

KHUSHAL KHAN KHATTAK UNIVERSITY KARAK



**REQUEST FOR PROPOSAL (RFP)
FROM
CONTRACTORS/FIRMS/COMPANIES**

FOR

**DESIGN BUILD AND INSTALLATION OF 370 KW ON GRID- HYBRID
SOLAR SYSTEM AT KHUSHAL KHAN KHATTAK UNIVERISTY
KARAK. (PHASE -1)**

(TECHNICAL)

**Khushal Khan Khattak University
Karak, Khyber Pakhtunkhwa**

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1.0 REQUEST FOR PROPOSAL (RFP)

INSTALLATION OF ON GRID- HYBRID SOLAR SYSTEM AT KHUSHAL KHAN UNIVERSITY

Board of Intermediate & Secondary Education KKKU Karak invites bids from reputed and well-established Firms / Companies/ Contractors of Alternative Energy Development Board (AEDB) to provide the Net-Metering facilitation and license through PESCO / WAPDA having valid NTN / Sales Tax registration with active ATL Status in KPRA and FBR record with modern facilities for installation of 370.6 KW On Grid- Hybrid Solar System approximately ($\pm 10\%$) or suitable capacity in accordance with the need of, required for " KKKU, KARAK ".

Bidding shall be carried out through 'Single stage-Two envelope procedure. Prospective Bidders are required to submit a Pay Order of **Rs:2,000/- (non-refundable)** in favor of Treasure Khushal Khan Khattak University with the bidding proposal. Bidders will be required to deposit Earnest Money 2% (refundable) in the form of a Pay Order/CDR in favor of Treasure Khushal Khan Khattak University along with the bidding Proposals.

The rates quoted should be valid for a period of Ninety days (90 days) from the date of bid opening of technical bids.

Prospective Bidders are requested to submit their sealed proposals on or before **04-10-2023, 11:00 hrs** in the office of **Khushal Khan Khattak University Karak**.

Technical proposals will be opened on same date at **11:30 hrs** in the presence of representative of Firms/Companies/Contractors who intend to witness the proceedings. A pre-bid meeting shall be held on 26-09-2023 at 11:00 AM.

Proposals received after due date/time shall not be considered. Any Delay in Postal Service will not acceptable.

DIRECTOR WORKS
Khushal Khan Khattak University
Karak



KHUSHAL KHAN KHATTAK UNIVERSITY, KARAK
27200-Karak, Khyber Pakhtunkhwa (Pakistan) Ph.0927-291033

TENDER NOTICE

Khushal Khan Khattak University Karak, KPK invites bids based on MRS-2022 (2nd Bi-Annual) from reputed and well-established Firms / Companies/ Contractors of Alternative & Renewable Energy (ARE) to provide the Net-Metering facilitation and license through PESCO / WAPDA having valid NTN / Sales Tax registration with active ATL Status in KPRA and FBR record with modern facilities for design build and installation of 370KW approximately ($\pm 10\%$) or suitable capacity in accordance with the need of **On Grid- Hybrid Solar System**, required for KHUSHAL KHAN KHATTAK UNIVERISTY KARAK. The interested firms should be registered with Alternative Energy Development Board (AEDB). The tender will be on the basis of Single Stage-Two envelope procedure as per KPPRA rules.

S.No	Name of Work	Estimated Cost (M)	Earnest Money (2% of Estimated cost)	Required Category of PEC	Period of Completion	Last date of submission & Time	Date & Opening Time
1	DESIGN BUILD AND INSTALLATION OF 370 KW ON GRID- HYBRID SOLAR SYSTEM AT KHUSHAL KHAN KHATTAK UNIVERISTY KARAK. (PHASE -1)	99.488	2% of Engineer Estimate (Rs.1,989,756)	C-4 EE-04,EE-11 and CE-10	As Per Work Order	04-10-2023 (11:00 AM)	04-10-2023 (11:30 AM)

TERMS & CONDITIONS:

1. The interested bidders must have completed at least three similar natures of projects in last five years with proof.
2. Bidding documents can be obtained from the office of Director Works, Khushal Khan Khattak University, karak on cash payment of Rs. 2000/- (non-refundable) up-to October 03, 2023. Technical design should be based on proper analysis and rates should be quoted accordingly in the bid.
3. In case of bid more than 10% below, the bidders shall submit additional bid security in light of Khyber Pakhtunkhwa Public Procurement Regulatory Authority (KPPRA) notification No. S.R.O (14)/Vol: 1-24/2021-22 date may 10, 2022 which is available in KPPRA website.
4. Financial Bid must be accompanied by bid security in shape of call deposit @ 2% of the engineering Estimate cost in the name of Treasurer Khushal Khan Khattak University, Karak.
5. Income tax return for last 03 years/ audited report may be submitted with the technical bid.
6. Original Affidavit on Stamp Paper that the Firm DOESN'T have any Litigation History in which Decision has been given against the firm(s).
7. (If Applicable) Joint Venture agreement as per PEC criteria on stamp paper, signed by authorized persons of all the firms should be provided. All JV partners must be registered with PEC.
8. The defect liability period of 01 year (all allied accessories) & warranty for solar panels for 25 years shall be commenced from the date of commissioning.
9. A pre-bid meeting shall be held on 26-09-2023 at 11:00 AM in the Committee room, Khushal Khan Khattak University, Karak. Bidders are invited to attend the meeting.
10. The bid shall be opened in the presence of committee members & bidders and work will be awarded to the lowest bidder.
11. All taxes etc. shall be deducted from the bill of the contractor/firms at prescribed rates notified by the government of Pakistan from time to time.
12. Any other information can be obtained from the office of the undersigned on any working day before the submission of the bid.
13. Khushal Khan Khattak University, Karak reserves the right to reject any or all bids by assigning cogent reasons.
14. Bid proposal through courier should reach the office of Director Works, Khushal Khan Khattak University, karak by the above mentioned date.
15. The bidders/firms will have to provide the following documents at the time of receiving the tender documents.
 - a. CNIC copy.
 - b. Written request on bidder letter head
 - c. PEC, KPRA & FBR Registration
 - d. Registration of AEDB

DIRECTOR WORKS
Khushal Khan Khattak University, Karak
Ph #, (0927) 291033

2.0 INSTRUCTIONS TO APPLICANTS/ PROSPECTIVE BIDDERS

2.1 Submission of Applications

- 2.1.1 Applications for qualification (one original and 01 copy in hard form) must be received in sealed envelopes to be delivered by hand not later than 04-10-2023 to the office of, **Khushal Khan Khattak University, Karak**, and be clearly marked as

Application For

INSTALLATION OF ON GRID- HYBRID SOLAR SYSTEM KHUSHAL KHAN KHATTAK UNIVERSITY KARAK

- 2.1.2 The applications should be sent/delivered on following address: -

DIRECTOR WORK,
SKHUSHAL KHAN KHATTAK UNIVERSITY KARAK
Karak City, Khyber Pakhtunkhwa.
Ph #, (0927) 291033

- 2.1.3 The name and mailing address of the Firm/ Company/ Contractor shall be clearly marked on left side of the envelope.
- 2.1.4 The applications shall be prepared in the English language. Information in any other language shall be accompanied by its translation in English.
- 2.1.5 Bidders must respond to all questions and provide complete information as advised in this document. Any lapse to provide essential information may result in disqualification of the Bidders.
- 2.1.6 The clarification required may be asked through post, email or other communication means.

