along with form Tech – 5.</p>	10	<p><input type="checkbox"/> Full Marks will be given in case of 10 or more than 10 projects.</p> <p><input type="checkbox"/> For less than 10 O&M projects, following weightage shall be used.</p> <p style="padding-left: 40px;">=10 x (A/10)</p> <p style="padding-left: 40px;">A = No. of O&M Solar PV projects in hand or completed last three years</p>
Total Marks Allowed		40	

II. Personnel Capabilities

Credit Marks shall be awarded under this category using the following criteria:

Sr. No.	Description	Marks Assigned	Explanation for Marks Obtained
a.	Graduate Engineer / Designer (Must be registered with PEC) Note: - Detail to be provided on Form Tech – 6 & Form Tech – 8.	10	<input type="checkbox"/> Full Marks will be given if at least four B.Sc. Engineer with 5 year or above experience in Solar firms and must be in employment of the firm at present applying as Bidder. Each engineer carry Max. 2.5 marks. <input type="checkbox"/> For engineers having experience less than 5 years but equal or greater than two years: $=2.5 \times (A/5)$ A = No. of years of experience provided A must be equal or greater than two (2) years. Zero (0) Mark will be given in case B.Sc. Engineer is: a. not in employment of the firm b. his experience is less than two years.
b.	Diploma / Associate Engineer in Employment of the Firm Note: - Detail to be provided on Form Tech – 7 & Form Tech – 8.	10	<input type="checkbox"/> One Mark will be given for each of the Associate Engineer with at least five years of experience and must be in employment of the firm at present. <input type="checkbox"/> For experience less than 5 years but equal or greater than two years: $=1 \times (A/5)$ A = No. of years of experience provided A must be equal or greater than two (2). <input type="checkbox"/> Zero (0) Mark will be given in case Associate Engineer is not in employment of the firm.
Total Marks Allocated		20	

III. Financial Position

Credit Marks shall be awarded based on the following criteria:

Sr. No.	Description	Marks Assigned	Criteria for Marks Obtained
a.	Average Annual Turnover of last 3 years. Note: - Detail to be provided on Form Tech – 9.	40	<input type="checkbox"/> 40 Marks will be given if the average annual turn over for last Three Years is more than or equal to Rs.250.00 Million. <input type="checkbox"/> For the turnover less than Rs. 250.00 million use following weightage = $40 \times (A/250)$ A = Average annual turnover of last three years. <input type="checkbox"/> Zero marks will be given if average annual turnover is less than Rs.50.00 Million
Total Marks Allocated			40

Form Tech-2

Detail of completed Solar PV 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:	

Form Tech-4

Detail of under construction Solar PV Project

(Please fill the Form Tech-4 for each under construction project separately)

Project Title:	Value of the Project (in Pak Rs):
Country: Location within country:	
Name of Client:	
Start 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:	

Detail of Commercial O&M Experience of Solar PV Project

(Please fill the Form Tech-5 for each O & M project separately)

Project Title:	
Country: Location within country:	
Name of Client & Contact detail:	
Start date (month/year):	Capacity (Kw): On Grid or Hybrid:
Narrative description of Project:	

Note: -

- Documentary evidence of O&M contract to be provided.
- For Joint Venture, O&M experience will be summed up for evaluation.

List of Graduate Engineers / Designer

S.No	Name	Qualification	Experience

Form Tech-7

List of Diploma / Associate Engineers

S.No	Name	Qualification	Experience

Form Tech-8

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</i> (MM/YYYY)

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</i> (MM/YYYY)	<i>To</i> (MM/YYYY)

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.

Form Tech-9

Financial Capabilities

Name of Firm: _____

Annual Turnover

For the year (amount in Million Pak. Rs)		
2020-21	2021-22	2022-23

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)

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. Solar PV Modules:

Manufacturer and Material Requirements:

Solar PV modules shall be of Tier – I manufacturer as per latest Bloomberg New Energy Finance (BNEF) list (for Q1 or Q2 of the year 2024). The PV technology shall be half cut Topcon / HJT to maximize the yield against the available area and minimize the losses against partial shading. Each module shall have at least IP 65 rated junction boxes which shall be dust and vermin proof having copper bus bar terminals, EPDM rubber gasket, reverse blocking diodes and IEC standard 62790 compliant. In case any technology other than above is proposed, vender shall comply with all performance and warranty related requirements of the project.

