



REQUEST FOR PROPOSAL

FOR

(SECOND GREEN INITIATIVE)

**DESIGN, SUPPLY, INSTALLATION AND
COMMISSIONING OF 999KWp SOLAR PV
POWER PLANT**

**AT GHULAM ISHAQ KHAN INSTITUTE OF
ENGINEERING SCIENCES AND TECHNOLOGY
(GIKI)**

THROUGH

**ENGINEERING, PROCUREMENT, AND
CONSTRUCTION (EPC) BASED COMPETITIVE
BIDDING PROCESS**

May 2023

TABLE OF CONTENTS

DESCRIPTION	PAGE NO.
I. NOTICE FOR REQUEST FOR PROPOSAL	6
II. INSTRUCTIONS TO BIDDERS	7
A. GENERAL	8
IB.1 Introduction	8
IB.2 Purpose of Project Brief and Bidding Instructions	8
IB.3 Eligible Bidders	9
IB.4 Cost of Bidding	9
IB.5 Program	9
IB.6 Disclaimer	10
IB.7 Confidentiality	10
IB.8 Bribery and Collusion/Integrity Pact	10
B. BIDDING PROCEDURES	10
IB.9 Contents of Bidding Documents	10
IB.10 Qualification Requirements	11
IB.11 Deleted	
IB.12 Site Visit	11
IB.13 Acceptability of Bid	11
IB.14 Clarification of Bidding Documents	12
IB.15 Amendment of Bidding Documents	12
C. PREPARATION OF BID	12
IB.16 Documents Comprising the Bid	12
IB.17 Language of Bid	13
IB.18 Currency of Bid	13
IB.19 Bid Validity	13
IB.20 Bid Security	13
IB.21 Pre-bid Meeting	14
IB.22 Conformity with the Bidding Documents	14
IB.23 Conforming (Bona Fide) Bids	14
IB.24 Non-Conforming Bids	14
IB.25 Format and Signing of Bids	15

D	SUBMISSION AND OPENING OF BIDS	15
	IB.26 Sealing and Marking of Bids	15
	IB.27 Bid Submission Date	16
	IB.28 Late Bids	16
	IB.29 Modifications and Withdrawal of Bids	16
	IB.30 Opening of Bids	17
	IB.31 Confidentiality	17
E.	ASSESSMENT OF BIDS	17
	IB.32 Determination of Conformity	17
	IB.33 Consideration of Non-Conforming Bids	18
	IB.34 Clarification of Bids	18
	IB.35 Correction of Arithmetical Errors	18
	IB.36 Presentation by the Bidders	18
F	DETAILED BID EVALUATION	19
	IB.37 Process	19
	IB.38 Bidder’s Capability and Technical Proposal	19
	IB.39 The Financial Proposal	19
	IB.40 Assessment Process	20
	IB.41 Signing of Contract Agreement	20
G.	INFORMATION TO BE PROVIDED BY BIDDERS	20
	IB.42 Information to be provided by the Bidders	20
	IB.43 Part 1 Submission	21
	IB.44 Part 2 Submission	23
H.	MISCELLANEOUS	24
	IB.45 deleted	24
III	ANNEXURE TO INSTRUCTIONS TO BIDDERS	26
	Annexure-1 General Information	27
	Annexure-2 General Experience Record	28
	Annexure-3 Joint Venture Summary	29
	Annexure-4 Details of Contracts of Similar Nature and Complexity	30
	Annexure-5 Summary Sheet: Current Contract Commitments	
	/Works in progress	31
	Annexure-6 Personal Capabilities	32
	Annexure-7 Candidate Summary	33
	Annexure-8 Equipment Capabilities	34

Annexure-9	Financial Capabilities	35
Annexure-10	Evaluation Criteria	36
Annexure-11	Litigation History	37
PROJECT INFORMATION		38
Appendices Competitive Bidding		
Appendix-01	Technical Specifications & Requirements	39
TECHNICAL PROPOSAL		39
Appendices to Contract		
Appendix-02	Project Conceptual Design, Design Criteria & Technical Details and Implementation Schedule	55
Appendix-03	Method of Performing the Works	56
Appendix-04	Project Management Facilities	57
Appendix-05	List of Proposed Contractors/Subcontractors	58
Appendix-06	Organization Chart for the Supervisory Staff and Labour	59
Appendix-07	Operation and Tariff collection	60
Appendix-08	Operation and Maintenance Methods	61
Appendix-09	Funding/Financial Arrangements	62
Appendix-10	Financial Offer	63
Appendix-11	Integrity Pact	65
FORMS		
Form-01	Letters of Technical Proposal	68
Form-02	Letters of Financial Proposal	
Form-03	Bid Security	72
Form-04	Performance Security for Construction Phase	74
Form-05	Performance Security for Operation Phase	76

NOTICE

FOR

REQUEST FOR PROPOSAL

NOTICE FOR REQUEST FOR PROPOSAL (SECOND GREEN INITIATIVE) FOR SOLAR POWER PROJECT

The Ghulam Ishaq Khan Institute of Engineering Sciences and Technology (GIKI), a premier engineering science and technology institutions of Pakistan (The Institute), intends to undertake a 999KWp ON-GRID solar power project for its campus at Topi on EPC basis.

The Institute hereby invites sealed bids on single stage two envelopes process (Technical and Financial) from the renowned companies fulfilling the eligibility criteria mentioned in the bidding documents which includes registration with FBR and KPRA and existence on their Active Taxpayers List, with AEDB in ARE-V1/C- 1, licensed by PEC in category-4 and have confirmed arrangements for imported equipment for Design, Engineering, Supply, Construction, Erection, Testing, commissioning, training, and free post installation O & M services for one year(extendable by the Institute).

A complete set of Bidding Documents can be downloaded from Institutes Website (www.giki.edu.pk) after three days of publishing of this advertisement. Only complete bids, duly signed by authorized signatory of the company supported by a resolution to this effect and stamped, along with requisite documents will be acceptable. Incomplete bids or proposals by companies not fulfilling the basic eligibility criteria will not be acceptable and could be declared non-responsive.

Bids, accompanied by a **Bid Security @ 2%** of total bid value and tender fee of Rs. 5,000/- along with requisite credentials must be delivered in two sealed envelopes to the Institute by **1500 Hours on 22nd May 2023** in the Office of SOPREST, Islamabad. Bids will be opened at **1530 Hours** on the same day, in the presence of bidders' representatives who choose to attend at the same address.

The Bidder(s) or their designated representative (maximum two) are invited to attend a mandatory Pre-Bid Meeting on 16th May 2023 at 1100 Hours in the Conference Room of the Administrative Block, GIK Institute, Topi.

The bidders shall furnish documentary evidence in support of meeting the eligibility criteria to the satisfaction of the Institute. They should indicate complete name and address, NTN, STN, KP provincial Sales Tax on Services Number (KPRA), valid registration certificate with AEDB and PEC in relevant category, CVs of qualified engineers with their minimum three years' experience in installation of 999KWp and above individual solar power projects and evidence of payment of monthly salary, list of projects completed in last five years with time of completion of each project and the projects in hand, certified financial statements and Tax Returns for last three years and details of accounts maintained in different banks with certificate of major bank account from the concerned branch in support for the last six months.

The financial bids of only technically qualified Companies scoring at least 75% marks in technical evaluation strictly per criteria mentioned in the bidding documents shall be opened publicly in the physical presence (or through Zoom) of bidder's representatives on **22nd May 2023**.

The Institute reserves the right to reject all bids or proposals at any time prior to their acceptance, sufficient reasons for which will only be communicated on request without any obligation to provide any justification.

Director Engineering Projects

Society for the Promotion of Engineering Sciences & Technology (SOPREST),
Office # 305 & 306, 3rd Floor, ISE Tower, Jinnah Avenue, Blue Area, Islamabad.
Phone. 051-8778429, Email. director.engineeringprojects@giki.edu.pk

INSTRUCTIONS
TO
BIDDERS

INSTRUCTIONS TO BIDDERS

A. GENERAL

IB.1 INTRODUCTION

- 1.1 The Ghulam Ishaq Khan Institute of Engineering Sciences and Technology (GIK) is one of the most prestigious engineering institutes of Pakistan. GIK is known the world over for setting a standard of excellence in the field of engineering sciences.
- 1.2 The Institute has campus built on 421 acres that is located in Topi, District Swabi.
- 1.3 In order to optimally exploit the solar power potential and augment power generation capacity, GIK management is entrusted with the responsibility of promotion and development of renewable energy in its main campus. In this regards GIK management intends to pre-qualify top class national/ international engineering firms registered with AEDB & PEC under relevant category to construct a 999KWp On-Grid Solar Power Plant Project with following deliverables: -
 - Designing of Solar Power Plant
 - Supply of Solar Power Plant equipment
 - Installation of Solar Power Plant
 - Testing & Commissioning of Solar Power Plant
 - O & M Services during warranty Period
- 1.4 According to the RFP document published, the selected firm/ developer/ Company will enter EPC turnkey agreement with GIK.
- 1.5 Interested Engineering Firms/ Companies should apply against Subject Bidding Documents and submit its documents on or before 1500 hrs **on 22nd May, 2023**. The Project Location Map and other relevant details are depicted as Appendices to Bid
- 1.6 The EPC Contractor is bound / obligated to provide energy generation commitment as described/ agreed in the bidding documents. In case of deficit in committed generation, the EPC firm/Company may install extra PV module, or any settlement based on consensus will be considered, failing payment shall be made the Institute.

IB.2 PURPOSE OF PROJECT BRIEF AND BIDDING INSTRUCTIONS

- 2.1 Selection of Successful bidder(s) for procurement of grid connected Solar PV Power Projects for aggregate capacity up to 999KW shall be done through Turnkey Process.
- 2.2 The Works to be executed under this Contract comprise Design, Construct, Manufacture, Supply, Installation, Testing & Commissioning of 999KWp Solar Power Generation Plant for GIK Institute located at Topi, District Swabi.
- 2.3 A detailed scope of work has been furnished along with the Annexure/Appendices referred to herein and any future additions and amendments to this document constitute the Bidding Documents. The successful Bidder will be expected to complete the works within the stipulated period of 180 days as specified in these Bidding Documents.
- 2.4 Upkeep of the facilities such as operations, cleaning of power plant, electrical and mechanical infrastructure maintenance and other requirements needed for smooth

operations shall be provided free for one year by the Executing Company.

IB.3 ELIGIBLE BIDDERS

3.1 This Invitation for Bidding Document is open to all the Bidders meeting the following requirements:

- i. The bidder must be registered with AEDB in ARE-V1/C-1 and other relevant committees.
- ii. The bidder should have a KPRA (Khyber Pakhtunkhwa Revenue Authority) Number.
- iii. The bidder has a valid PEC license of category C- 4 or above.
- iv. List of CVs of qualified engineers with a minimum of three years' experience in installation of 999KWp and above individual solar power projects and evidence of payment of monthly salary to the engineers.
- v. List of certified financial statements and Tax Returns for last three years and details of accounts maintained in different banks with certificate of major bank account from the concerned branch for the last six months.
- vi. Bidder must not be a bankrupt or in the going process of bankrupt (**Letter from the bank**)
- vii. The bidder must have valid Sales Tax and Income Tax and KPRA registration and should be an Active Taxpayers List.
- viii. Bidder should have a local presence in Pakistan market for more than 5 years.
- ix. The bidder should have a complete track record of smooth supplies of all the imported items and should have proof of no issues due to LC Situations.
- x. Should have installed/Proof Solar System of at least 5 sites of 999KWp each along with the installed Medium Voltage (Transformers).
- xi. Should have 24/7 response faculty along with dedicated after sales team/ Network Operating service.
- xii. Should be financially strong enough to start the project without advance payment or if there is delay in payment.
- xiii. The successful bidder shall submit a declaration to supply all the required items as per the delivery schedule or with a mutual understanding.
- xiv. The warranty period of the goods shall be as per the standard warranty time offered by the manufacturer. The warranty period shall be counted from the date of delivery.
- xv. Letter of Manufacturer / Sole Distributor or Dealer Solar Panel & Invertors.