2.2 PROPOSAL PREPARATION

- 2.2.1 A brief description of the Assignment and its objectives are provided in the Data Sheet given in section 3.0.
- 2.2.2 To obtain first-hand information on the Assignment and on the local conditions, Firms/Companies/ Contractors are encouraged to visit the site before submitting a proposal. The representatives of Firms/ Companies/ Contractors shall meet the officials named in the Data Sheet. Please ensure that these officials should be informed about their visit in advance to allow adequate time to facilitate the site visit. Contractor/ Firms / Companies must fully update themselves of local conditions and take the min to account while preparing proposal.

2.2.3 The Firm/Company /Contractor shall provide the inputs specified in the Data Sheet.

2.2.4 Please Note That:

The cost of preparing the proposal and site visit, are not reimbursable as a direct cost for the Assignment.

- 2.2.5 In case any activity or item is quantified in the financial proposal differently from the technical proposal, the evaluation committee shall have the power to accept the quantification indicated in the financial proposal to make it consistent with that indicated in the technical proposal.

2.3 DOCUMENTS

- 2.3.1 To prepare a proposal, Perspective Bidders will use the attached forms/documents listed in RFP as a sample.
- 2.3.2 Prospective Bidders requiring a clarification of the documents must notify KHUSHAL KHAN KHATTAK UNIVERSITY, KARAK in writing, but not later than seven (07) days before the proposal submission date. Any request for clarification in writing shall be submitted to the office of KKKU KARAK.

2.4 SUBMISSION AND PREPARATION OF PROPOSAL

KKKU KARAK invites proposals from experienced Firms/ Companies/Contractors by using single stage-two envelopes procedure for Installation of 370.60 KW On Grid- Hybrid Solar System at KKKU Karak. Following procedure is prescribed for participation in the tender.

- 2.4.1 The bid shall comprise a single package containing two separate envelopes. Each envelope shall contain separately the financial proposal and the technical proposal;

- 2.4.2 The envelopes shall be marked as “TECHNICAL PROPOSAL” and “FINANCIAL PROPOSAL” in bold and legible letters to avoid confusion;
- 2.4.3 Initially, only the envelope marked “TECHNICAL PROPOSAL” shall be opened;
- 2.4.4 The envelope marked as “FINANCIAL PROPOSAL” shall be retained in the custody of KKKU Karak without being opened;
- 2.4.5 KKKU Karak Technical Committee shall evaluate the technical proposal in a manner prescribed in advance without reference to the prices and reject any proposal which does not conform to the specified requirements.
- 2.4.6 During the technical evaluation no amendments in the technical proposal shall be permitted.
- 2.4.7 The financial proposals of the Bids shall be opened publicly at the time day and venue announced and communicated to the Bidders in advance.
- 2.4.8 After the evaluation and approval of the technical proposal KKKU KARAK shall at a time with in the bid validity period publicly open financial proposal of the technically accepted bids only. The financial proposal of the bids found ~~un~~ responsive/disqualified shall be returned un-opened to the respective Bidders.
- 2.4.9 The bid found to be the most advantageous bid shall be accepted.
- 2.4.10 All the Bidders are required to submit their technical proposals which will include but not limited to Company Profiles, Proposed Design including Layout of installations and Project execution plan of solar power system at KKKU Karak. This information will also be provided in soft form for presentation to the technical/works committee. The presentations will be held after evaluation of bids and will be communicated to the successful bidder.
- 2.4.11 Financial Bids of technically qualified Bidders will be opened for financial evaluation. Financial Proposal will be evaluated as per given criteria. The Firm/Company/Contractor with the lowest financial bid will be selected for the Installation of solar power system at KKKU Karak.

3 DATASHEET

Name of the Assignment:

DESIGN BUILD AND INSTALLATION OF 370 KW ON GRID- HYBRID SOLAR SYSTEM AT KHUSHAL KHAN KHATTAK UNIVERISTY KARAK. (PHASE -1)

Name of the Client: KHUSHAL KHAN KHATTAK UNIVERSITY, KARAK

DESCRIPTION AND THE OBJECTIVES OF THE ASSIGNMENT:

Board of Intermediate & Secondary Education Khushal Khan Khattak University, Karak invites bids from reputed and well-established Firms / Companies/ Contractors of Alternative Energy Development Board (AEDB) to provide the Net-Metering facilitation and license through PESCO / WAPDA having valid NTN / Sales Tax registration with active ATL Status in KPRA and FBR record with modern facilities for installation of 370.6 KW On Grid- Hybrid Solar System approximately ($\pm 10\%$) or suitable capacity in accordance with the need of, required for "KHUSHAL KHAN KHATTAK UNIVERISTY KARAK ".

For Queries Please contact:

Phone # 0927-291033

Mob # 0333-9371757

Address for writing on the proposal:

**KHUSHAL KHAN KHATTAK UNIVERSITY KARAK
Karak City, Khyber Pakhtunkhwa**

Date and time of Technical and Financial Proposal submission:

04-10-2023

Date and time of opening of the Technical Proposal:

Technical bid will open on 04-10-2023 and financial bid opening date will be communicated later.

Date and time of technical presentation: As per instructions of Khushal Khan Khattak Univeristy Karak .

Date and time of opening of the Financial Proposal: As per instructions of Khushal Khan Khattak Univeristy Karak.

Validity period of the Proposal:
90 Days from the date of opening of technical proposal.

The names and addresses of the Client's Official:
DIRECTOR WORKS
KHUSHAL KHAN KHATTAK UNIVERSITY KARAK
Karak City, Khyber Pakhtunkhwa.

Phone # 0927-291033
Mob # 0333-9371757

Method of Evaluation:

The proposal will be evaluated as prescribed in evaluation criteria.

Completion Time:

90 days from the date of signing of contract on turnkey basis

NOTE:

Application forms are required to be filled by the bidding Firms / Companies / Contractors

To be filled by Bidding Firm / Company / Contractor

Letter of Application

[Letter head paper of the Applicant, including full postal address, telephone no, fax no., telex no., cable and e-mail address]

Date:.....

To:.....

.....
[Name and address of the KKKU KARAK]

Sir,

1. Being duly authorized to represent and act on behalf of..... (Here in after “the Applicant”), and having reviewed and fully understood all the information provided, the undersigned hereby apply to a Bidder for the following project:-

INSTALLATION OF ON GRID- HYBRID SOLAR SYSTEM AT KHUSHAL KHAN KHATTAK UNIVERSITY KARAK.