Performance and Rating Requirements:

The power rating for each PV module shall be more than 580Wp under STC conditions with positive power tolerance only. Each PV module must have efficiency greater than 21%. The proposed PV module must exhibit efficiency of more than 96% of the STC efficiency at 200 W/m² (i.e. low lighting conditions). The module Temperature Coefficient at Pmax shall be -0.35% / °C or lesser and the operating temperature range shall be -40°C to +85°C.

Certification Requirements:

The PV Module must be Type Tested based on IEC standard 61215 (Terrestrial PV Modules- Design qualification and type approval) and IEC 61730 (Photovoltaic module safety qualification) based insulation of Safety Class II. Modules must be free of Potential Induced Degradation (PID). The module shall be S.R.O 604 compliant issued by Government of Pakistan. The Flash Test report, module Test report as per IEC standards

61215 and 61730 along with pre-shipment inspection certificate shall be provided at the time of delivery of modules at site.

Warranty and Replacement:

Each module shall have minimum 12 years material and workmanship warranty and 25 years performance warranty. The Power output of each PV module shall be greater than 85% after 25 Years. Warranty shall be insured by third party.

Product Identification:

Each PV module shall have a unique barcode identification tag issued by the manufacturer. The same shall be confirmed from the manufacturer prior to verification of equipment delivery at site by the Engineer. Pre shipment inspection reports shall also be verified from the party that issued the certificates.

2. 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 inverter 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. Inverter 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 :

The inverters shall have minimum 10 years of replacement warranty.

3. PV Balance of system :

a) Mounting Structure :

The mounting structure shall be UV resistant and shall have hot dip galvanized steel frame of gauge 12 with 85 micron or thicker zinc coating and 100 micron for base plate. Spacing from Parapet wall must be 3 ft. The structure shall have galvanic isolation and shall withstand wind speed of 150 km/h. Complete civil work (including civil blocks of 1:1.5:3 or any that ensure PSI strength of 3000 or higher composition) for mounting structure installation shall be performed as per Employer Design provided in the list of Works available at Employer's website. For rooftop areas with additional slabs, rawal bolt based anchoring shall be followed in combination with waterproofing treatment.

b) 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 6 mm² or 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.

c) 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.

d) Monitoring and Control System:

Online and real time monitoring shall be provided with following parameters;

1. Energy generation (kWh)
2. Power production (kW)
3. String-level monitoring of Voltage and Current
4. Historical data for at least 3 years on inverter manufacturer server shall be ensured.

e) Net Metering Application and Installation of Bidirectional Meter

The Contractor shall comply with all prevailing regulations set forth by NEPRA/DISCOs for net metering purposes including load flow studies on requisite software. Preparation and processing of application for net metering along with requisite clarifications shall be arranged by the Contractor in the Project timelines. Furthermore, in cases where the technical feasibility study is required for purposes of approval of net-metering application, the Contractor shall also carry out the requisite feasibility study and make arrangement for its approval from the relevant DISCO.

f) Operation Manual: An Operation, Instruction and Maintenance Manual, 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.

SCOPE OF WORK OF OPERATION & MAINTENANCE

- (1) The Contractor will take the responsibility of operations, maintenance and security of installed Solar System during O&M period of Five (05) Years.
- (2) Cost of O&M shall be paid quarterly based on per KWH unit energy produced by the Solar System and in accordance with the price quoted by the Contractor in Financial Proposal.
- (3) In order to measure the KWH unit of energy produced by Solar System, the Contractor shall exclusively install a separate KWH meter (other than meter installed for Net Metering) for this purpose. These meters shall preferably be IP based, for which charges / fee of internet is to be paid by the Contractor. If at any location internet is not available other meter can be installed. At the end of every month joint reading shall be recorded by representatives of Contractor and Railway and quarterly invoice shall be submitted to Railways for payment to contractor.
- (4) The contractor shall be bound to produced annual solar energy on each site with accumulative generation as mentioned in Technical Proposal. The contractor will be allowed 05% less generation from defined benchmark production at each site. In case of generation less than 05%, the less units will be penalized @ average unit tariff of DISCOS at that particular connection.
- (5) Contractor shall be responsible for arranging spare parts or equipment or any component of Solar System that becomes defective, broken due to any reason or stolen during Ooperation and Mmaintenance period. However, deliberate damage, sabotage, riots, act of terrorism on site or any Act of God / natural calamities shall not be covered under this clause. The contractor shall however arrange for insurance of equipment upto their entire satisfaction for coverage against theft, burglary, vandalism, fire etc to cover any such risk during the entire pendency of O&M period.
- (6) Five (05) years operation and maintenance period includes Defect Liability Period (DLP) of 365 days. However, the Contractor shall be responsible for arranging parts or equipment or any component of Solar System that becomes defective during DLP.
- (7) During operation and maintenance period, all necessary tools and plants required for maintenance shall be provided by the Contractor to the staff deployed for operation and maintenance.
- (8) The contractor will arrange all required resources to carry out O&M within O&M period.
- (9) During operation and maintenance period Contractor shall depute all necessary supervisory staff, watchmen and skilled / un-skilled staff at his own cost.
- (10) The successful bidder will be liable to hand over system to Pakistan Railways in satisfactory working condition after completion of O&M contract period.