To be eligible for award of the EPC Turnkey Contract, Bidders shall provide evidence satisfactory to the Employer of their technical and financial capability and adequacy of resources to fulfil all obligations under this Contract Agreement.

IB.4 COST OF BIDDING

4.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid and the Employer will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the Bidding process.

IB.5 PROGRAM

- 5.1 The Employer will, however, give favourable consideration to proposals that achieve an earlier availability date.
- 5.2 Bidders should note that the EPC Turnkey Contract specifies Key Dates to be achieved throughout the Construction Phase and penalties to be imposed for delayed completion.

IB.6 DISCLAIMER

- 6.1 All information, assumptions and projections contained in these Bidding Documents are indicative only and are provided solely to assist in a preliminary assessment of the Project. Nothing in the Bidding Documents or elsewhere shall create any contractual relationship between the Employer and any Bidder, nor shall it commit the Employer to any policy described in the Bidding Documents or elsewhere and neither the Employer nor any of its consultants or advisers will have any liability or responsibility if the information, assumptions and projections contained herein or otherwise in respect of the Project prove to be incorrect. It is the responsibility of the Bidder to verify the information, assumptions and projections contained in the Bidding Documents or otherwise.

IB.7 CONFIDENTIALITY

- 7.1 The Bidder shall treat the Bidding Documents and, if successful, the subsequent Contract Agreement, and everything contained therein as private and confidential. In particular, the successful Bidder shall not publish any information, drawings or photographs concerning the Project or any Ancillary Facilities, without the express written permission of the Employer.

IB.8 BRIBERY AND COLLUSION/INTEGRITY PACT

- 8.1 The Employer shall be entitled to terminate the Contract Agreement and recover from the successful Bidder the amount of any loss resulting from such termination if the successful Bidder shall have offered or given to any person any gift or consideration of any kind as an inducement or reward for doing, or forbearing to do, any action in relation to obtaining, or in the execution of the Project or any other contract with the Employer, or for showing favour to any person in relation to the Contract Agreement or any other contract with the Employer, or if any of the like acts shall have been done by any person employed by the successful Bidder or acting on its behalf (whether with or without the knowledge of the successful Bidder), or if the successful Bidder shall have come to any agreement with another Bidder or number of Bidders whereby an agreed quotation or estimate shall be offered as a Bid to the Employer by one or more Bidders.
- 8.2 In addition, in case of GOP financing, the Bidder shall sign an Integrity Pact (Appendix-12 of this document) to remain liable for its undertaking given therein.

B. BIDDING PROCEDURES

IB.9 Contents of Bidding Documents

- 9.1 This Standard Bidding Documents include the following:
 1. Instructions to Bidders

2. Bidding Data
3. General Conditions of Contract
4. Particular Conditions of Contract
5. Specifications-Special Provisions
6. Specifications-Technical Provisions
7. Annexures to Instructions to Bidder
8. Appendices to Contract
9. Form of Bid Security
10. Form of Contract Agreement
11. Form of Performance Security
12. Design/Drawings
13. Others

IB.10 Qualifications Requirements

The Bidder must meet the qualification requirements independently as bidding company or as a Bidding Consortium with one of the members acting as the lead member of the Bidding Consortium. Bidder will be declared as a qualified Bidder based on meeting the qualification requirement specified in the tender documents by submitting documentary evidence in this regard.

Bidders shall be pre-qualified as per attached Annexure. However, the Contractor's authorized representative and his other professional engineers working at site shall register themselves with the Pakistan Engineering Council. The Contractor's authorized representative at site shall be authorized to exercise adequate administrative and financial powers on behalf of the Contractor so as to achieve completion of the works as per the Contract.

IB.12 Site Visit

- 12.1 The Bidders are advised to visit and examine the site of the works and its surroundings and to obtain for itself on its own responsibility, all information that may be necessary for preparing the Bid and entering into a Contract Agreement. The costs incurred in visiting the site shall be at the Bidder's own expense.

IB.13 Acceptability of Bid

- 13.1 The Bidder is expected to examine carefully all instructions, conditions, forms, terms, specifications and requirements of bid submission. Bids will be at the Bidder's own risk. Bids that are not substantially responsive to the requirements of the Bidding Documents will be rejected, except as provided for under Clause IB 24.

IB.14 Clarification of Bidding Documents

- 14.1 A prospective Bidder requiring any clarification of the Bidding Documents may notify the Employer in writing or by telex, cable or facsimile at the Employer's address given in the Bidding Data
- 14.2 The Employer will respond in writing to any requests for clarification that it receives earlier than seven days prior to the Bid Submission Date. Written copies of the Employer's response (including an explanation of the query but without identifying the source of the inquiry) will be sent to all prospective Bidders who have received the Bidding Documents.

IB.15 Amendment of Bidding Documents

- 15.1 At any time prior to the Bid Submission Date, the Employer may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the Bidding Documents by amendment.
- 15.2 The amendment will be notified in writing or by telex, email, cable or facsimile to all prospective Bidders who have received the Bidding Documents, and will be binding upon them.
- 15.3 In order to afford prospective Bidders reasonable time in which to take the amendment into account in preparing their Bids, the Employer may, at its discretion, extend the deadline for the submission of Bids.

C PREPARATION OF BID

IB.16 Documents Comprising the Bid

- 16.1 The Bid to be prepared by the Bidder shall comprise Single Stage Two Envelope (Technical and Financial sealed in separate envelope respectively) as follows:

Submission of Technical Proposal:

- a) Evidence of Bid Security;
- b) Bidder's Qualification Information and Technical Proposal as required under the Bidding Documents along with Letter of Technical Proposal;
- c) Project Appreciation Statement;
- d) Statement of Technical Requirements;
- e) Statement of Bid Conformity;
- f) Any Other Information as required by the Employer as mentioned in the Bidding Data.

Submission of Financial Proposal:

- a) Statement of Capital and Operating Costs;
- b) Bid Security @2% of Bid Cost.
- c) Proposed Financial Package along with the Letter of Financial Proposal
- d) Financial Analysis of the Project;

- e) Any Other Information as required by the Employer as mentioned in the Bidding Data.

16.2 The Bidding Documents shall themselves be deemed to be part of the Bid.

16.3 General guidance relating to the information to be provided by Bidders is given in the Annexure/Appendices.

IB.17 Language of Bid

17.1 The Bid prepared by the Bidder, and all correspondence and documents relating to the Bid exchanged by the Bidder and the Employer, shall be written in English. Supporting documents and printed literature furnished by the Bidder with the Bid may be in Urdu or other languages, provided they are accompanied by an appropriate translation of pertinent passages in the above stated language. For the purpose of interpretation of the Bid, the English language shall prevail.

IB.18 Currency of Bid

18.1 All monetary values quoted in the Bid shall be in the equivalent Pakistan Rupees.

IB.19 Bid Validity

19.1 The Bid shall remain valid and open for acceptance for a period 90 Days from the date of Bid Submission. In exceptional circumstances, prior to expiry of the original bid validity period, the Employer may request Bidders to grant a specified extension in the period of validity. However, the period of extension should not exceed the original period of bid validity. The request and the responses thereto shall be made in writing or by cable, electronic mail or facsimile. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder agreeing to the request will not be required nor permitted to modify its bid, but will be required to extend the validity of its Bid Security correspondingly.

IB.20 Bid Security

20.1 The Bid shall be accompanied by a Bid Security @2% of the Bid Cost enclosed in Financial Proposal.

20.2 The Bid Security shall be denominated in the local currency a bank draft, in the name of SOPREST

20.3 The format of the bank guarantee shall be in accordance with the Sample Bid Security included in these Bidding Documents. No other formats shall be accepted.

20.4 Any Bid not accompanied by the required Bid Security, or accompanied by a Bid Security in an amount less than that required, will be rejected by the Employer as non-responsive.

20.5 The Bid Securities of all participating Bidders will be discharged/returned as promptly as possible after the successful Bidder has signed the Contract Agreement and has provided the required performance security for Construction Phase as per Bidding Data in favour of the Employer.

20.6 The Bid Security may be forfeited:

- a) If a Bidder withdraws its Bid during the period of bid validity: or

- b) In the case of a successful Bidder, if it fails within the specified times to
 - i. Furnish the necessary Performance Security for Construction Phase
 - ii. Sign the Contract Agreement; or
 - iii. Achieve Financial Close.
- c) In case of default as expressed in Clause IB 3.

IB.21 Pre-bid Meeting

- 21.1 The Bidders or their authorised representatives are advised to attend a pre-bid meeting as per date mentioned in the bidding documents.
- 21.2 The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage. The Bidders are requested to submit any substantive questions in writing or by cable, e-mail, telex or facsimile to reach the Employer not later than one week before the meeting.
- 21.3 Minutes of the meeting, including copies of the questions raised and responses given, will be furnished expeditiously to all those attending the meeting (and to other prospective Bidders on request), and shall form an integral part of the Bidding Documents, in the form of Addenda.

IB.22 Conformity with the Bidding Documents

- 22.1 The Bidder must submit a Conforming (Bona Fide) Bid that conforms in all respects with the requirements of the Bidding Documents. In addition, the Bidder may submit one or more Alternative Conforming (Bona Fide) Bids, if it so wishes.

IB.23 Conforming (Bona Fide) Bids

- 23.1 A Conforming Bid is a bid that conforms in full, both in engineering and operational terms with the Employer's Conforming Scheme, and in financial, organisational and obligation terms with the General Conditions of Contract, except for minor departures that do not materially affect the design, construction method or operational characteristics of the Project or the financial, organisational or obligation regime under which the Contract will be conducted. All such minor departures, if they exist, must be clearly identified and fully described in the Bid.
- 23.2 The Employer shall determine whether a Bid is a Conforming (Bona Fide) Bid. However, the Employer's decision may be reviewed and bidder's grievances/complaints, that may occur prior to the entry into force of the procurement contract, shall be addressed by the committee constituted by the Employer comprising odd number of persons with proper powers and authorizations.
- 23.3 If more than one Conforming (Bona Fide) Bid (e.g., involving different financial and commercial terms) is to be submitted, each must be clearly numbered according to the Bidder's preference.

IB.24 Non-Conforming Bids

- 24.1 Alternative designs and alternative proposals in relation to financial, organisational and obligation aspects, which differ in whole or part from the requirements of the

Bidding Documents, may be considered by the Employer, at its own discretion. Such Bids will only be considered if they are accompanied by a Conforming (Bona Fide) Bid.

- 24.4 For the Employer to examine a Non-Conforming Bid the Bidder must demonstrate with full supporting evidence that the proposal is well researched and is technically feasible, that the proposed Work Programme is well researched and that there are engineering, financial, programming and/or operational advantages over the proposals set out in the Bidding Documents.

IB.25 Format and Signing of Bids

- 25.1 The Bidder shall prepare, in separate volumes, two (02) copies of the documents comprising Part 1 and Part 2 of the Bid, as described in Clause IB 16.1, clearly marked and numbered 'Part 1' and 'Part 2' and 'Original Bid' and 'two Copies of Bid' as appropriate. In the event of any discrepancy between them, the original shall govern.
- 25.2 The original and copies of the Bid shall be typed or written in indelible ink and shall be signed by a person or persons duly authorised to bind the Bidder to the offer. Proof of authorisation shall be furnished in the form of a written Power-of-Attorney, which shall accompany the Bid. All pages of the Bid, except for un-amended printed material, shall be initialled by the person or persons signing the Bid.
- 25.3 The complete Bid shall be without alterations, interlineations or erasures, except as necessary to correct errors made by the Bidder, in which case such corrections shall be initialled by the person or persons signing the Bid.