2. Attached to this letter are copies of original documents defining:
 - (a) The Applicant's legal status i.e.; PEC valid registration, KPRA, and FBR
 - (b) The principal place of business; Form C or equivalent
 - (c) The place of incorporation (for applicants who are corporations);or
 - (d) Active registration with Alternative Energy Development Board(AEDB)

The place of registration and the nationality of the owners (for applicants who are in partnership so have individually-owned firms)

3. KHUSHAL KHAN KHATTAK UNIVERSITY, KARAK and its authorized representatives are hereby authorized to conduct any inquiries or investigations to verify the statements, documents, and information submitted in connection with this application, and to seek clarification from our bankers and clients regarding any financial and technical aspects. This Letter of Application will also serve as authorization to any individual or authorized representative of any institution referred to in the supporting information, to provide such information deemed necessary and requested by your selves or the authorized representative to verify statements and information provided in this application, or with regard to their sources, experience, and competence of the Applicant.

4. KHUSHAL KHAN KHATTAK UNIVERSITY, KARAK and its authorized representatives may contact the following persons for further information, if needed: -

General and Managerial Inquiries	
Contact1	Telephone1
Contact2	Telephone2

Personnel Inquiries	
Contact1	Telephone1
Contact2	Telephone2

Technical Inquiries	
Contact1	Telephone1
Contact2	Telephone2

Financial Inquiries	
Contact1	Telephone1
Contact2	Telephone2

5. This application is made with the full understanding that:

- (a) Bids will be subject to verification of all information submitted at the time of bidding;
- (b) Khushal Khan Khattak University, Karak reserves the right to:
 - (i) amend the scope and value of any contract under this project; in such event bids will only be called from technically qualified Bidders who meet the revised requirements; and
 - (ii) Reject or accept any application, and reject applications with cogent reason.
- (c) Khushal Khan Khattak University, Karak shall not be liable for any such actions and shall be under no obligation
- (d) Inform the Applicants of the grounds for actions at 5(b) here above.
- (e) Khushal Khan Khattak University, Karak shall not be liable for consequence of, and shall be under no obligation to inform Applicants of the grounds for, actions taken under Para 5(b) here

above.

6. The undersigned declare that the statements made and the information provided in the duly completed application are complete, true, and correct in every detail.

Signed:
Name:
Official Correspondence Head office Address:
With Contact Number of Firm/ Company/Contractor (Telephone/Mobile): Email Address:

Application FormA-1

General Information

All individual Firms / Companies / Contractors are requested to complete the information in this form. Nationality information is also to be provided for foreign owners as required under the PEC Bye-Law.

Where the Applicant proposes to use named subcontractors for critical components of the works, or for work contents in excess of 10 percent of the value of the whole works, the following information should also be supplied for the specialist sub-contractor(s).

1.	Name of Applicant (Firm/Company/Contractor)	
2.	Head Office Address:	
3.	Telephone:	Contact Person: Name: Title:
4.	Fax:	Telex:
5.	Place of Incorporation/Registration	Year of incorporation/registration

NATIONALITY OF OWNERS		
	NAME	NATIONALITY
1.		
2.		
3.		
4.		
5.		

Application FormA-2

Name of Applicant (Firm/Company/Contractor)

All individual applicants are requested to complete the information in this form. The information supplied should be the annual turnover of the applicant, in terms of the amounts billed to clients for each year for work in progress or completed over the past three years.

Annual Turnover		
Year	Turnover (in actual currency)	Equivalent Rupees in Millions.
1.		
2.		
3.		

Or attach Bank Statement of 3 Years

Application Form A-3

Completed Projects Experience Record

Name of Applicant (Firm/Company/Contractor)

To qualify, the Applicant shall be required to pass the specified requirements applicable to this form, asset out in the: Instructions to Applicants.

On a separate page, using the format of Application Form A-4, each is required to list all contracts of a value equivalent to 370.6 kW Solar Hybrid System (User/KKKU KARAK to provide the amount) of completed projects that are similar in nature and complexity to the contract for which the Applicant wishes to qualify, undertaken during the last five years. The information is to be summarized, using Application Form A-4, for each contract completed or under execution by the Applicant.

Where the Applicant proposes to use named subcontractor(s) for critical components of the works or for work contents in excess of 10 percent of the value of the whole works, the information in the afore-mentioned forms should also be supplied for each specialist subcontractor.

- **Contractor Experience**

1. Provide overview of the firm's commercial On Grid- Hybrid connected PV experience Average commercial On Grid- Hybrid PV system size installed by your company during the last five years.

- **Contractor References**

1. List three (3) or more commercial On Grid- Hybrid PV projects installed over the last five years. Use the **Application Form A-4**.

Application Form A-4

Details of Contracts of ongoing projects

Name of Applicant (Firm/Company/Contractor)

Use a separate sheet for each contract.

1.	Name of Contract
	Country
2.	Name of Client
3.	Client Address
4.	Nature of works and special features relevant to the contract for which the Firm/Company/Contractor wishes to prequalify
5.	Contract Role (Tick One) (a)Sole Contractor (b)Sub-Contractor
6.	Value of the total contract (in specified currencies) at completion, or at date of award for current contract Currency..... Currency.....Currency.....
7.	Equivalent in Pak/Rs.
8.	Date of Award
9.	Date of Completion
10.	Contract Duration (Years and Months) _____ Years _____Months
11.	Specified Requirements1

Insert any specific criteria required for particular operations, such as annual volume of designing, procurement, or fabrication of photovoltaic solar systems.

Application Form A-5

Summary Sheet: Current Contract Commitments/Works in Progress

Name of Applicant (Firm/Company/Contractor)

Applicants should provide information on his current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which substantial Completion Certificate has yet to be issued.

Name of Contract	Value of Outstanding work (Equivalent Pak Rs. Millions)	Estimated Completion Date
1.		
2.		
3.		
4.		
5.		

Application Form A-6

Personnel Capabilities

Name of Applicant (Firm/Company/Contractor)

For specific positions essential to contract implementation, Applicants should provide the names of at least two candidates qualified to meet the specified requirements stated for each position. The data on their experience should be supplied on separate sheets using one Form (A-7) for each candidate.

1.	Title of Position
	Name of Prime Candidate
	Name of Alternate Candidate
2.	Title of Position
	Name of Prime Candidate
	Name of Alternate Candidate
3.	Title of Position
	Name of Prime Candidate
	Name of Alternate Candidate
4.	Title of Position
	Name of Prime Candidate
	Name of Alternate Candidate

Application FormA-7

Candidate Summary

Name of Applicant (Firm/Company/Contractor)

Position		Candidate [Tick appropriate one] <input type="checkbox"/> Prime <input type="checkbox"/> Alternate
Candidate information	1.Name of Candidate	2.Date of Birth
	3.Professional Qualification	
Present employment	4.Name of Client	
	Address of Client	
	Telephone	Contact (manager/personnel officer)
	Fax	Telex
	Job title of candidate	Years with present firm

Summarize professional experience over the last 20 years, in reverse chronological order. Indicate particular technical and managerial experience relevant to the Project.