LIST AND LOAD OF 41 NOS. CBI STATIONS FOR HYBRID SOLAR SYSTEM WITH 05 HOURS DAY TIME OPERATION AND BATTERY BACKUP

S#	Name of Station	Division	Solar PV System Rating (kWp)	Battery Storage KWH	Annual Solar Yield (kWh)
1.	Bin Qasim	KYC	60	75	90000
2.	Mirpur Mathelo	SUK	73	75	103000
3.	Ghotki	SUK	54	75	77300
4.	Mahesar	SUK	53	150	77100
5.	Pano Akil	SUK	61	75	88400
6.	Begmanji	SUK	53	150	79100
7.	Khairpur	SUK	60	75	87000
8.	Tando Masti Khan	SUK	62	150	89000
9.	Gambat	SUK	60	75	87000
10.	Ranipur Riasat	SUK	60	75	97164
11.	Setharja	SUK	56	150	81600
12.	Mehrabpur	SUK	60	75	90400
13.	Lakha Road	SUK	60	150	86500
14.	Bhiria Road	SUK	65	150	103250
15.	Padidan	SUK	55	75	84000
16.	Kot Lalloo	SUK	52	150	76900
17.	Bandhi	SUK	54	75	76600
18.	Daur	SUK	53	75	77100
19.	Bucheri	SUK	55	150	68700
20.	Nawabshah	SUK	68	75	98200
21.	Sarhari	SUK	52	150	74900
22.	Lundo	SUK	60	150	89400
23.	Shahdadpur	SUK	32	75	48000
24.	Yousaf wala	MUL	57	75	81200
25.	Rajpoot Nagar	MUL	76	75	106700
26.	Riazabad	MUL	71	75	103500
27.	Kassowal	MUL	60	75	84000
28.	Shujabad	MUL	82	75	113800
29.	Lodhran	MUL	73	75	105000
30.	Sahiwal	MUL	75	75	108000
31.	Chichawatni	MUL	73	75	103800
32.	Mian Chanu	MUL	87	75	125900
33.	Harapa	MUL	60	75	84000
34.	Piran Gaib	MUL	63	75	91500
35.	Sher Shah	MUL	89	75	121900
36.	Galewala	MUL	71	75	101300
37.	Pattoki	LHR	66	75	88600
38.	Changa Manga	LHR	62	75	80300
39.	Kot Radha Kishan	LHR	70	75	92000
40.	Jia Bagga	LHR	70	75	104830
41.	Kissan	LHR	65	75	83800
	Total :-		2588		3710744

Sold to:

M/s _____



PAKISTAN RAILWAYS

Headquarters Office, Lahore.

TENDER DOCUMENTS

For

**DESIGN, SUPPLY, INSTALLATION & COMMISSIONING OF
SOLAR SYSTEM AT 41 NOS. OF RAILWAY STATION ON TRUN-
KEY BASIS**

on

Single Stage-Two Envelope Basis

VOLUME 2 OF 2

(Financial Proposal Format)

Bid Reference No. 14-Elect/Agreement Solar/181

**OFFICE OF THE PROJECT DIRECTOR / SOLAR
DEPUTY CHIEF ELECTRICAL ENGINEER,
PAKISTAN RAILWAYS, HEADQUARTERS OFFICE, LAHORE**

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FORM OF BID
AND
FINANCIAL PROPOSAL FORMAT

Form of Bid

Date: _____

Bid Reference No. _____

To:

Project Director / Solar
Pakistan Railways,
Headquarters Office, Lahore.