D SUBMISSION AND OPENING OF BIDS

IB.26 Sealing and Marking of Bids

- 26.1 The Bidder shall seal the Technical Proposal and Financial Proposal, in pursuant to Clauses IB 16.1 and 25.1 in separate envelopes, which must bear the signature of the Bidder's authorised representative.
- 26.2 The original and 02 (two) copies of the Technical Bid shall be sealed into an envelope and shall be:
- a) addressed to the Employer; and
 - b) bear the following identification:
 - i. TECHNICAL PROPOSAL
 - ii. BID FOR *[mention name of the Project]*
 - iii. REF. No *[mention the same number as on Notice for Expression of Interest]*
 - iv. The Words "DO NOT OPEN BEFORE *[mention date and time of Bid Opening for Technical Proposal]*"
- 26.3 The original Financial Proposal of the Bid shall be sealed into an envelope and shall:
- a) be addressed to the Employer; and

- b) bear the following identification:
 - i. FINANCIAL PROPOSAL
 - ii. BID FOR *[mention name of the Project]*
 - iii. REF. No *[mention the same number as on Notice for Expression of Interest]*
 - iv. The Words “DO NOT OPEN BEFORE *[mention date and time of Bid Opening for Financial Proposal]*”

26.4 The envelopes shall also indicate the name and address of the Bidder to enable the Bid to be returned unopened in case it is declared ‘late’.

26.5 If the envelope is not sealed and marked as instructed above, the Employer will assume no responsibility for the misplacement or premature opening of the Bid. Any Bid that is opened prematurely will be rejected by the Employer and returned to the Bidder.

IB.27 Bid Submission Date

27.1 Bids for Part-1 and Part-2 for Technical and Financial Proposals must be received by the Employer at the address specified in the Bidding Data not later than the date (s) and time (s) specified in the Bidding Data in accordance with type of bidding procedure as mentioned in the Bidding Data.

27.2 The Employer may, at its discretion, extend the deadline for the submission of Bids through the issue of an Amendment in accordance with Clause 15, in which case all rights and obligations of the Employer and the Bidders previously subject to the deadline will thereafter be subjected to the deadline as extended.

IB.28 Late Bids

28.1 Any Bid received by the Employer after the specified Bid Submission Date and Time will be returned unopened to the Bidder.

IB.29 Modifications and Withdrawal of Bids

29.1 The Bidder may modify and withdraw its Bid after submission, provided that written notice of the modification or withdrawal is received by the Employer prior to the prescribed deadline for submission of Bids.

29.2 The Bidder’s modification or withdrawal notice shall be prepared, sealed, marked and dispatched in accordance with the provision for the submission of Bids. A withdrawal notice may also be sent by telex, e-mail, cable or facsimile but followed by a signed confirmation copy, postmarked not later than the deadline for submission of Bids.

29.3 No Bid may be modified subsequent to the deadline for submission of Bids.

29.4 No Bid may be withdrawn in the interval between the Bid Submission Date and the expiration of the period of Bid Validity. Withdrawal of a Bid during this interval may result in the forfeiture of the Bid Security.

29.5 Subsequent to the expiration of the period of validity of Bids prescribed by the Employer, a Bidder that has not been notified by the Employer of the award of a

Contract may withdraw its Bid without penalty.

IB.30 Opening of Bids

- 30.1 The Employer will open the Bids in two stages, Stage-1 Technical Proposal and Stage-2 Financial Proposal in the presence of Bidders' representatives or through Zoom. The Bidders' representatives who are present shall sign a register evidencing their attendance.
- 30.2 The Employer will examine the Bids to determine whether they are complete, whether the requisite Bid Securities have been furnished, whether the documents have been properly signed, and whether the Bids are generally in order.
- 30.3 The Bidder's names, bid modifications or withdrawals (if any), the presence of the requisite Bid Security and such other details as the Employer at its discretion may consider appropriate, will be announced at the Bid Opening.
- 30.4 The Employer shall prepare minutes of the Bid Opening for its own records.

IB.31 Confidentiality

- 31.1 After the Bid Opening, information relating to the examination, clarification, evaluation and comparison of Bids and recommendations concerning the award of a Contract shall not be disclosed to Bidders, or other persons not officially concerned with such process, until the award of the Contract is announced.
- 31.2 Any effort by a Bidder to influence the Employer in the process of examination, clarification, comparison and evaluation of Bids, or decisions concerning award of a Contract, may result in the rejection of that Bidder's Bid(s).

E. ASSESSMENT OF BIDS

IB.32 Determination of Conformity

- 32.1 Prior to the detailed evaluation of Bids, the Employer will determine whether each Conforming (Bona Fide) Bid is substantially responsive to the requirements of the Bidding Documents.
- 32.2 For the purpose of this Clause, a substantially responsive Bid is one that conforms to all the terms, conditions and specifications of the Bidding Documents without material deviation or reservation. A material deviation or reservation is one that affects in any substantial way, relative to the requirements of the Bidding Documents, the:
 - a) form, scope, quality, completion or timing of the Construction Phase of the proposed Contract; or
 - b) administration, maintenance and operating regime for the Operation Phase of the proposed Contract; or
- 32.3 A Conforming (Bona Fide) Bid determined to be substantially non-responsive will be rejected by the Employer and may not subsequently be made responsive by the Bidder by correction of the non-conformity.
- 32.4 The Employer may accept any non-material deviation or reservation provided that the acceptance thereof does not prejudice or affect the relative ranking order of any Bidder in the evaluation of Bids.

IB.33 Consideration of Non-Conforming Bids

- 33.1 The Employer may, at its discretion, take forward any Non-Conforming Bid for evaluation, provided that such Bids are determined by the Employer to satisfy all the requirements of Clause IB 24.

IB.34 Clarification of Bids

- 34.1 To assist in the examination, evaluation and comparison of Bids, the Employer may ask Bidders individually for clarification of any element of their Bid(s). The request for clarification and the response shall be in writing, e-mail, cable, telex or facsimile, but no change in the financial aspects or substance of the Bid shall be sought, offered or permitted except as required to confirm the correction of arithmetical errors discovered by the Employer during the evaluation of the Bids.
- 34.2 Bidders will be obliged to respond promptly to all requests for clarification and to provide all clarifications requested within the period mentioned in the requests failing which the Bid may be rejected.

IB.35 Correction of Arithmetical Errors

- 35.1 Bids determined to be substantially responsive and, subject to the discretion of the Employer, Non-Conforming Bids that are determined to satisfy the requirements of Clause 24 will be checked by the Employer for any arithmetical errors in computation and summation.
- 35.2 Errors will be corrected by the Employer as follows:
- a) Where there is a discrepancy between amounts in figures and in words, the amount in words will govern; and
 - b) Where there is a discrepancy between the unit monetary values and the total amount derived from either summation or through the multiplication of the unit monetary value by a factoring value, the unit monetary value as quoted will normally govern unless in the opinion of the Employer there is an obviously gross misplacement of the decimal point in the unit monetary value, in which event the total amount as quoted will govern.
- 35.3 If a Bidder does not accept the correction of errors as above, its Bid will be rejected.

IB.36 Presentation by the Bidders

- 36.1 To assist the evaluation of Bids, each Bidder will be required to present its Technical Proposals to the Employer in a meeting to be arranged at time and date by employer. These meetings must be attended by the Bidder and its engineers/consultants. The main purpose of these meetings will be:
- a) to provide the Bidder with the opportunity to present the details and merits of the technical and operational aspects of its Bid to the Employer; and
 - b) to allow the Employer to seek clarification on any technical and operational matters.
- 36.3 No commercial aspects of the Bid will be discussed at these presentations and no negotiations will take place.

- 36.4 The Technical Scope of the Project will be discussed and Updated during the course of meeting.

F DETAILED BID EVALUATION

IB.37 Process

- 37.1 The detailed evaluation of the Bids will be carried out with scores being assigned to each Bid during the evaluation. Those Bids that, in the view of the Employer, fail to satisfy minimum requirements of the evaluation will not be taken to financial evaluation process.

IB.38 Bidder's Capability and Technical Proposal

- 38.1 The aim of the evaluation will be to determine the ability of the Bidder to construct the Project, and to evaluate the level of competence shown by the Bidder, in terms of its understanding of the engineering, operational and maintenance aspects of the Project.
- 38.2 The assessment will consider the Bidder's previous experience in projects of this complexity and magnitude. Particular credit will be given to those Bidders who have in-house experience in manufacturing, the engineering design and construction, and particular emphasis will be placed on the robustness of the proposed Works Programme, the Project Appreciation Statement and the appropriateness of the proposed operating and maintenance regimes that will be employed during the whole life of the project.
- 38.4 In the case of Non-Conforming Bids subject to Sub Clause IB 24.1 the relative technical advantages and disadvantages of any non-conformity will be assessed separately, to be used to off-set any financial disadvantage or advantage that may be gained by the Bidder in the evaluation.
- 38.5 The Technical Proposals are opened at the date and time specified in the Bidding Data. The Technical Proposals shall be evaluated and discussed with the Bidders for clarifications, if necessary.

Any deficiencies, extraneous provisions and unsatisfactory technical features shall be pointed out to the Bidders whose comments are carefully evaluated during a post bid meeting at the date and time set by the Employer. Bids of the Bidders which are non-conforming to the acceptable technical standard shall be rejected as non-responsive bids.

After the evaluation of Technical Proposals as above, Financial Bids will be opened of the firms securing 75% or above marks as per evaluation criteria provided in Annexure 10.

IB.39 The Financial Proposal

- 39.1 The Financial Proposals are opened at the date and time informed by the Employer. The Financial Proposals are evaluated by the Employer and its advisers in strict confidence. Subject to Sub-Clause 31.1, the Employer will not provide the assessment results or reasons in support of its assessments to any Bidders or third party.

IB.40 Assessment Process

- 40.1 The assessment process will be carried out by the Employer and its advisers in strict confidence. Subject to Sub-Clause IB 31.1, the Employer will not provide the assessment results or reasons in support of its assessments to any Bidder or third party. However; the agreed set evaluation criterion is attached as **Annexure-10**.
- 40.2 Bidders should note that the Employer is not bound to accept any Bid and may at any time, by notice in writing to any Bidders, terminate the bidding and assessment process in relation to their Bids or any proposals contained therein.

IB.41 Signing of Contract Agreement

- 41.1 GIK management shall enter into an EPC based Turnkey Contract Agreement with the selected bidder based on selection of Successful Bidder. The Contract Agreement shall be signed within 30 days of issuance of LOI.
- 41.2 Subsequent to the detailed evaluation of the Financial Proposals and Technical Proposals, the Employer will award the Contract Agreement to the successful Bidder, on the basis of being most beneficial to the Employer.
- 41.3 Upon selection by the Employer the successful Bidder will be required, within a period of 30 (thirty) days or as stated in the Bidding Data, to enter into a Contract Agreement with the Employer, having previously secured a Performance Security for Construction Phase to the value of 10 percent, or as stated in the Bidding Data, of the value of the Project Costs.
- 41.4 Failure to fulfil any of the above requirements within the specified time will, unless otherwise agreed by both parties, result in the forfeiture of the Bidder's Bid Security.
- 41.5 In the event of the successful Bidder forfeiting its Bid Security the Employer may, at its discretion, either invite another Bidder to negotiate or terminate the bidding process.

G. INFORMATION TO BE PROVIDED BY BIDDERS

IB.42 Information to be provided by the Bidders

- 42.1 This section sets out, for the information and guidance of Bidders, the Employer's minimum requirements in terms of the contents of the Bid. It is emphasised that these are minimum requirements that may be supplemented by more detailed information, as deemed necessary by the Bidder.
- 42.2 Bidders should note that the information and guidance provided in this Section has been prepared to assist them in completing their submissions. The Employer reserves the right to request any further information and clarification that it may deem necessary to carry out the detailed evaluation of Bids.
- 42.3 The Bid shall be presented in two parts, namely Part-1 and Part-2. The minimum contents of each Part are to be as follows:

IB.43 Part-1 Submission

43.1 General

The Part-1 submission should be divided into sections, which should set out the minimum information indicated in the following sections.

43.2 Bid Security

The Bid Security should comply with the requirements of Clauses IB 20.

43.3 Bidder's Capability Statement

The Bidder's Capability Statement will set out minimum information concerning the financial and corporate structure, experience and financial standing of the Bidder's organisation or consortium as given in the following paragraphs.