Month/Dates/Years		Company/Project/Position/Relevant technical and management experience
From	To	

Application FormA-8

Equipment Capabilities

Name of Applicant (Firm/Company/Contractor)

The Applicant shall provide adequate information to demonstrate clearly that he has the capability to meet the requirements for each and all items of equipment listed in his proposal. A separate Form shall be prepared for each item of equipment proposed by the Applicant.

Item of Equipment		
Equipment information	1.Name of manufacturer	2.Model
	3.Capacity	4.Year of manufacture
Current status	5.Current location	
	6.Details of current commitments	
Source	7. Indicate source of the equipment <input type="checkbox"/> Owned <input type="checkbox"/> Rented <input type="checkbox"/> Leased	

Omit the following information if it is owned by the Applicant or partner.

Owner	8.Name of owner	
	9.Address of owner	
	Telephone	Contact name and title
	Fax	Telex
Agreement	Detail so frontal/lease specific the Project.	

Application FormA-9

Financial Capability

Name of Applicant (Firm/Company/Contractor)

Applicants should provide financial information to demonstrate that they meet the requirements stated in the Instructions to Applicants. Each Applicant must fill-in this form. If necessary, use separate sheets to provide complete banker information. A copy of the audited balance sheets should be attached.

Banker	Name of banker	
	Address of banker	
	Telephone	Contact name and title
	Fax	Telex

Summarize actual assets and liabilities in Pak Rupees (Equivalent at the current rate of exchange at the end of each year) for the previous three years, based upon known commitments, projected assets and liabilities in Pak Rupees equivalent for the next two years.

Financial information in Pak Rs. Or equivalent	Actual: previous five year					Projected: next two years	
	1	2	3	4	5	6	7
Total assets							
Current assets							
Total liabilities							
Current liabilities							
Profits before taxes							
Profits after taxes							

Turn over							
------------------	--	--	--	--	--	--	--

Specific proposed sources of financing to meet the cash flow of the Project, net of current commitments.

Source of financing	Amount (Pak Rs. Or equivalent)
1.	
2.	
3.	
4.	

Attach audited financial statements for the last five years (for individual Firm/Company/Contractor).

Firms owned by individuals, and partnerships, may submit their balance sheets certified by a registered accountant, and supported by copies of tax returns, if audits are not required by the laws of their countries of origin in case of foreign firms.

D: PEC-standards guide lines for Prequalification of Bidders.

3.1 CONFLICT OF INTEREST

3.1.1 The Applicant must not be associated, nor have been associated in the past, with the consultant or any other entity that has prepared the design, specifications, and other prequalification and bidding documents for the project, or was proposed as Engineer for the contract, over the last five years. Any such association may result in disqualification of the Applicant.

3.2 UPDATING PREQUALIFICATION INFORMATION

3.2.1 Applicant shall be required to update the financial, personnel and equipment information used for technical qualification at the time of submitting their bids, to confirm their continued compliance with the qualification criteria and verification of the information provided at the time of technical qualification. A bid shall be rejected if Applicant's technical qualification thresholds are no longer met at the time of bidding.

3.3 OTHER FACTORS

3.3.1 Only Applicant firms/ companies / contractors that have been technically qualified under this procedure shall be eligible for opening of the financial bid. If a firm submits more than one bid, all bids including that bidder will be rejected. This rule will not apply in respect of bids which include specialist sub-contractors who are used by more than one Bidder.

3.3.2 The Khuhul Khan Khattak University, Karak reserves the right to:-

- a) Amend the scope and value of contract to be bid, in which event the Bidder (s) will only bid among those technically qualified Bidders who meet the requirements of the contract as amended.
- b) Reject or accept any application; and
- c) Cancel the bidding process and reject all applications with assigning a cogent reason.

The Khuhul Khan Khattak University, Karak shall neither be liable for any such actions nor be under any obligation to inform the Applicants of the grounds for rejection, however, may be debriefed if solicited.

3.3.3 Applicants may be informed in writing by letter or e-mail within 06 days from the date of opening of applications about the result of their applications and may be debriefed if solicited.

4.1 TECHNICAL EVALUATION

4.1 A detailed evaluation of the bids will be conducted in order to determine whether the technical aspects are substantially responsive to the requirements set forth in the Bidding Documents. In order to reach such a determination, KKKU Karak Technical Evaluation Committee shall examine the information supplied by the Bidders and also take into account the following factors:

4.1.1 Overall experience of the Bidder firm related to the assignment;

4.1.2 Any other relevant technical factors that KKKU Karak deems prudent to take into consideration.

Mandatory Requirements:

4.1.3 Income and sales tax registration certificates.

4.1.4 Valid PEC Registration Certificate (C-4 Category and above)

4.1.5 KPRA Registration

4.1.6 AEDB Registration

4.1.7 Equipment Dealership Certificates

4.1.8 Bank statement for last 05 years/Bank credit limit for all bank accounts in the name of Firm/Company/Contractor.

4.1.9 Affidavit that a bit security amounting to 2% has been enclosed with the financial bid.

4.1.10 Non-blacklisting record certificate on stamp paper

4.1.11 Bidders are to provide quotes with validity of at least 90 days from the date of opening of technical bids on judicial Stamp paper.

4.1.12 Quoted Item Warranty Statement on Judicial Stamp paper.

4.1.13 At least 3 Goods Declaration Copies for Import of Solar Panels (minimum 5 Years old will be accepted)

4.1.14 System design must be submitted in technical bid Pv simulator result

4.1.15 provide guaranteed units production per year for 25 years, annual declaration of solar panels

4.1.16 SLD's, detailed layout of solar power plant

4.1.17 Manufacturer Technical Literature of all quoted hardware must be provided with technical Bid (Detailed Enclosed)

Note: The EOIs of the technically qualified Applicants which fulfils the eligibility/conditions will be further evaluated by the technical committee.

4.2.1 Technical Evaluation Criteria:

In order to ascertain the relative suitability of the offered services, KKKU Karak Technical Evaluation Committee shall evaluate the bids as given in section

4.2.2. Only those bidding Firms/ Companies/ Contractors obtaining at least **70%** marks in the technical criteria and **50%** in each category shall be further evaluated whereas the remaining bids shall be rejected as being technically not suitable.

4.2.2 Technical Evaluation Form

Profile Evaluation

(Total Marks=100)

(Passing Marks = 70%)

(Each Category = 50%)

Applicants will be evaluated as per criteria defined below. Bidders with complete documents (as mentioned earlier) will be considered for technical evaluation. All technically qualified Firms/Companies/Contractors will be called for presentation.