Subject: **DESIGN, SUPPLY & INSTALLATION OF SOLAR SYSTEM AT 41 NOS. OF RAILWAY STATION**

Gentleman,

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Document, including Addenda No.:
_____;
- (b) 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 our Bid is: _____
_____;
- (d) 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 our Bid is accepted, we commit to obtain a Performance Security in the amount of 5% of the Contract Price for the due performance of the Contract.
- (f) We are not participating, as Bidders, in more than one Bid in this bidding process.
- (g) 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) We 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) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

(j) 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

Name of Bidder _____
 Advertised Tender No. _____

1. DESIGN, SUPPLY & INSTALLATION OF SOLAR SYSTEM AT 41 NOS. OF RAILWAY STATION ON TURN-KEY BASIS.

SN.	Description	Unit	Quantity	Amount in Figures	Amount in Words
1.	Design, Supply, installation, testing and commissioning of Solar hybrid system with Lithium Battery Set backup as per detailed below at Railway Station with all allied accessories i.e. PV modules, inverter, mounting structure, protective equipment, including all civil and electrical works, wiring, cabling, net metering (where required as per BOQ), etc. (Complete in all respects).				
	1.1 Design, Supply, Installation and commissioning of 60 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station BIN QASIM	Nos.	1		
	1.2 Design, Supply, Installation and commissioning of 73 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station MIRPUR MATHELO	Nos.	1		
	1.3 Design, Supply, Installation and commissioning of 54 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station GHOTKI	Nos.	1		
	1.4 Design, Supply, Installation and commissioning of 53 KWp Solar hybrid system with 150 KWH Lithium Ion Battery backup to be installed at Railway Station MAHESAR	Nos.	1		
	1.5 Design, Supply, Installation and commissioning of 61 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station PANO AKIL	Nos.	1		
	1.6 Design, Supply, Installation and commissioning of 53 KWp Solar hybrid system with 150 KWH Lithium Ion Battery backup to be installed at Railway Station BEGMANJI	Nos.	1		
	1.7 Design, Supply, Installation and commissioning of 60 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station KHAIRPUR	Nos.	1		
	1.8 Design, Supply, Installation and commissioning of 62 KWp Solar hybrid system with 150 KWH Lithium Ion Battery backup to be installed at Railway Station TANDO MASTI KHAN	Nos.	1		

	1.9 Design, Supply, Installation and commissioning of 60 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station GAMBAT	Nos.	1		
	1.10 Design, Supply, Installation and commissioning of 60 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station RANIPUR RIASAT	Nos.	1		
	1.11 Design, Supply, Installation and commissioning of 56 KWp Solar hybrid system with 150 KWH Lithium Ion Battery backup to be installed at Railway Station SETHARJA	Nos.	1		
	1.12 Design, Supply, Installation and commissioning of 60 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station MEHRABPUR	Nos.	1		
	1.13 Design, Supply, Installation and commissioning of 60 KWp Solar hybrid system with 150 KWH Lithium Ion Battery backup to be installed at Railway Station LAKHA ROAD	Nos.	1		
	1.14 Design, Supply, Installation and commissioning of 65 KWp Solar hybrid system with 150 KWH Lithium Ion Battery backup to be installed at Railway Station BHIRIA ROAD	Nos.	1		
	1.15 Design, Supply, Installation and commissioning of 55 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station PADIDAN	Nos.	1		
	1.16 Design, Supply, Installation and commissioning of 52 KWp Solar hybrid system with 150 KWH Lithium Ion Battery backup to be installed at Railway Station KOT LALLOO	Nos.	1		
	1.17 Design, Supply, Installation and commissioning of 54 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station BANDHI	Nos.	1		
	1.18 Design, Supply, Installation and commissioning of 53 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station DAUR	Nos.	1		