43.4 Constitution or Legal Status

Copies of original documents defining the constitution or legal status and place of registration of the company or firm or, in the case of a joint venture, of each party thereto constituting the Bidder will be submitted.

43.5 Corporate Structure

Where the Bidder is a joint venture of two or more companies or firms, a statement signed by all parties to the joint venture of the proposed administrative arrangements for the management and execution of the Contract, the duties, responsibilities and share of each party, the authorised representative of the joint venture, and an undertaking that the parties are jointly and severally liable to the Employer for the performance of the Contract.

43.6 Relevant Experience

Details of the experience and past performance of the Bidder (or of each party to a joint venture) on projects of a similar nature with at least five projects of 999KWp each, and details of current projects in hand and other contractual commitments have to be submitted.

43.7 Organisational Structure

A chart indicating the basic organisational structure(s) of the Bidder specifying the responsibilities of each organisational unit of the proposed Company is required.

43.8 Key Project Personnel

The qualifications and experience of the key personnel proposed for administration and execution of the project, during the design, construction and operating phases during liability period.

43.9 Audited Accounts

43.9.1 Bidders shall provide audited accounts for a minimum of the latest 5 years, together with the most recently published interim accounts (if available), an estimated financial projection for the next two years, and an authority from the Bidder (or authorised representative of a joint venture) to seek references from the Bidder's bankers, together with a statement giving details of any off-balance sheet liabilities including contingent liabilities.

43.9.2 In the absence of audited accounts, a statement detailing the financial strength of the institutions and/or individuals involved should be provided.

43.10 Project Appreciation Statement

- 43.10.1 Specifications and drawings describing the design and layout of the Employer's Conforming Scheme are included within these Bidding Documents. These are provided for the Bidders' guidance and information.
- 43.10.2 In considering these proposals the Bidder should note that the Employer, its consultants and its advisers will take no responsibility for the accuracy or practicality of the proposals, and that it is the Bidders' responsibility to verify or replace the information, assumptions and projections that are contained within these Bidding Documents and elsewhere; In the event that errors or omissions are found, to correct and supplement data as appropriate.
- 43.10.3 In order to demonstrate their understanding of the form, scope and complexity of the Project, Bidders shall prepare a 'Project Appreciation Statement' setting out the construction, operation and maintenance philosophy that is to be adopted for each significant element of the Project. This statement will include, but not be limited to, details of:
- a) The construction method and operations management and maintenance of the project;
 - b) The construction methods to be adopted in the construction of all major components of the Infrastructure/Facility.
 - c) The construction material requirements of the Project and their availability, the location of borrow pits and spoil areas and the implications of importing any raw or finished materials;
 - d) The machinery, Plant and labour needs of the Project and the requirement for associated working and accommodation areas;
 - e) Any particular problems that might be experienced during construction and the measures to be taken to overcome these problems.
 - f) The operational methodology to be adopted. and
 - g) The proposed maintenance regime including the organisational system that will be adopted for routine maintenance and repair, longer-term inspection, monitoring and rectification of identified defects and normal deterioration of Infrastructure/Facility.

43.11 Statement of Proposed Technical Changes to the Conforming Scheme

- 43.11.1 In the event that the Bidder shall conclude, as a result of its 'Project Appreciation Statement', or otherwise, that it wishes to modify the proposals contained in the Conforming Scheme, either materially or otherwise, the Bidder shall provide supporting drawings and calculations to justify the proposed deviations from the Conforming Scheme.
- 43.11.2 Such deviations shall be designed and evaluated, by the Bidder, in sufficient detail as to indicate, as a minimum:
- a) Any changes in the layout, line and level for the Infrastructure/Facility or its ancillary features;
 - b) Any changes in the land requirements for the proposal;
 - c) Any changes in the choice of materials; and
 - d) Any consequential changes in terms of the design life, operational

characteristics and maintenance needs of the facility.

43.11.3 The results of these studies shall be included, by the Bidder, in a 'Statement of Proposed Technical Changes to the Conforming Scheme'.

43.11.4 In the event that the Bidder should decide to adopt the Conforming Scheme, without amendment, a statement to this effect should be given.

43.12 Statement of Land Offered

43.12.1 The Employer offers Roof tops of all Existing Buildings to execute the project. However, the bidder has the option to choose rooftops and ground. The relevant information in this regard is enclosed in technical provisioning.

43.12.2 All cost relating to any amendment against offered rooftops of the buildings, shifting of utilities (If any), resettlement issues etc. shall be borne by the Bidder. Employer shall however provide all possible assistance in this regard except financial.

43.13 Work Programme

43.13.1 The Bidder shall provide a detailed Work Programme, showing in quarterly intervals the anticipated start-up and construction schedule to achieve the Availability Date specified in Clause IB 5.

43.13.2 In preparing this Work Programme, Bidders are advised that it will be a condition of the Contract Agreement that specified sections of the Project are completed and available for use at specified times. Failure to meet these specified targets will result in the imposition of penalties on the Contractors.

43.14 Statement of Bid Conformity

43.14.1 The Bidder shall submit a Statement of Bid Conformity, stating whether or not the Bid conforms to all the requirements of the Bidding Documents. The requirements for bid conformity are set out in Clauses IB 32.1 and 32.2. This statement shall include a list of all non-material departures from the Bidding Documents together with any areas of significant non-conformity.

43.14.2 Bidders should note when preparing their submissions that all deviations from the Bidding Documents should be listed. Such deviations may include, but not be limited to:

- a) Any changes to the layout, form or scope of the Conforming Scheme;
- b) Any changes to the Land Requirements Plan; and
- c) Any proposed changes to the Form of Contract Agreement.

IB.44 Part-2 Submission

44.1 General

The Submission should be divided into sections as set out below and each section should provide, as a minimum, the information indicated in the following sections:

44.2 Statement of Capital and Operating Costs

The Bidder's Statement of Capital and Operating Costs should provide the following minimum information, set out in the format indicated below.

44.3 Capital Costs

44.3.1 A Breakdown of capital/construction costs on a quarterly basis, divided into the appropriate sections is to be provided by the Bidder for each section of the Project.

44.3.2 In addition, information should be provided regarding design, consultancy and project management fees, contingency costs and insurance costs.

44.3.3 Deleted

44.3.4 Deleted

44.4 Operation and Maintenance Costs

44.4.1 The Bidder shall provide details of estimated Operation and Maintenance Costs during the first and each subsequent year of operation. The following minimum information should be provided:

- a) Operation costs;
- b) Routine monitoring, and allied service costs;
- c) Other administration costs;
- d) Costs associated with routine inspection and maintenance programmes; and
- e) The anticipated cost of periodic maintenance programmes.

General Design Criteria, Operational & Maintenance Requirements are attached at **Appendices to Bid.**

44.5 Financial Analysis of the Project

The Bidder shall provide a detailed forecast annual balance sheet and cash flow projections for the Project.

44.7 Taxation

The Firm/Company is under obligations to taxation under federal and provincial laws.

44.8 Other Information

Any other information that is needed to provide a clear understanding of the Bidder's financial analysis should be included in this section of the submission.

44.9 Letter of Financial Proposal

A definitive summary of the key elements of the Bid shall be provided by the Bidder.

MISCELLANEOUS

IB.45 Bidders to be Careful

45.1 Bidder should take care of local laws, statutes, regulations, Government investment policies in order to make the bids complying with Country regulation.

45.2 Employer shall not assume any responsibility and shall stand indemnified against any or all information provided in the Bidding Documents as far as the Project data and figures are concerned. The Bidders are instructed to carry out their own detailed studies to confirm the Project viability and submit the bids accordingly. The Project documents merely provide information which is deemed useful by

Employer for the Bidders to initiate study of the Project. It may be further understood that Employer is providing this information with best of intents and has tried its best to provide as correct as possible information.

- 45.3 If there arises any further need of addition to the existing Bidding Documents, the same shall be attended through addendum. All such addenda shall form part of the Bidding Documents.
- 45.4 The documents as mentioned in this Bidding Documents shall form the integral part of the overall Agreement and all the conditions contained shall prevail, unless specifically amended or changed or added or deleted through mutual agreement of the Employer and the successful Bidder.
- 45.5 Strict action will be taken in case of fake documents.

ANNEXURES

TO

INSTRUCTIONS TO BIDDERS

Annexure-1

General Information

All individual firms and each partner of a joint venture are requested to complete the information in this form. Nationality information should be provided for all owners or applicants who are partnerships or individually-owned firms.

1.	Name of firm	
2.	Head office address	
3.	Telephone	Contact
4.	Fax	Telex
5.	Place of incorporation / registration	Year of incorporation / registration

<i>Nationality of owners¹</i>		
	<i>Name</i>	<i>Nationality</i>
1.		
2.		
3.		
4.		
5.		

¹ To be completed by all owners of partnerships or individually-owned firms.

Annexure-2

General Experience Record

Name of Bidder or partner of a joint venture
--

All individual firms and all partners of a joint venture are requested to complete the information in this form. The information supplied should be the annual turnover of the Applicant (or each member of a joint venture), in terms of the amounts billed to clients for each year for work in progress or completed, in Rs. Million.

Use a separate sheet for each partner of a joint venture.

Annual turnover data (construction only)		
Year	Turnover (Rs. Million)	Remarks
1.		
2.		
3.		
4.		
5.		

- Note:
- 1) Certified copies of Audit report from a Chartered Accountant or Income Tax Department should be enclosed.
 - 2) Testimonials, Certificates and publicity material should not be enclosed; they will not be taken into account in the evaluation of qualification and will be discarded.

Annexure-3

Joint Venture Summary

<i>Names of all partners of a joint venture</i>						
1. Lead partner						
2. Partner						
3. Partner						
4. Partner						
5. Partner						
6. Partner						

<i>Annual turnover data (construction only; Rs. Million)</i>						
<i>Partner</i>	<i>For</i>	Year 1	Year 2	Year 3	Year 4	Year 5
<i>1. Lead partner</i>						
<i>2. Partner</i>						
<i>3. Partner</i>						
<i>4. Partner</i>						
<i>5. Partner</i>						
<i>6. Partner</i>						

Annexure-4

Details of Contracts of Similar Nature and Complexity

Name of Bidder or partner of a joint venture
--

Use a separate sheet for each contract.

1.	Number of contracts	
	Name of contract	
	Country	
2.	Name of Employer	
3.	Employer address	
4.	Nature of works and special features relevant to the contract for which the Bidder wishes to bid	
5.	Contract role (check one) Sole contractor Management Contractor Subcontractor Partner in a joint venture	
6.	Value in specified currencies at completion, or at date of award for current contracts,	
	* Total Contract Amount: _____ (Rs. Million)	
	* Sub-Contract Amount (if the role was sub contractor): _____ (Rs. Million)	
	* Responsible Contract Amount (if the role was partner in a joint venture): _____ (Rs. Million) _____ (percentage of share)%	
7.	Rs. Million	
8.	Date of award	
9.	Date of completion	
10.	Contract/subcontract duration (years and months) _____ years _____ months	
11.	Specified requirements ²	

² The Applicant should insert any specific contractual criteria required for particular operations, such as annual volume of earthmoving, underground excavation, or placing concrete.

Annexure-5

Summary Sheet**Current Contract Commitments / Works in Progress**

Name of Bidder or partner of a joint venture
--

Bidders and each partner of a joint venture should provide information on their current commitments on all contents that have been awarded or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.
--

<i>Name of contract</i>	<i>Value of Total/outstanding work (Rs. Million)</i>	<i>Estimated completion date</i>
1.		
2.		
3.		
4.		
5.		
6.		

Annexure -6

Personnel Capabilities

Name of Bidder

For specific positions essential to contract implementation, Bidders should provide the names of at least two candidates. The data on their experience should be supplied in separate sheets using this Form 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

Annexure-7

Candidate Summary

Name of Bidder

Position	Candidate	
	Prime	Alternate
<i>Candidate information</i>	1. Name of candidate	2. Date of birth
	3. Professional qualifications	
<i>Present employment</i>	4. Name of Employer	
	Address of Employer	
	Telephone	Contact (manager / personnel officer)
	Fax	Telex
	Job title of candidate	Years with present Employer

Summarize professional experience over the last 10 years, in reverse chronological order. Indicate particular technical and managerial experience relevant to the Project.