- | | |
|---|------------|
| a) Financial Health | (30 Marks) |
| b) Experience (in Hand)/Installed Capacity Experience (Completed) | (35 Marks) |
| c) Equipment Capabilities | (20 Marks) |
| d) Personnel Capability | (15 Marks) |

4.2.4 Financial Health

(Marks Allocated 30.0)

Category	Marks Assign
Available Bank Credit Line (Rs 100-Million) <ul style="list-style-type: none">• 5 Marks are given if the available bank credit line limit is equal to 20 Million.• For limit less than 20 Million, use following weightage $5 \times (A/20)$• For the limit more than 20 million but less than 50 million use following weightage $5 + (A/50) \times 5$ A= Available Bank Credit Line Limit <ul style="list-style-type: none">• Full Marks are given in case Bank Credit limit is 100 million or more Note: Currency = PKR	10

<p>Working Capital in last 3 Years (minimum Rs. 75 Million or above).</p> <ul style="list-style-type: none"> • 5 Marks are given if the available average working capital for last three years is equal to 50 Million. • For the capital less than 50 million use following weightage $5 \times (A/50)$ • For the capital more than 50 million but less than 75 million use following weightage $5 + (A/75) \times 5$ <p>A= Average working capital in last three years.</p> <ul style="list-style-type: none"> • Full Marks are given in case of limit is 75 million or more. 	10
<p>Audited Financial reports for the past 03 years.</p> <ul style="list-style-type: none"> • No marks will be given if audited balance sheets are not attached. • 01 Mark will be given for each year audited balance sheet. 	3
<p>Income tax returns for the past 03 years).</p> <ul style="list-style-type: none"> • No marks will be given if Income tax returns are not attached. • 01 Mark will be given for each year Income tax returns attached. 	3
<p>Annual Turnovers the past 03 Years (minimum Rs 100 Million or above).</p> <ul style="list-style-type: none"> • One (01) Mark will be given if Annual turnover for past 03 years is more than 50 Million. • Full (03) Marks will be given in case Annual turnover for the past 03 years is 100 Million or above 	3
<p>Firm must have valid ISO 9001 Certificate for Quality management system. No marks will be given if a firm is not ISO 9001 Certified for quality management system.</p>	1

4.2.5 A. Technical Experience

(Marks Allocated 35)

Detail of all solar power projects done in last 05 years of 370KW Solar Hybrid System or more capacity with completion certificates and performance reports duly signed by the user, indicating performance of years of installation. **(Work Orders of Multiple Small scale of Solar Projects will not be accepted)**

<p>Projects of similar nature and complexity Completed in last five years. (On Grid- Hybrid Solar System) (Single PV power plant of minimum 300 KW installed capacity in single work order and single site)</p> <ul style="list-style-type: none"> • 12 Marks are given if the contractor has completed at least 02 projects of similar nature in last five years • For less than 02 projects completed use the following weightage. 12 x (A/02) • For more than 02 projects but less than 04 projects completed use the following weightage. 12 + (A/04) x 08 <p>A = Number of projects of similar nature Completed in last five years</p> <ul style="list-style-type: none"> • Full Marks are given in case of 04 projects or more. 	20
<p>Projects of On Grid- Hybrid Solar System projects completed in last five years (Single Solar Hybrid System of Minimum 150 KW) Value of single work order. (multiple small scale (Less than 150 KW) projects in 1 work order should be consider as Null).</p> <ul style="list-style-type: none"> • 8 Marks are given if the contractor has 03 projects. • For less than 03 projects in-hand use the following weightage. 8 x (A/03) • For more than 03 projects but less than 05 projects use the following weightage. 8 + (A/05) x 02 <p>A = No of projects.</p> <ul style="list-style-type: none"> • Full Marks are given in case of 05 projects or more. 	10
<p>Projects (5.00 Million or more) of Electric power distribution Works Completed in last five years</p> <ul style="list-style-type: none"> • 3 Marks are given if the contractor has completed at least 02 projects of General Electric works in last five years. • For less than 02 projects completed use the following weightage. 3 x (A/02) • For more than 02 projects but less than 05 projects completed use the following weightage. 3 + (A/05) x 2 <p>A = No of projects Completed in last five years</p> <ul style="list-style-type: none"> • Full Marks are given in case of 05 projects or more. 	5

4.2.6 PERSONNEL CAPABILITY**(Marks Allocated 15)**

B.Sc Engineer registered with Pakistan Engineer Council. 1.5 Marks will be given if the individual experience of 01 no. of B.Sc Engineer (Professional) is equal to 10 years or above.	1.5
• 1.5 Marks will be given if the individual experience of 01 no. of B.Sc Electrical/Electronics Engineer (Registered) is equal to 05 years or above	1.5
Strength of Engineers (6 Marks) • 6 Marks will be given if the total no. of Engineers registered with firm in PEC are 6 nos. or above. • For less than 6 no of B.Sc Engineers registered with PEC, 01 mark will be assigned per each Engineer. Note: one of the engineer must be B.Sc (civil) Engineer	6
Associate Engineer (DAE) ELECT/CIVIL 0.5 Marks for Each Associate Engineer With 03 Year experience.	2
Associates Engineers (DAE) Strength of Associate Engineers (4 Marks) • 4 Marks will be given if the total no. of Associate Engineers (DAE) are 4 nos. or above. • (2 out of 4 DAEs should be Electrical). For less than 04 no of DAE, 01 mark will be given per Associate Engineer	4

4.2.7 EQUIPMENT CAPABILITY:

(20 Marks)

Item	Marks Assigned
Digital Clamp Meter (10)	2
Insulation Resistance Tester (02)	2
PV Analyzer Test Kit with Irradiance meter (01)	6
Battery Tester (01)	2
Lux Meter (01)	2
Motor vehicle 01 x Cross Country (4x4) Double Cabin	3
Authorized Dealership Certificate from Manufacturers of PV Modules, Batteries and Inverters. 01 Mark for Authorized dealership in each category, i.e PV Modules, Batteries and Inverters Note: Dealership certificate must be verifiable from the original manufacturer	3

4.2.7 DESIGN EVALUATION

The proposal submitted should be presented in front of the technical evaluation committee, on parameters described in scope of work and will be evaluated as followed.

PROPOSED DESIGN PARAMETERS (Mandatory)

Participating Firms / Companies/ Contractors must provide Design as per the specifications provided in Scope of work, while Minimum Qualifying marks are 10.

1. Design of Distribution of Solar System at Different Buildings.
2. Single Line Diagram for Each Solar System. **(Solar Hybrid System)**
3. Complete Design and Detail of Solar Mounting Structure.
4. Complete Analysis of Power Generation and battery storage throughout 12 Months.
5. Shading Report of Solar Panels Installation.
6. Complete Data sheet compatible with the required specifications. **(All details of Equipment should be mention in data sheet)**

	Minimum Required Warranty	INVERTOR 5YEARS SOLAR PANEL 25 YEARS Battery 5 Years
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5.0 SPECIFICATIONS:

1. SOLAR PANELS:

- a. The PV module(s) shall contain mono crystalline silicon Grade-A Solar cells. (N-Type Mono PV Cell Modules due to its better performance will be given preference).
- b. The PV module should Work well with high-voltage input Inverters/ charge controllers (1000Vdc).
- c. The PV Panel must have clear anodized aluminum frame with Anti-reflective, hydrophobic, low-iron Tempered cover glass.
- d. The Solar Modules shall meet the following valid IEC Standards or latest:
 - IEC 61215-1, IEC 61215-1-1, IEC 61215-2):2016 (Design Qualification)
 - IEC61730-1:2016 (Safety - Requirements for construction)
 - IEC61730-2:2016 (Safety - Requirements for testing)
 - IEC TS-62804-1. (i.e.: TUV PPP-58042 or Equivalent) Anti-PID Certification.
 - IEC 61701 Salt Mist Corrosion Resistance Test.
 - IEC 62716 Ammonia Corrosion Resistance Test.
 - IEC 60068-2-68 Sand and Dust Erosion Resistance Test.
- e. Unique Serial number, Name / Logo of manufacturer and separate date of manufacturing (DD/MM/YYYY) should be laminated inside the module so as to be clearly visible from the front side. (For Verification of process Factory Acceptance Test (FAT) must be arranged (on-demand).
- f. A properly laminated sticker containing the following details should be available at the back side of the module.
 - Name of the manufacturer / distinctive logo.
 - Model Name and Type of Cell Technology.
 - Peak Watt Rating (Wp) and Power Tolerance Range
 - Voltage (Vmp) and Current (Imp) at STC
 - Open Circuit Voltage (Voc) and Short Circuit Current(Isc)
 - Maximum System Voltage (Vdc) (i.e: This should not be less than 1000Vdc)
 - Dimensions of PV Module
 - Test Standard(s) to which the module has been tested and certified.
- g. Following essential technical parameters of solar panel/modules should be provided with each

panel supplied as well as in the technical proposal.

- I-V curve for the solar photovoltaic module/panel.
 - Date and year of obtaining IEC PV module standardization qualification certificate.
 - Electrical Data (i.e: Pmax, Voc/Vmp, Isc/Imp at nominal Cell Operating Temperature (NOCT)).
 - PV Module efficiency at STC
 - Working temperature range of PV Module.
- h. Each panel should have factory equipped weather proof terminal junction box having at least IP65 protection with provision of opening for replacement of DC cables, blocking diodes and easy debugging if necessary.
- i. Limited performance guarantee: panel power, in standard conditions, will not be less than 90% of nominal power by the end of 10 years of operation and at least 80% at the end of 25 years of operation with 25-year limited power warranty.
- j. The PV Module should have at least 10-years warranty for any defects and efficiency as mentioned above. It should be provided On Stamp Paper Signed and Sealed by Contractor at the time of Handing/Taking Over.
- k. The PV Module should have at-least 17.50 % Module efficiency with Positive Power Tolerance.
- l. The PV modules offered should not be more than 12 months old from the date of issue of work order.
- m. PV Module should have a Snow Load bearing of 5400 Pa and Wind Load Bearing of up to 2400pa.
- n. The Solar Module should be free from visual and cosmetics defects.
- o. Contractor should provide verifiable Flash test reports with serial numbers from manufacturer for each panel (at the time of supply).
- p. All information regarding solar panel with above mentioned featured data should be accessible and verifiable online on the manufacturer website.

2. CABLE & WIRING:

- a. The AC / DC cables should be made of 99.9% copper strands and Flexible.
- b. From PV Panel to Junction Box, XLPE or XLPO insulated and sheathed, UV stabilized single core stranded /flexible cables (Conforming preferably to TÜV 2PFG-1169 PV1-F) be used.
- c. From JB to Inverter, the DC cable must have Single Core, double insulated and suitable for minimum 1000 VDC transmission.
- d. From Inverter to batteries, the DC cable can be single insulated, Single Core and suitable for minimum 300 VDC transmission.
- e. DC circuit breakers (not fuse) of at least 800V and suitable ampere rating (1.25 Times of Rated Current of all strings connected) must be installed between PV modules and controller /inverter.
- f. AC Circuit Breaker (s) of suitable rating (1.25 Times of connected Load) must be

- installed between Controller / inverter to Load and Grid to Controller / Inverter.
- g. AC / DC breakers should be marked with the manufacturer model number, rated voltage, ampere rating and batch/serial number.
 - h. DC / AC breakers rating should be approved from Engineer In-charge before installation at site. To prevent solar panels from damage an appropriate size of DC Breaker / Fuse should be installed for each PV string and Surge Protection should be installed for combined Array (before Main DC Breaker /Inverter).
 - i. DC Breaker, AC Breaker & Change overs should be placed in an enclosure of at least IP54 standard.
 - j. Cables shall be clearly labelled with essential electrical parameters including manufacturer name, Voltage Range, standards etc.
 - k. All wiring shall be aesthetically neat and clean, over all wiring/connection losses shall not exceed 1% of the total rated output power.
 - l. All connections/ socket outlet among array, controller, inverters, batteries, and pumping set etc must be made in junction boxes of adequate protection level.
 - m. All wires/cables should be in standard flexible UV-Resistant conduits / HDPE of PN12, SDR 13.6, PE100 for outdoor installation & (3 feet deep) for underground wiring / Cabling and PVC ducts for indoor installation.
 - n. New AC wiring (Neutral and Phase) for load connected should be provided by contractor, along with breakers, sockets, buttoned.
 - o. All wiring should be in proper conduit of capping casing. Wire should not be hanging loose.
 - p. All wires should be terminated properly by using lugs / thimble connectors.
 - q. Distribution board must be installed with proper screws.
 - r. Following lab tests are mandatory.
Conductor resistance test, Insulation resistance test, Pressure test, Spark test.
 - s. DC Cable from PV Module to Junction Box / Inverter for each string should be minimum size 6mm².
 - t. DC Cable sizing (For Pumping Schemes) from Junction Box to Inverter.

S. No	Nos of Strings	Cable Size ((mm ²))	Remarks
1	1	6	If Cable length is >200 ft (One Sided) than cable size should also be Increased accordingly.
2	2	10	
3	3	16	
4	4-5	25	
5	6-8	35	

5.2.3 PANEL MOUNTING & STRUCTURE:

- u. The panel mounting and structure should be made of hot dipped (80 microns Average) galvanized steel of minimum thickness of **14 SWG Channel / Pipe or 8 SWG Angle**
- v. A sketch of the mounting frame (As per Actual Site Requirements) showing dimensions of the frame parts should be provided at the time of supply.
- w. PV to ground clearance must not be less than 1.5 feet. The height of the upper edge of the structure should not exceed 10 feet above the ground and 6 Feet for Roof Top Installations.
- x. To avoid Shading, Distance between two rows of PV panels and from walls should be maintained at a minimum of 1.6 times the height of structure/walls.
- y. The pit size for concrete works should be minimum 1.5x1.5x2 feet for each individual leg or 1.5x2.5x2 for double leg and the concrete should be extended at least 1 foot above the ground. The concrete ratio should be 1:2:4.
- z. The Surface azimuth angle of PV Module 180° and the Tilt angle (slope) of PV Module should be 33°.
- aa. The PV modules will be mounted on metallic structures of adequate strength and appropriate design, which can withstand load of modules and high wind velocities up to 150 km per hour.
- bb. Due to land Non-availability or any other problem, Structure design can be modified as per site requirement. Pole Mounted or manual Tracker Structure can be provided with the approval of Engineering-charge.
- cc. Array fasteners (nut/bolts/washers) between PV Module and Structure shall be stainless steel. Washers should be installed on both sides of Module frame.
- dd. The minimum space between two PV Modules should be 2.54 cm (1 inch), to avoid air push over Modules.
- ee. Mechanism / arrangement for cleaning of PV Panels should be provided. i.e: Space and ladder between panels or at the back side of structure, so that the operator can safely climb and clean the panels.
- ff. All other array fasteners Structure shall be stainless steel or galvanized steel that provides the required mechanical strength.
- gg. The PV modules will be mounted on metallic structures at the inner holes for cantilevered installation, which will evenly distribute the load of the panel around the support structure on both sides and in the middle.