	1.19 Design, Supply, Installation and commissioning of 55 KWp Solar hybrid system with 150 KWH Lithium Ion Battery backup to be installed at Railway Station BUCHERI	Nos.	1		
	1.20 Design, Supply, Installation and commissioning of 68 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station NAWAB SHAH	Nos.	1		
	1.21 Design, Supply, Installation and commissioning of 52 KWp Solar hybrid system with 150 KWH Lithium Ion Battery backup to be installed at Railway Station SARHARI	Nos.	1		
	1.22 Design, Supply, Installation and commissioning of 60 KWp Solar hybrid system with 150 KWH Lithium Ion Battery backup to be installed at Railway Station LUNDO	Nos.	1		
	1.23 Design, Supply, Installation and commissioning of 32 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station SHAHDADPUR	Nos.	1		
	1.24 Design, Supply, Installation and commissioning of 57 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station YOUSAF WALA	Nos.	1		
	1.25 Design, Supply, Installation and commissioning of 76 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station RAJPOOT NAGAR	Nos.	1		
	1.26 Design, Supply, Installation and commissioning of 71 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station RIAZABAD	Nos.	1		
	1.27 Design, Supply, Installation and commissioning of 60 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station KASSOWAL	Nos.	1		
	1.28 Design, Supply, Installation and commissioning of 82 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station SHUJABAD	Nos.	1		

	1.29 Design, Supply, Installation and commissioning of 73 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station LODHRAN	Nos.	1		
	1.30 Design, Supply, Installation and commissioning of 75 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station SAHIWAL	Nos.	1		
	1.31 Design, Supply, Installation and commissioning of 73 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station CHICHAWATNI	Nos.	1		
	1.32 Design, Supply, Installation and commissioning of 87 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station MIAN CHANU	Nos.	1		
	1.33 Design, Supply, Installation and commissioning of 60 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station HARAPA	Nos.	1		
	1.34 Design, Supply, Installation and commissioning of 63 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station PIRAN GAIB	Nos.	1		
	1.35 Design, Supply, Installation and commissioning of 89 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station SHER SHAH	Nos.	1		
	1.36 Design, Supply, Installation and commissioning of 71 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station GALEWALA	Nos.	1		
	1.37 Design, Supply, Installation and commissioning of 66 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station PATTOKI	Nos.	1		
	1.38 Design, Supply, Installation and commissioning of 62 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station CHANGA MANGA	Nos.	1		

	1.39 Design, Supply, Installation and commissioning of 70 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station KOT RADHA KISHAN	Nos.	1		
	1.40 Design, Supply, Installation and commissioning of 70 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station JIA BAGGA	Nos.	1		
	1.41 Design, Supply, Installation and commissioning of 65 KWp Solar hybrid system with 75 KWH Lithium Ion Battery backup to be installed at Railway Station KISSAN	Nos.	1		
	Total				
2	Supply of testing equipment Solar Utility Pro 1500V, 40 A PV String Checker Complete Kit make SEAWARD or equivalent with training.	Set.	01		
	G. Total				

OPERATION & MAINTENANCE

SN.	Description
1.	<u>DESIGN, SUPPLY & INSTALLATION OF SOLAR SYSTEM AT 41 NOS. OF RAILWAY STATION ON TURN-KEY BASIS.</u>

S#	Solar Power Generation KWh	KWh per year	Bidder Quote PKR/KWh	Total Quote Price KWh/Year	Total Quote Price KWh/05years
1	Solar Power Generation (KWh) / Year for approximation & Benchmarking	3,710,744 approx.			

1. Detail of O&M is provided in the Bidding Documents.
2. Contractor is required to quote rate of one KWH produced for the purpose of making payment of O&M.
3. Cost of O&M shall be paid based on per KWH unit energy produced by the Solar System and in accordance with the above quoted rate.
4. In order to measure the KWH unit of energy produced by Solar System, the Contractor shall exclusively install a separate KWH meter (other than meter installed for Net Metering) for this purpose.

Name _____

In the capacity of _____

Signed _____

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

Date _____

PROCEDURE FOR EVALUATION OF FINANCIAL PROPOSAL

1. Because of two variables (cost of Solar System and Rate per KWH unit for O&M) in the Financial Proposal, most advantageous bid cannot be ascertained through simple calculation.
2. To convert quoted rate per KWH unit for O&M into Rs. Value, following procedure shall be adopted:
 - i. Based on the proposed capacity minimum KWH unit generated per year =3,710,744 KWh.
 - ii. Total estimated minimum units for Five Years (**a**) = 18,553,720 KWH.
 - iii. Rate per KWH Unit production to be quoted by the Bidder = **b**
 - iv. Total estimated cost (in Rs) of O&M (**c**) = **a x b**
 - v. Overall cost of the Bidder (**d**) = **c + Total** cost quoted for Supply & Installation of Solar System.
 - vi. Overall cost (**d**) of all Bidders shall be compared for determination of most advantageous Bid.