From	To	Company / Project / Position / Relevant technical and management experience

Annexure-8

Equipment Capabilities

Name of Bidder

<i>The Bidder shall provide adequate information to demonstrate clearly that it has the capability to meet the requirements for each and all items of equipment required to perform the works.</i>
--

Item of equipment		
<i>Equipment information</i>	1. Name of manufacturer	2. Model and power rating
	3. Capacity	4. Year of manufacture
<i>Current status</i>	5. Current location	
	6. Details of current commitments	
<i>Source</i>	7. Indicate source of the equipment Owned Rented Leased Specially manufactured	

<i>Omit the following information for equipment owned by the Applicant or partner.</i>
--

<i>Owner</i>	8. Name of owner	
	9. Address of owner	
	Telephone	Contact name and title
	Fax	Telex
<i>Agreements</i>	Details of rental / lease / manufacture agreements specific to the Project	

Annexure-9

Financial Capability

Name of Applicant or partner of a joint venture

Bidders, including each partner of a joint venture, should provide financial information to demonstrate that they meet the requirements of the proposed project. Each Bidder or partner of a joint venture must fill in this form. If necessary, use separate sheets to provide complete banker information. A copy of the audited balance sheets and statement of profit and losses should be attached.

Banker	Name of banker		
	Address of banker		
	Telephone	Contact name and title	
	Fax	e mail	

Summarize actual assets and liabilities in Rs. Million equivalent (at the rates of exchange current at the end of each year) for the previous five years.

Financial information in Rs. Million	Actual: previous five years				
	1.	2.	3.	4.	5.
1. Total assets					
2. Current assets					
3. Total liabilities					
4. Current liabilities					
5. Sales					
6. Ordinary Profits					
7. Profits before taxes					
8. Profits after taxes					

Specify proposed sources of financing to meet the cash flow demands of the Project, net of current commitments for other contracts.

Source of financing	Amount (Rs. Million)
1.	
2.	
3.	
4.	

Attach audited financial statements for the last five years (for the individual Bidders or each partner of a joint venture). 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.

Annexure-10
Evaluation Criteria
(The Bidder who fulfills the Eligibility Requirement as stated in
IB-3 shall be further evaluated as per following criteria)

S #	Evaluation Criteria	Max Points
1	Technical Proposal	30
2	Management approach and Organization Structure	10
	* List of Board of Directors / Board of Governors with brief profile (5 Points)	
	* List of Board of Directors / Board of Governors with brief profile (5 Points)	
3	Financial Capabilities	20
	a) Annual turnover of the company greater than Rs 200 million (20 Points)	
	b) Annual turnover of the company greater than Rs. million 150 and less than Rs. 200 million (15 points)	
	c) Annual turnover of the company greater than Rs. million 100 and less than Rs. 150 million (10 points)	
	d) Annual turnover of the company greater than Rs. million 50 and less than Rs. 100 million (5 points)	
	e) Annual turnover of the company greater than Rs. million 40 and less than Rs. 50 million (3 points)	
4	Personnel Qualifications/Capabilities	10
	Team Composition with responsibility indicators (5 Points)	
	Experienced Staff with Evidence of 999KWp project Execution (5 points)	
	* 3 - 5 years (3 points)	
	* 5 years or above (5 points)	
5	Company Past Performance/Experience	30
	a) On going Projects (15 Points)	
	*999KWp each single site 3 to 5 projects (15 points)	
	*999KWp each single site less than 3 projects (10 points)	
	b) Completed Projects (15 Points)	
	*999KWp each single site 7 & above projects (15 points)	
*999KWp each single site 5 to 6 projects (10 points)		
Total Points		100

Note: The Firm who secure 75% or above marks will be considered for next stage (Financial)

Annexure-11

Litigation History

Name of Bidder or partner of a joint venture

Bidders, including each of the partners of a joint venture, should provide information on any history of litigation or arbitration resulting from contracts executed in the last 5 years or currently under execution. A separate sheet should be used for each partner of a joint venture.

<i>Year</i>	<i>Award FOR or AGAINST Applicant</i>	<i>Name of client, cause of litigation, and matter in dispute</i>	<i>Disputed amount (current value, Rs. Million)</i>

PROJECT INFORMATION
APPENDICES TO COMPETITIVE BIDDING

Appendix-01

SPECIFICATIONS

TECHNICAL INFORMATION AND SPECIFICATION FOR SOLAR POWER GENERATION SYSTEM TO BE REQUIRED

1.0 SITE TECHNICAL INFORMATION

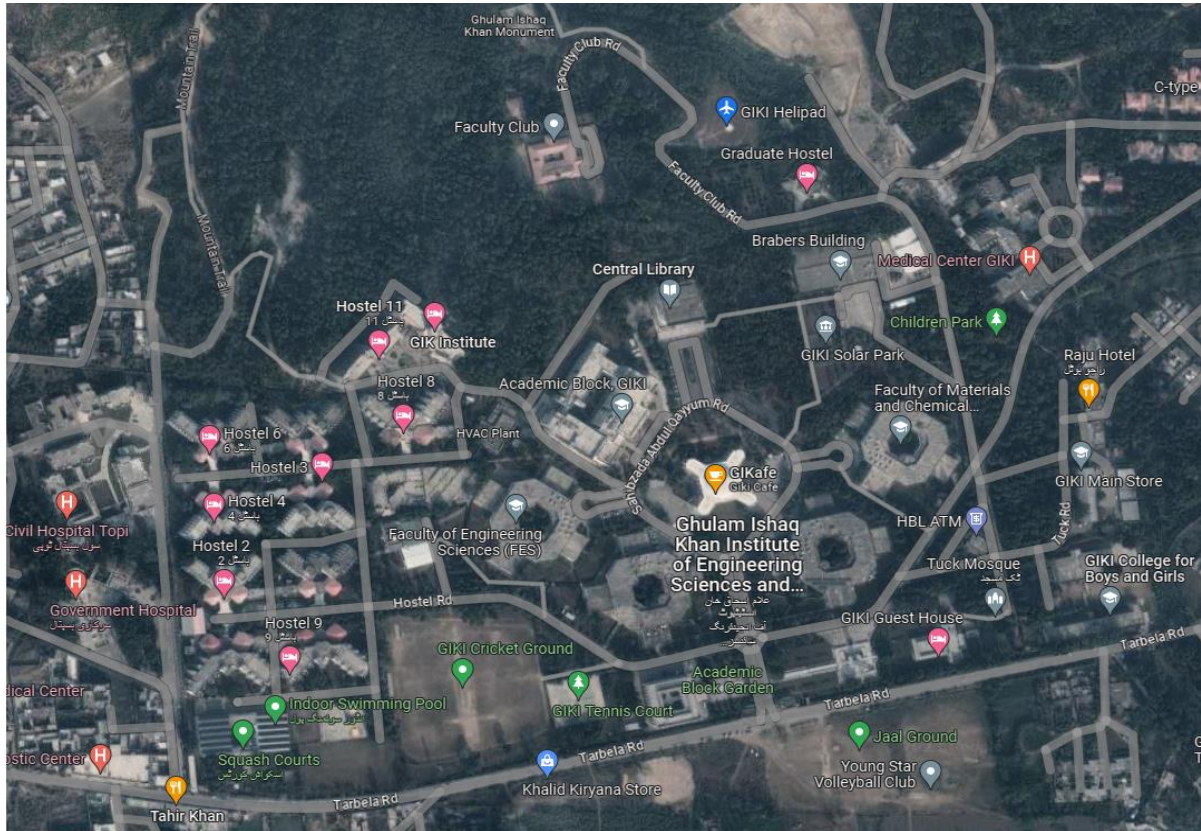
The necessary technical information about the project site is discussed below. However, any query about site information would be available on request within bidding time.

1.1 Site Introduction:

The suggested location for execution of Solar Based Power Project is at roof top buildings of GIKI and is located in Topi, the vicinity of District Swabi, Province Khyber Pakhtunkhwa.

1.2 Site Location:

Geographically Ghulam Ishaq Khan Institute of Engineering Sciences and Technology (GIKI) is located at Latitude $34^{\circ} 4' 7.32''$ N and Longitude: $72^{\circ} 38' 41.64''$ E and Elevation 340m



1.3 Site Description:

Currently the GIK management is interested to installed Solar based Power Plant on following buildings and Power Control Room: -

1. Students Hostels (Boys & Girls)
2. Central Mess
3. HVAC Plant

4. GIK College Building
5. Academic Block
6. Central Library
7. Medical Center
8. Administration Block



1.3.1 Power & Control Room

The Solar Power Electrical Unit is suggested to place in existing Power & Control Room for each building.

Sr. No	Blocks	Distribution Boxes
1.	Students Hostels (Boys & Girls)	Ground Floor
2.	Central Mess	Ground Floor
3.	HVAC Plant	Ground Floor
4.	GIK College Building	Ground Floor
5.	Academic Block	Ground Floor
6.	Central Library	Ground Floor
7.	Medical Center	Ground Floor
8.	Administration Block	Ground Floor

1.4 Existing Power Supply Arrangements:

Load at GIKI is currently being powered through following supply sources: -

- a) **Main Power Supply**
Electrical Power requirement for the GIKI is met from National Grid.
• PESCO
- b) **Emergency Power Supply**
Generators capacities have been installed for providing back up supply to critical load.

Note: The Bidder is required to visit the site for the assessment of existing power supply arrangement for proper synchronization of solar inverter with the national grid and diesel generator sets.

1.5 Site Area Availability for Solar PV Modules:

As discussed above, the available area for installation of PV Modules for subject buildings at GIKI. The cumulative total available roof area for installation of Solar Based Power Plant is approximately 242,500 ft². Summary in this regard is as under:-

Table: Available Roof Top Area for Solar Based Power Plant

Sr. No	<u>Blocks</u>	<u>Area for the installation of PV Solar Modules (feet sq.)</u>
1	Students Hostels (Boys & Girls)	147,200
2	Central Mess	13,500
3	HVAC Plant	9,600
4	GIK College Building	21,800
5	Academic Block	2,0000
6	Central Library	10,000
7	Medical Center	9,900
8	Administration Block	10,500
	Total	242,500

2.0 TECHNICAL REQUIREMENT

Based on the data presented, GIK management desires to Construct an expected/ estimated 999KWp Solar Based Power Plant with following deliverables on currently available Area:-

- Designing of Solar Based Power Plant
- Supply of Solar Based Power Plant
- Installation of Solar Based Power Plant
- Testing & Commissioning of Solar Based Power Plant

2.1 Strength/ Configuration of Roof:

It is important to mention here that the roof tops of each building comprise following configuration: -

1. 6.0” RCC Slab
2. Water Proofing & Insulation Treatment



Fig: Roof Configuration

Now it is assumed that PV modules along with structure and base will enhance surplus weight of 50 Kg/m² on the roof and the building is in good condition to bear that weight. However, the Bidder must share its civil work for subject Roof so that the Works Department reviews the design proposed and play a role for technical scoring during Bid evaluation process.

2.3 Base Structure:

The fixed based mechanical structure (adjustable) has been recommended to install with appropriate angle on the space available at site. It has also informed that Water Proofing Treatment is also expected on the roofs. To install the Solar PV modules, a good concrete structure of appropriate size would be paved on which mechanical structure for solar PV modules will be screwed. Proper civil work will be done so as to cater wind speed of up to 130 Km/hr which is well above the maximum recorded wind speed of 45 Km/hour during the last few years.