5.2.6 EARTHING/GROUNDING:

- hh. The PV Panel frame and structure should be connected by the shortest practical route to an adequate earth contact (of Less than 5 Ohms Resistance) as per requirement of equipment manufacturer and site earth conditions, using an uninterrupted conductor. Grounding can reduce the risks of damage from lightning-induced surges.
- ii. The Sizing of Earthing conductor will be done as per NEC Table 250.122
- jj. The grounding conductor should be 99% Copper and PVC insulated and size shall be approved from Engineer In-charge before installation at site.
- kk. Motor, inverter, Battery / Battery Box (if required), Main Distribution Board should be connected to an adequate earth contact / Grounding.
- ll. Ground enhancement material (GEM) shall be used below and above the Earthing plate for proper grounding. Gravel or coarse sand shall be poured along with soil in the pit.
- mm. Grounding / Earthing plate should be made of GI Plate of 6mm / Copper plate of 4mm thickness & Size minimum 1.0 x 1.0 Ft.
- nn. Grounding / Earthing conductor should be connected to the plate / Rod / GI Pipe by proper connector of minimum depth of 6 feet.
- oo. Alternatively Earthing Rod of suitable size and length can be installed. (Instead of Plate). As per design given / Engineer In-Charge Approval.
- pp. All nut / bolt and Earthing clamp shall be stainless steel or galvanized steel.
- qq. The earthing system will be decided by the engineer in charge keeping in view in site conditions.

BATTERIES:

- rr. The battery should be Deep Cycle, GEL, OPzV/OPzS, Lithium LiFePO₄, Lead Carbon Type or equivalent.
- ss. The battery must ensure safe and reliable operation in the whole range of ambient temperatures from -5° C to + 50°C.
- tt. The maximum permissible self-discharge rate should not be more than 5 percent of rated capacity per month at 25°C.
- uu. Battery rating should be based on 10 Hours discharge Rate.
- vv. The battery shall have a certificate of compliance, issued by a recognized laboratory.
- ww. The Batteries should have three years Comprehensive replacement warranty.
- xx. The battery shall meet the requirements and recommendations given in IEC 61427, IEC 60896 21/22 (For VRLA) or equivalent. Lab Test Reports for battery cycle life should be provided.
- yy. The Battery must support parallel connection to increase capacity in case of future expansion. Each Battery should have following minimum information:
 - Model Number, Serial Number and Type of battery.
 - Rated Voltage and Capacity.
 - Origin of made.

- Manufacturer Name with distinct logo.
- zz. The following information must be provided in the data sheet while submitting technical bid.
- Certification/Test Standard(s) of the battery.
 - Information regarding cycles & self-discharge rate.
- aaa. In case of rechargeable battery bank (having more than one battery), the interconnection shall be made using lead plated copper bus bars or properly insulated flexible copper conductors.
- bbb. Battery disconnect switch / breaker of suitable size should be installed between batteries and inverter / charge controller.
- ccc. The Battery must have Low self-discharge rate, No memory effect and No gassing.

5.1 LITHIUM BATTERIES (LiFePO4):

- 5.1.1** Cycle life of the Lithium LiFePO4 battery before 80% capacity of Initial Capacity must be minimum **6000**cycles @ 50% depth of discharge (DOD) at discharge rate of 10 Hours.
- 5.1.2** The battery must have Integrated Battery Management System (BMS) to ensure battery safety and reliability.
- 5.1.3** The BMS of the battery must have the following specifications:
1. Temperature protection
 2. Over charge protection
 3. Low voltage disconnect
 4. High Voltage Disconnect
 5. Short circuit alarm function
 6. Self-balancing function
- 5.1.4** The LiFePO4 Battery must have LED status and alarm indication.
- 5.1.5** The charge and discharge rate of the battery must be designed at 0.2C minimum but capable of handling 0.5C charge and discharge currents.

Note:

- **Product brochure, catalogue and certificates must be attached with the Technical Bid.**
- **The make/ manufacture of the batteries will be decided by the engineer incharge.**

3. BOX / STAND FOR BATTERIES, SHS-INVERTER & CHARGE CONTROLLER:

- a. The batteries should be housed in a vented compartment/stand that prevents users from coming in contact with battery terminals. This compartment/stand should be strong enough to accommodate the weight of the battery.

- b. A mechanism to prevent opening and entry of the battery should be provided.
- c. This compartment should be manufactured of mild steel of at least **16 SWG**.
- d. The compartment should be powder coated paint.
- e. The entire enclosure/stand must be constructed to last at least twenty years without Maintenance and should be protected against corrosion. The enclosure should have a clean and neat appearance. Battery Box /stand should be installed at a place in accordance with user's preference.
- f. It is added that the frame design will be approved by the engineer incharge.

4. PVC CHANNEL DUCTS & PIPES

- a. A product of good quality standard material with suitable size to be provided / used, by the approval of Engineer In-charge.
- b. Ducting must be done with proper steel nails and clips.
- c. All ducting (wiring) must be align.

5. FLEXIBLE PVC PIPE

- a. The flexible PVC pipe should be of good quality material with suitable size should be provided / used by the approval of Engineer In-charge.

6. CIVIL WORK:

The following Civil Works should be carried out for ground installation of SPV Modules/mounting structures.

- Minor Cutting and clearing of trees/plantation to avoid shadows.
- Civil work for earthing system as per the statutory requirements.

7. EXCEPTIONS AND VARIATIONS:

Any exceptions and variations to the specifications must be explicitly stated. The scope and reasons for each listed exception and variation must be fully explained with supporting data.

8. WARRANTY:

Six years Comprehensive Free Replacement, Repair and maintenance Warranty at site (Free of Cost) should be provided for all the components of Solar System. (If not mentioned separately otherwise)

9. ON-GRID / HYBRID INVERTER:

- a. The Inverter must be pure sine wave output suitable for 220 Volt, 50Hz.
- b. Inverter must be capable of configuring for Lithium Iron Phosphate batteries (LiFePO4).
- c. The Inverter / system must have a MPPT Solar Charge Controller.