2.4 Mounting Structure:

The fixed based P-1 structure has been suggested to be installed with an angle of 30° Degree on the space available at site. Mechanical Structure should be Hot Dip Galvanized iron material with vertical posts supported by concrete foundations base 12 inches above roof top level. It has also informed that the Faculty Block building roof is RCC. To install the Solar PV modules, concrete of size 1 cubic feet would be paved on which structure for solar PV modules will be screwed. Proper civil work will be done so as to cater wind speed of up to 130 Km/hr which is well above the maximum recorded wind speed of 45 Km/hour during the last few years. 2D layout is attached as Appendix-2.

2.5 Placement of Power Inverter:

The Bidder should clearly indicate the number of quantities placement of Power Inverters for each Building so that the aesthetics & cosmetic beauty of the building is not compromised.

2.6 Using of Cable Trays/ Tranches

The Bidder must ensure proper dressing of each cable using hot dip galvanized iron cable trays across the building. The further requirement for execution of the project is covered in Scope of work as discussed below: -

3.0 Scope of Work/Services:

The scope covers supply, installation; testing, commissioning, and performance testing of the expected 999KWp Grid interactive roof top solar photovoltaic system (Second Green Initiative) at GIKI. The Scope of work includes, but not limited to that, is as follows: -

- The Scope of Services includes PV modules, On-Grid inverters, junction boxes, AC, DC distribution boards and cables, DC/AC Earthing, Lightning Arrestors with complete scope, net metering, communication interface, SCADA System with display Units, Weather Station and any other equipment necessary like OCPD, GFPD etc. for safe and efficient operation of the system.
- The scope of Services also includes interconnection of installed PV System with the national grid and separate energy meters for each building for billing.
- Comprehensive insurance, storage & in transit transportation is also the responsibility of successful bidder.
- The civil works for installation of complete system should also be in scope of successful bidder.
- The scope of Services should also include operation and maintenance of the Solar Power Generation System for agreed warranty Period.

- The scope of supply should also include essential spares necessary for operation, routine maintenance and testing of equipment supplied for agreed time period.
- The equipment offered should conform in all respects to high standards of engineering, design and workmanship and be capable of performing in commercial operation.
- All the fittings and accessories that might not have been mentioned specifically in the specification but are necessary for equipment's of the plant, should be deemed to be included in the scope of specification and shall be supplied and furnished by the installer without any extra charges.
- Successful Bidder must obey the guideline given by the GIKI Management.
- It should be responsibility of the successful Bidder to ensure all the works as per scope of the specification are completed for safe and efficient working of the system by following BS OHSAS/ ISO standards. Health & Safety expert would be responsible to restrict Client to follow safety standards.
- The GIK management is authorized to interpret during installation and authorized to verify equipment, detailed drawings, specification and should have the power to reject any work or materials, which in his judgment are not in full accordance therewith.
- Successful bidder has to provide third party certification of random samples before the execution of project. This includes PV Panels, Invertors, Cables, and RRC structure etc.

3.1 SOLAR PV SYSTEM SPECIFICATION TO BE REQUIRED

Solar PV system should consist of following equipment:

- i. PV Modules should have a minimum of 21.3% module efficiency (η) or higher and a linear warranty of 25-years with minimum 80% efficiency. Technology must be mono PERC N-type.
- ii. Efficient Grid Tie Inverters
- iii. Reliable Data Logging System with at least five years storage facility.
- iv. Mounting structure hot dipped galvanized
- v. Cables and associated infrastructure/hardware.
- vi. Civil/ Mechanical Works
- vii. Miscellaneous Item
 - a. Junction box and distribution boxes
 - b. Earthing & Lightning Protection System with Earthing kit
 - c. Lightning arrestors
 - d. PVC pipes and accessories
 - e. Tool kit
- viii. Spares for smooth operation

The following are some of the technical measures required to ensure quality of equipment used in grid connected solar photovoltaic power projects:

4.1 PV MODULE

- (i) The total PV capacity should not be less than allocated capacity (999KWp). The provided PV Module should be of Tier-1 quality. The PV Module should have a minimum of over twenty one percent (21%) cell efficiency.

- (ii) The PV module(s) shall contain Mono crystalline (PERC-N) silicon solar cells.
- (iii) The PV module have an ability to work well with high-voltage input Inverters/ charge controllers
- (iv) The PV Panel must have clear anodized aluminum frame with Anti-reflection cover glass
- (v) The terminal box on the module should have a provision for opening for replacing the cable, if required and it should be waterproof
- (vi) The Solar Panel shell meet the requirement set in IEC 61215:2000, IEC61730, IEC TS 62941. All the supportive valid, genuine and traceable documents must be provided.
- (vii) The modules to be used in a highly corrosive atmosphere throughout their lifetime must qualify to IEC 61701.
- (viii) The PV module(s) should have an ability to work well with high-voltage input Inverters.
- (ix) PV Module(s) should be provided with MC-4 Cable and Connector and IP-67 Rated.
- (x) The terminal box on the Module(s) should have a provision for replacing the cable and it should be waterproof
- (xi) A strip containing the following details should be laminated inside the module so as to be clearly visible from front side.
 - (a) Name of the manufacturer of PV Module(s) or distinctive logo.
 - (b) Name of the manufacturer of Solar Cell
 - (c) Model or Type No.
 - (d) Serial number
 - (e) Year of manufacturing
 - (f) Peak Watt Rating
 - (g) Voltage and Current at Peak Power
 - (h) Open Circuit Voltage
 - (i) Short Circuit Current
 - (j) Maximum input voltages
 - (k) Module(s) deployed must use a RF identification tag.
- (xii) Solar panel be packed for safe transportation on non-metallic roads.
- (xiii) The PV Module should have at least ten-year workmanship warranty.
- (xiv) Limited performance guarantees: panel power, in standard conditions, will not be less than 90% of nominal power for first 10 years of operation and at least 80% for the next 15 years of operation with 25-year limited power warranty.
- (xv) Bidder should carefully design and accommodate requisite number of module(s) to achieve the rated power as per design under NOCT as well.

Note: Bidder should justify the specs with appropriate lab test reports/certifications from the principal manufacturer.

4.2 GRID TIED INVERTER

The DC power produced is fed to inverter for conversion into AC. In a grid interactive system AC power should be fed to the grid at three phase 415 AC bus. Inverter should comply with IEC 61727, IEC 61000-6-1, IEC 610006-2, IEC 62109 and IEC 62116 standards. IEC 61683/IS 61683 for efficiency and Measurements and should comply IEC 60068-2 (1, 2, 14, 30) / Equivalent BIS Standard for environmental testing. Inverter should supervise the grid condition continuously to monitor any event of grid failure (or) under voltage (or) over voltage.

Other important Features/Protections required in the INVERTER

- i) The grid-connected inverters shall comply with UL 1741 standard.
- ii) Power generated from the solar system during the daytime should be utilized fully by powering the critical building loads and feeding excess power to the grid as long as grid is available. In cases,

where solar power is not sufficient due to more demand or cloud cover etc. the building loads should be served by drawing power from the grid. The inverter should always give preference to the Solar Power and will use Grid/DG power only when the Solar Power is insufficient to meet the load requirement.

- iii) The output of the inverter must synchronize automatically to the exact AC voltage and frequency of the grid/DG Set
- iv) Inverter equipped with array ground fault detection option.
- v) On-grid Inverters should have anti-islanded features built in and should continuously monitor the condition of the grid and in the event of grid failure; The solar system should be resynchronized with the grid within two minutes after the restoration of grid or DG set.
- vi) Grid voltage should also be continuously monitored and in the event of voltage going below a pre-set value and above a pre-set value, the solar system should be disconnected from the grid within the set time. Both over voltage and under voltage relays should have adjustable voltage (50% to 130%) and time settings (0 to 5 seconds).
- vii) The grid tie inverter should be able to work with the DG facilities in case of WAPA outages through appropriate controlling mechanism and this ensures a smooth operation of power system without any voltage depths and fluctuations.
- viii) The inverter control unit should be so designed so as to operate the PV system near its maximum Power Point (MPP), the operating point where the combined values of the current and voltage of the solar modules result in a maximum power output.
- ix) The inverter should be a true sine wave for a grid interactive PV system.
- x) The degree of protection of the outdoor inverter panel should be at least IP-65.
- xi) Typical technical features of the suggested inverters must mention as per following sequence.
 - Continuous output power rating (1.1 times for 60seconds)
 - Nominal AC output voltage and frequency
 - Accuracy of AC voltage control $\pm 1\%$
 - Accuracy of frequency control $\pm 0.5\%$
 - Grid Frequency Control range ± 3 Hz
 - Maximum Input DC Voltage range
 - MPPT Range DC
 - Ambient temperature -10 deg C to 55 deg C
 - Humidity 95 % non- condensing
 - Protection of Enclosure IP-65 (minimum)
 - Grid Voltage tolerance -20 % and + 15 %
 - Power factor control 0.95 inductive to 0.95 capacitive
 - No-load losses $< 1\%$ of rated power
 - Inverter efficiency (minimum) plus 97%
 - Liquid crystal display should at least be provided on the inverters front panel or on separate data logging/display device to display following
 - a. DC Input Voltage
 - b. DC Input current
 - c. AC Power output(kW) and Energy harnessed in kWh
 - d. Current time and date
 - e. Time active
 - f. Time disabled
 - g. Time Idle
 - h. Temperatures (C)
 - i. Converter status

- Following should also be displayed like Protective function limits, over voltage, AC under voltage, over frequency, under frequency, ground fault, PV starting voltage, PV stopping voltage, over voltage delay, under voltage delay over frequency, ground fault delay, PV starting delay, PV stopping delay.)
- xii) Nuts & bolts and the inverter enclosure should have to be adequately protected taking into consideration the atmosphere and weather prevailing in the area.
- xiii) Dimension and weight of the inverter should be indicated by the bidder in the offer.
- xiv) All doors, covers, panels and cable exits should be gasketed or otherwise designed to limit the entry of dust and moisture.
- xvi. Operation Mode:
- a. Night or sleep mode: where the Inverter is almost completely turned off, with just the timer and control system still in operation, losses shall be less than 2 W per 5 kW.
 - b. Standby mode: where the control system continuously monitors the output of the solar generator until pre-set value is exceeded (typically 10 W).
 - c. Operational of MPP tracking mode: the control system continuously adjusts the voltage of the generator to optimize the power available. The power conditioner should automatically re-enter standby mode input power reduces below the standby mode threshold. Front panel should provide display of status of the inverter.
- xvii. The offered inverter must comply with following standards.
 UL1741, IEEE1547, UL 1998, CE, EN 50178, EN 62109-1, EN 62109-2, EN 61000-6-2, EN 61000-6-4, EN 61000-3-11, EN 61000-3-12, FCC Part 15, NEMA3R/ NEMA 3R, DIN VDE V 0126-1-1, ENEL Guidelines (DK 5940)
 AS 4777, RD 1663/2000, RD 661/2007, EN 50178, IEC 62103, EN 55011,
 IEC 61000-3-11, IEC 61000-3-12, IEC 61000-6-3

Note: Bidder should justify the specs with appropriate lab test reports/certifications from the principal manufacturer.

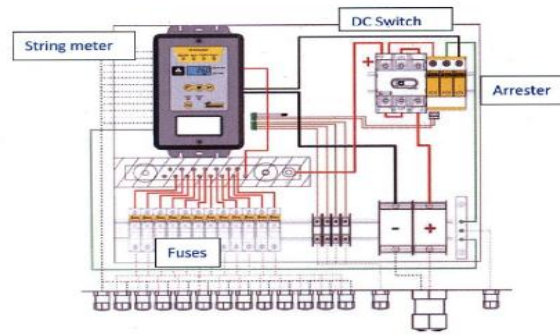
4.3 Junction Boxes

SMART Junction boxes with the multi-function of string monitor to detect each string's voltage, current, and power, plus fault detection and surge protection function. The array junction box has been suitably designed to be integrated into the PV plant. The junction boxes shall have suitable arrangement for the followings.

- Provide arrangement for disconnection for each of the groups.
- Provide a test point for each sub-group for quick fault location.
- To provide group array isolation.
- The current carrying ratings of the junction boxes shall be suitable with adequate safety factor to inter connect the Solar PV array.
- To include data collector for Monitoring System.

A DC string meter is integrated into a DC box to provide the capability of collecting the required data/information of string level.

The system diagram of junction box is shown below.



4.4 Monitoring & Data Logging

A state-of-the-art data monitoring/logging system, capable of local and remote monitoring so as to provide timely and accurate performance of the plant on continuous basis is required on site. All monitoring data will be transmitted to the control room for logging and monitoring of the performance of each inverter. Data logging software is employed for automatic storage of the measured data from PV Plant over a period of five years on cloud as well as local servers. Control room shall have a control panel containing all the measuring instruments such as voltmeter, ammeter, frequency meter and electronic energy meter for measuring the deliverable units sold to utility grid. Block diagram of monitoring system is given below:

4.5 Standard System Layout

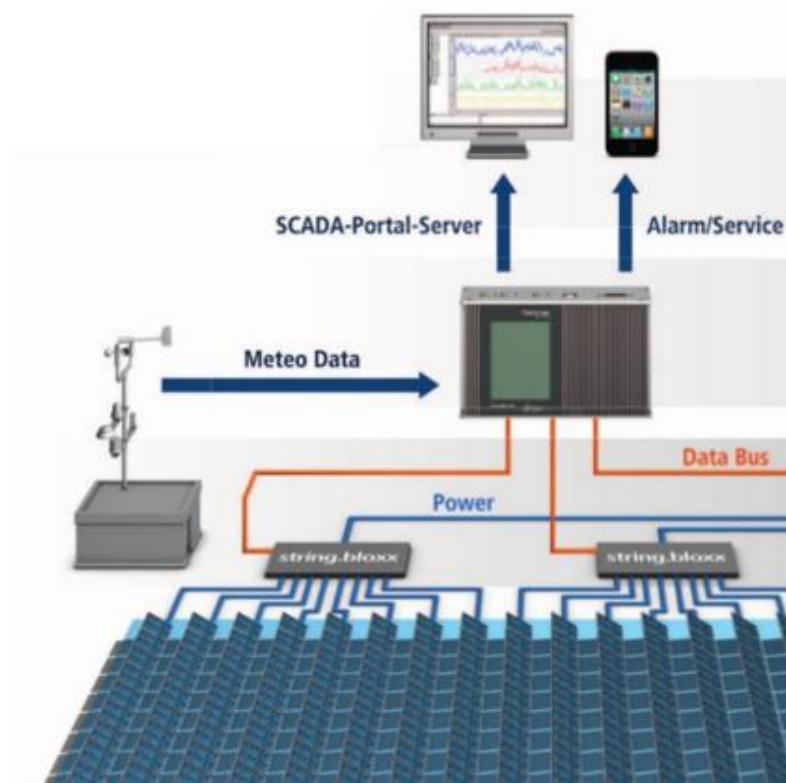


Figure 1 Monitoring & Data

A. Technical Specifications

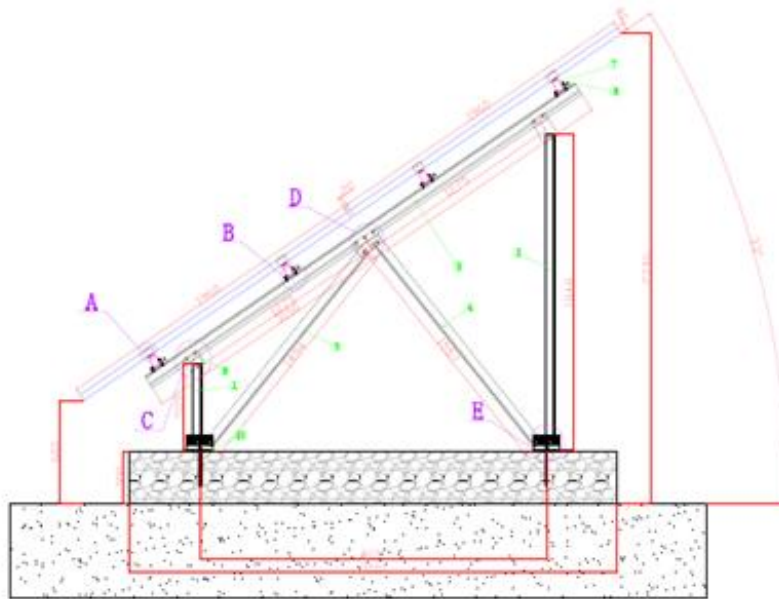
- Data Monitoring : Local & Remote up to string level (Access to live data every 05 minutes)

- Irradiation Meter : 2 units with D/A Translation card
- Temperature Meter : 6 units with D/A Translation card
- PC + Monitor : 2 sets of PC + 21” monitor and 42” LCD TV Display, 1 set of server-grade hardware
- Sensors : 1- Irradiance,
2- Temperature,
3- Power,
4- AC/DC current
5- AC/DC voltage meters,
6- Electrical parameters,
7- Wind speed meter
- Software : Compatible
- PC Based : MS Excel compatible.
- Data desk : MS Excel compatible.
Graphic and tabular form
- Communication
- Interface : SCADA Portal-Interface
- Data Logging and
- Accusation : Ambient temperature near array field, Module temperature, Acquisition Solar irradiance, grid Frequency, DC bus output, energy delivered to the grid in kWh, Wind speed for tracker.
- Data Recording / Logging : Continuous logging with data logging software capable to generate daily, monthly, quarterly and annual performance reports on cloud and local server.
- Data Storage Capacity : 05 years
- Control Room System : Computerized data acquisition system

4.6 Mounting Structure

Fixed Mounting Structure

- (i) The main mounting structure will be fixed/adjustable, tilted at an appropriate angle, facing south and will be made of Aluminum or Steel Hot Dip Galvanized material with vertical posts supported by concrete foundations base 3 inches above roof top level.
- (ii) The mounting structure must be engineered for wind resistance of 130km/h
- (iii) Module should be fixed with the frame through pure SS rawal bolts. The bolts should be tightened at the required angle.
- (iv) The Nuts, Bolts & Washers/Spring Washers for modules & Mounting structures must be stainless steel material with appropriate gauge (14 or plus)
- (v) The entire mechanical structure should be made of aluminum/steel hot dip galvanized with appropriate rating for longer life of the structure.
- (vi) Shading shall be avoided all over the year (around) from 30 minutes after the sunrise to 30 minutes before sunset (For installation purpose only).
- (vii) To allow regular cleaning of the solar modules, they should be easily accessible for personnel (For installation purpose only). Therefore, no more than 75% of a given space, may be utilized panel installation. The remaining 25% space provide for cleaning and safety personnel in case of emergency.
- (viii) Each panel frame structure shall be so fabricated as to be grouted using rawal bolts in cement concrete foundation with steel frame structure at the site
- (ix) Foundation/mounting structure should be fabricated and installed to achieve full life of 25 years under the local climatic conditions.



4.7 Wires & Cables

- i) The main cable and LT cables of appropriate sizes from transformer/PESCO (Changeover switch) supply of all buildings to inverter rooms shall be 1.1 grade, heavy duty, stranded copper conductor, PVC type A insulated, galvanized steel wire/strip armored, flame retardant low smoke (FRLS) extruded PVC type ST-1 outer sheathed. The cables shall, in general conform to IS-1554 P+I & other relevant standards.
- ii) External cables should be specifically adapted to outdoor exposure (see IEC 60811). Especially the outer insulation must be sunlight (UV)-resistant, weatherproof and designed for underground installation. Preferably tin coated copper UV resistant DC cables shall be used.
- iii) The temperature resistance of all interconnecting wires and cables should be $> 75^{\circ} \text{C}$. The minimum acceptable cross-section of the wire in each of the following sub-circuits is as in ISO IEC prescription:
- iv) All wiring should be color-coded (and/ labeled in case of service providers.)
- v) All supplied wires must be in UV-resistant conduits or be firmly fastened to the building and/or support structure. Cable binders, clamps and other fixing material must also be UV-resistant, preferably made of polyethylene (for the case of service providers)
- vi) All connections should be properly terminated, soldered and/or sealed from outdoor and indoor elements. Relevant codes and operating manuals must be followed.
- vii) The cable rating should be explicitly mentioned in the technical document i.e. the size, current rating & voltage rating and ohmic drop information etc.
- viii) GI cable trays for DC, earth and communication cables to be placed on rooftops as well are required.

4.8 Protections and Control

- i. PV system software and control system should be equipped with islanding protection as described above. In addition to disconnection from the grid (islanding protection i.e. on no supply) , under and over voltage conditions , PV systems should be provided with adequate rating fuses, fuses on inverter input side (DC) as well as output side (AC) side for overload and short circuit protection and disconnecting switches to isolate the DC and AC system for maintenance as needed. Fuses of adequate rating should also be provided in each string of solar module to protect them against short circuit.

- ii. A manual disconnect switch beside automatic disconnection to grid should also be provided at utility end to isolate the grid connection by the utility personal to carry out any maintenance. This switch should be locked by the utility personal.
- iii. Emergency switch should be part of scheme to disconnect the entire PV plant in case of emergency.

4.9 Grid Location and Connection

- i. Synchronization: Available in the Inverter
- ii. All Safeties: Available in the Inverter

4.10 Earthing & Protection System from Lightning

Earthing is essential for the protection of the equipment & manpower. Two main grounds used in the power equipment are:

- System earth
- Equipment earth

The complete set suitably designed Lightning protection and earthing system should be installed for 999KWp solar power plant. For this purpose, appropriate units of lightning arrestor shall be set up to sufficiently cover the radius of the power plant (as per site map) for its protection from lightning. These shall operate by acting as receptors capturing the lightning and defusing it before it reaches the PV or other sub-system components.

- i. System earth is earth which is used to ground one leg of the circuit. For example, in AC circuits the Neutral is earthed.
- ii. In case of equipment earth all the non-current carrying metal parts are bonded together and connected to earth to prevent shock to the man power & also the protection of the equipment in case of any accidental contact.
- iii. To prevent the damage due to lightning the one terminal of the lightning protection arrangement is also earthed. The provision for lightning & surge protection of the SPV power source is required to be made.
- iv. In case the SPV Array cannot be installed close to the equipment to be powered & a separate earth has been provided for SPV System, it shall be ensured that all the earths are bonded together to prevent the development of potential difference between two earths.
- v. Earth resistance shall not be more than 5 ohms. It shall be ensured that all the earths are bonded together to make them at the same potential.
- vi. The Earthing conductor should be 1.56 times the short circuit current. The area of cross-section shall not be less than 1.6 sq mm in any case.
- vii. The array structure of the PV modules shall be grounded properly using adequate numbers of earthing pits. All metal casing/ shielding of the plant shall be thoroughly grounded to ensure safety of the power plant.

4.11 Civil Works

The following civil works should be carried out with GIKI Management:

- i. Cutting and clearing of trees/plantation to remove the shadow.
- ii. Cast-in-situ RCC foundation for mounting PV module/solar panels are preferred. Height of the mounting structures should not be limited to 3 inches.
- iii. Rooftop load bearing should be reviewed in conjunction in civil design for mounting of solar panels.
- iv. Lying of earthing equipment /structures and connecting to the main ground mat as per the statutory requirements.

v. Construction work where necessary to be in consultation with works Department.

4.12 Net Metering Configuration Options

i. Details of Net Metering scope clearly mentioning the documentation formalities, installation of HT meter with isolator switch and CTs etc. would be included in scope of EPC.

ii. Synchronization and interlocking details with PESCO and generators.

iii. Load flow analysis to be carried out by EPC Contractor. The metering system for Billing should be of good quality and from WAPDA certified Companies.

iv. The utility meter (Net-meter) has to be bi-directional meter to register both import grid electricity amount as well as export solar electricity amount.

4.13 Miscellaneous Items for Installation

a) Wiring PVC/GI Channel Ducts

A product of good quality standard material with suitable size to be provided / used.

b) Flexible PVC Pipe

The flexible PVC pipe should be of good quality material with suitable size.

c) Combiner Box

Combiner Box should be manufactured through GI material with 100% copper strip in it for termination of PV Arrays.