- d. Minimum 92% Conversion Efficiency at Rated Capacity (High Frequency Inverters).
- e. Minimum 87% Efficiency for Transformer based inverters (Low frequency Inverters).
- f. Total harmonic distortion (THD) in AC output should not exceed 3% at rated capacity.
- g. The inverter must be user programmable for selecting PV, Grid and Battery Priority as well as Built-in programmed and user defined voltage and current settings of the charge controller for GEL, Lead Carbon, OPzV/OPzS batteries and Lithium Iron Phosphate batteries (LiFePO4).
- h. The Inverter must have Protective function limits for:
 - AC under voltage protection
 - AC over voltage protection
 - Battery under voltage Alarm
 - Low Voltage Disconnect
 - High Voltage Disconnect
 - Overload and Short Circuit Protection
 - Over Temperature Protection
- i. The inverter must be ISO 9001, ISO 370.601 and Certified.
- j. The inverter must have IEC 62109-1 and IEC 62109-2, or Equivalent Certificates.
- k. The degree of protection of the outdoor inverter Installation should be IP-65 rated and for indoor Inverter installation, the IP rating should be IP-65 or above.
- l. Wide input voltage range capability.
- m. Inverter should have active RS232/485 etc communication port, the Data available through this port can be used for Remote Monitoring.
- n. Inverter (If Quoted along with Lithium Batteries) must be capable of communication with the BMS of Lithium Batteries.

6.1 TIME PERIOD OF DELIVERY/INSTALLATION.

Delivery / Installation Period: - The delivery/installation time should not be more than **90 Days** from the date of signing of contract. Installation, testing, integration and commissioning time if applicable shall not be more than 1 week from the above mentioned time period excluding the installation of net meter besides NEPPRA license.

6.2 PENALTY /LATEDELIVERY

In the event of any delay in delivery beyond **90 Days** the Successful Bidder shall inform KKKU KARAK before expiry of such period giving reasons/justifications for delay. However, KKKU KARAK reserves the right to take following actions: -

- a) Evaluate the request for extension in delivery period as per its merit and may consider

- extension in delivery/ installation period or otherwise.
- b) In case of late delivery for the reason swell within control of the firm, liquidation damages at the rate of 1% per 04 weeks but not exceeding 10% of the total value of undelivered/stores items may be levied
 - c) May cancel the contract.
 - d) The KKKU KARAK decision under this clause shall not be subjected to arbitration.

6.3 INSPECTION/TESTING

KKKU KARAK Technical Committee will inspect and test the supplied Distribution Switches with accessories as per specifications and accessory list after arrival at the premises. All applicable tests would be conducted in the presence of KKKU KARAK Technical Team and required test reports would be signed by both the parties and submitted to KKKU KARAK to ensure 100% work performance of equipment and services.

6.4 TERMS OF PAYMENT

No advance payment will be made as per Government rules. The payment will be made to the supplier after inspection of supplied items by a committee of experts constituted by the KKKU Karak. If found in order in all respects after the successful and complete supply, installation, testing, and commissioning of the items, *the payments would be made at the availability of funds. It is added that Higher Education Commission Islamabad will sponsor the project financially and work order will be issue to the successful bidder at the approval of the project from the Donor Agency.*

6.5 WARRANTY

Standard warranty service and repair will be provided for all item sunder this procurement. The warranty coverage must be valid on all items as per technical specification to tender documents after their successful supply, installation and commissioning.

6.6 AFTER SALE SERVICE.

- a. Applicant will guarantee the availability and the supply of Essential Maintenance Spares and Parts required to keep the equipment operational for a period as per the warranty of all items from the date of inspection & commissioning of equipment.
- b. The Applicant would provide details of any improvement's modifications in the supplied equipment during warranty period in currency of the contract if carried out by the OEM.

6.7 OPERATION MAINTENANCE & TRAINING

The Applicant is required to provide operation maintenance for a period of 05 years of the installed system including on job training to the staff of KKKU KARAK for operation.

6.8 PAYMENT OF APPLICABLE TAXES

The Applicant, and their employees shall be responsible for payment of all their taxes, including income tax, sales tax on services and other taxes on income arising out of the Contract and the rates and prices stated in the Contract shall be deemed to cover all such taxes. Taxes to be borne by the Successful Bidder on any payment arising out of the contract, as per applicable laws.

6.9 PROJECT PLAN SUBMISSION

The Final Project Execution Plan shall be submitted by the Successful Bidder within 10days from the date of receipt of Letter of Acceptance, which shall be either planed on MS-Projector Primavera Latest Version. It will contain the following minimum information but not limited to the following:-

- i. A Bar Chart identifying the critical activities, with completion date.
- ii. TECHNICAL/USERMANUAL/PUBLICATION: Successful Bidder will be bound to provide subject material to KKKU KARAK before commissioning.

6.10 TURN AROUND TIME

07 days for the turnaround time (TOT) for replacement of equipment (if required with its alternate arrangement by Firm / Company/Contractor without hampering the power supply), spare parts, curing a fault, maintenance, etc. would be allowed, The shipping cost of the provision initially and otherwise of the equipment and parts during the whole contract period should be borne by Firm/Company/Contractor.

6.11 ONLINE PORTAL FOR SOLAR SYSTEM MONITORING

Solar Online Portal should be provided with the complete system so that the PV system operators and installers can analyze & access key system, data anytime, anywhere and measure values and visualize and compare yields, meaning that even minor deviation scan be detected and resolved quickly.

6.12 INTEGRITY PACT

If the successful bidder or any of his Subcontractors, agents or servants are found to have violated or involved in violation of the Integrity Pact signed by the Firm / Company/Contractor at the time of contract then KKKU KARAK shall be entitled to:

- a) Recover from the Firm / Company/ Contractor an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by the Firm/Company/Contractor or any of his Subcontractors, agents or servants.
- b) Terminate the Contract;
- c) Recover from the Firm / Company/Contractor any loss or damage to the KKKU KARAK as a result of such termination or of any other corrupt business practices of the Firm/Company/Contractor or any of his Subcontractors, agents or servants.

The termination under Sub-Para (b) of this Sub-Clause shall proceed in the manner prescribed under Sub-Clauses 63.1 to 63.4 (FIDIC, Fédération Internationale Des Ingénieurs-Conseils) and the payment under Sub-Clause 63.3 shall be made after having deducted the amounts due to the Operator under Sub-Para (a) and (c) of this Sub-Clause.

7.1 OPERATION & MAINTENANCE DURING WARRANTY PERIOD (5 YEARS) PER YEAR.

Services	Frequency	Rate	Amount Year 1	Amount Year 2	Amount Year 3	Amount Year 4	Amount Year 5
Ready on Site after sales support.							
Complete System monitoring.							
System trouble shooting (Remotely via cloud connectivity).							
Preventive on site visits							
Solar panels cleaning services.							
TOTAL AMOUNT PER YEAR							
TOTAL AMOUNT FOR 5 YEARS							

S.No.	Financial Proposal	Operation Maintenance Cost	Total
1.			

CONSOLIDATED COST IMPACT

1KW UNIT PRICE PKR _____

370KW SYSTEM PRICE PKR _____

NOTE:

- *OPTIONAL
- Price Quotes should be valid for a minimum period of 90 days from the date of opening of tender.

Any other Detail:

Name in Full _____

Designation _____

CNIC _____

Phone/Fax _____

Address _____

Signature _____

Date _____