4.14 Other Features:

(i) The PV Module(s) should be warranted for a minimum period of 25 years from the date of supply, inverter with five years from the date of installation. The warranty card to be supplied with the system must contain the details of the system. The manufacturers can also provide additional information about the system and conditions of warranty as necessary.

(ii) Adequate space should be provided behind the PV module/array for allowing unobstructed airflow for passive cooling.

(iii) All wiring should be in proper conduit of capping casing. Wire should not be hanging loose.

(iv) Instruction and O&M manuals

✓ Two copies of Instruction and Operation and Maintenance Manual in English and local language should be provided with the system.

✓ The manual shall be furnished at the time of dispatch of the equipment and shall include the following aspects:

a. Precautions during unpacking

b. Instructions for handling at site.

c. Erection drawings with written assembly instructions that would enable the Employer to carry out erection with his own personnel if opted by him.

d. Detailed instructions and procedures for the installation operation and maintenance.

e. Pre-commissioning tests.

f. About solar PV system – its components and expected performance.

g. Clear instructions about mounting of PV module (s)

h. About electronics

i. DO's and DONT's

j. Principle of Operation of various equipment

k. Safety and reliability aspects

l. Metering scheme

m. About power conditioning units' software and controls

- n. Clear instructions on regular maintenance and troubleshooting of solar power plant.
- o. Name and address of the person or service center to be contacted in case of failure or complaint.
- p. Outline dimension drawings showing relevant cross-sectional views, earthing details, constructional features. Rated voltages and current etc.

4.15 Harmonics Standard:

As per the standard of IEEE 519, the permissible individual harmonics level shall be less than 3% (for both voltage and current harmonics) and Total Harmonics Distortion (THD) for both voltage and current harmonics of the system shall be less than 5%.

4.16 Performance Monitoring:

All grid solar PV power projects must install necessary equipment to continuously measure solar irradiance, ambient temperature, wind speed and other weather parameters and simultaneously measure the generation of DC power as well as AC power generated from the plant. They will be required to submit this data to Procurer or any other designated agency online and/or through a report on regular basis every month for the entire duration of CONTRACT. In this regard they shall mandatorily also grant access to Procurer or any other designated agency to the remote monitoring portal of the power plants on a 24X7 basis.

8.17 Water Cleaning Network

- i. Panel water cleaning system, its design and BOQ to be provided
- ii. Access to solar panels for cleaning/maintenance should be catered for in design.

8.18 Tools and Spares

List of tools & machinery to be provided along with a complete list of commissioning and O&M spares should be part of quotation.

TECHNICAL PROPOSAL

APPENDICES TO CONTRACT

Appendix-02

**Project Conceptual Design, Design Criteria &
Technical Details and Implementation Schedule**

[To be completed by the Bidder]

Appendix-03

Method of Performing the Work

[To be completed by the Bidder]

Appendix-04

Project Management Facilities

[To be completed by the Bidder]

Appendix-05

List of Proposed Contractors/Subcontractors

[To be completed by the Bidder]

Appendix-06

**Organization Chart for the Supervisory Staff &
Labor**

[To be completed by the Bidder]

Appendix-07

Operation and Tariff collection

[To be completed by the Bidder]

Appendix-08

Operation and Maintenance Methods

[To be completed by the Bidder]

Appendix-09

Funding/Financial Arrangements

[To be completed by the Bidder]

Appendix-10 Financial Offer

[To be completed by the Bidder]

Financial Offer (For each Building)

S. Nos	Description	Unit Price	Qty	UoM	Total Price	Sub Total
1.0	PV Modules & System					
1.1	Solar Module (500 Wp) or plus			Nos		
1.2	Inverter (Grid-Tied) KW			Nos		
1.3	PV-Genset Controller			Job		
1.4	Cable for Interconnection (DC)			Job		
1.5	DC Breakers for string protections			Job		
2.0	AC Termination & Accessories					
2.1	LT Termination					
2.1.1	Secondary Comprehensive Protection Cabinet			Nos		
2.1.2	Low Voltage Switchgear Cabinet			Nos		
2.1.3	AC Combiner Breakers for MCCB			Nos		
2.1.4	AC Combiner Breakers for ACB			Nos		
3.0	Fabricated Items					
3.1	Mounting Structure			Job		
3.2	Cable Tray			Job		
3.3	Distribution Boxes			Job		
4.0	Cable & Accessories					
4.1	AC Cables for Inverter Interconnection xx sqmm,4 core, Armored			Meters		
4.2	AC Cable for Combined Output xx sqmm,4 Core, Armored			Meters		
4.3	Installation Material					
5.0	Earthing/ Grounding System					
5.1	Component Grounding Cable			PCS		
5.2	Grounding Pits & Cables			Nos		
5.2.1	Yellow Green Grounding Cable (xxmm ²) for Inverter Grounding			Meters		
5.2.4	Grounding Flat Iron Grounding Network for the plant Area, Power distribution Room, HV power Distribution room			Meters		
5.2.5	Earthing Poles GND Network & GND Electrode			Nos		
5.2.6	OT Copper Nose for Cables			Lot		
6.0	Monitoring & Data Acquisition System					

6.1	Video Monitoring System			Sets		
6.2	Meteorological Monitoring Devices			Sets		
6.3	Data Monitoring System			Sets		
7.0	Services					
7.1	Project Design & Execution			Job		
7.2	Erecting of Mechanical Mounting Structure			Job		
7.3	Installation, testing and Commissioning of Solar System			Job		
7.4	Operations and Maintenance "O&M" Services (5 Years)			Job		
7.5	Load Flow Study (Required for Net-Metering)			Job		
7.6	Net-Metering Process (Including Equipment, Fee, Approvals, Documentation, Inspection)			Job		
8.0	Transportation					
8.1	Charges			Job		
A	Total Project Cost Solar Based Power Solution					
	Total Project Cost/Watt					

Contract will be finalized with the firm technically qualified firm having criteria of 80 (Technical) 20 (Financial) as prescribed in tender documents shall be deemed successful highest scorer bidder

Appendix-11

Integrity Pact

[To be filled and signed by the Bidder]

**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: _____

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:

Name of Seller/Supplier:

Signature:

Signature:

[Seal]

[Seal]

FORMS

Form-01

Letter of Technical Proposal

Bid Reference No: _____
[should be same as mentioned on Notice for Expression of Interest]

Name of Project/Infrastructure/Facility: _____
[mention name of the Project/Infrastructure/Facility]

To: _____
[Bidder to insert name and address of the Employer]

Gentleman,

1. Having examined the Bidding Documents including Instructions to Bidders, Bidding Data, Conditions of Contract, general design criteria, operation/maintenance requirements and Addenda Nos. _____ (if any) for designing, execution and operation/maintenance of the above-named Works, we, the undersigned, offer our Technical Proposal to design, execute, complete and operate/maintain such Works in conformity with the Conditions of Contract, general design criteria, operation/maintenance requirements and Addenda (if any).
2. We understand that all the Annexures/Appendices attached hereto form part of this Financial Proposal.
3. As security for due performance of the undertakings and obligations of this Bid, we submit herewith a Bid Security in the amount of Rupees _____ (Rs. _____) drawn in your favor or made payable to you and valid for a period of _____ days beginning from the date Bids are opened.
4. We agree to abide by this Bid for the period of _____ days from the date fixed for receiving the same and it shall remain binding upon us and may be accepted at any time before the expiration of that period or any extended period as per Bidding Documents.
5. Unless and until a formal Agreement is prepared and executed, this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.
6. Unless and until a formal Agreement is prepared and executed, this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.
7. We do hereby declare that the Technical Proposal is made without any collusion, comparison of figures or arrangement with any other bidder for the Works.

8. We understand that you are not bound to accept the Technical Proposals you may receive.

Dated this _____ day of _____ 20_____

Signature: _____

in the capacity of _____ duly authorized to sign Bids for and on behalf of

(Name of Bidder in Block Capitals)
(Seal)

Address:

Witness:

Signature: _____

Name: _____

Address.

Occupation _____

Form-02

Letter of Financial Proposal

Bid Reference No: _____
[should be same as mentioned on Notice for Expression of Interest]

Name of Project/Infrastructure/Facility: _____
[mention name of the Project/Infrastructure/Facility]

To: _____

Gentleman,

1. Having examined the Bidding Documents including Instructions to Bidders, Bidding Data, Conditions of Contract, general design criteria, operation/maintenance requirements, our Technical Proposal and Addenda Nos. _____(if any) for designing, execution and operation/maintenance of the above-named Works, we, the undersigned, offer our Financial Proposal to design, execute, complete and operate/maintain such Works in conformity with the Conditions of Contract, general design criteria, operation/maintenance requirements, our Technical proposal and Addenda (if any), for the Tariff of Rs. ____ (Rupees _____) or such other sum as may be ascertained in accordance with the said conditions.
2. We understand that all the Annexures/Appendices attached hereto form part of this Bid.
3. As security for due performance of the undertakings and obligations of this Bid, we submit herewith a Bid Security in the amount of Rupees _____ (Rs. _____) drawn in your favor or made payable to you and valid for a period of _____ days beginning from the date Bids are opened.
4. We undertake, if our Bid is accepted, to commence the Works and to complete the whole of the Works comprised in the Contract within the time stated in Appendix-A to Bid.
5. We agree to abide by this Bid for the period of _____ days from the date fixed for receiving the same and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
6. Unless and until a formal Agreement is prepared and executed, this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.
7. We do hereby declare that the Financial Proposal is made without any collusion,

comparison of figures or arrangement with any other bidder for the Works.

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

Dated this _____ day of _____ 20_____

Signature: _____

in the capacity of _____ duly authorized to sign Bids for and on behalf of

(Name of Bidder in Block Capitals)

(Seal)

Address:

Witness:

Signature: _____

Name: _____

Address.

Occupation _____

Form 03
BID SECURITY
(Bank Guarantee)

Security Executed on

_____ [Date]

Valid up to

_____ [Date]

Name of Surety (Bank) with Address:

_____ [Scheduled Bank in Pakistan]

Name and Address of Principal (Bidder)

Penal Sum of Security Rupees _____ (Rs. _____)
[Amount in words] [Amount in figures]

Bid Reference No.

_____ [should be same as mentioned on Notice for Expression of Interest]

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 [mention name and address of the Employer] (hereinafter called the 'Employer') 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 Reference No. _____ for _____ [mention Particulars of Bid] to the said Employer; and

WHEREAS, the Employer 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 Employer, 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 Employer, notice of which extension(s) to the Surety is hereby waived;
- (2) that the Bid Security of unsuccessful Bidders will be returned by the Employer after expiry of its validity or upon signing of the Contract Agreement by the successful Bidder and providing the Performance Security; and

- (3) that in the event of failure of the successful Bidder to execute the proposed Contract Agreement for such work and furnish the required Performance Security, the entire said sum be paid immediately to the said Employer pursuant to Clause 20.6 of the Instruction to Bidders for the successful Bidder's failure to perform.
- (4) that in the event of a Bidder withdraws its bid during the period of bid validity, the entire said sum be paid immediately to the said Employer pursuant to Clause 20.6 of the Instruction to Bidders.

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 Employer in accordance with his Bid as accepted and furnish within *[insert period for furnishing the Performance Security]* days of being requested to do so, a Performance Security with good and sufficient surety, as may be required, upon the form prescribed by the said Employer 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 Employer the said sum upon first written demand of the Employer (without cavil or argument) and without requiring the Employer to prove or to show grounds or reasons for such demand, notice of which shall be sent by the Employer by registered post duly addressed to the Surety at its address given above.

PROVIDED ALSO THAT the Employer 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 Employer forthwith and without any reference to the principal (Bidder) or any other person.

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

SURETY (Bank)

WITNESS:

Signature _____

1. _____

Name _____

Title _____

Corporate Secretary (Seal)

Corporate Guarantor (Seal)

2. _____

Name, Title & Address

Form-04

**Performance Security for Construction Phase
(Bank Guarantee)**

Guarantee No. _____

Executed on _____

Expiry date _____

[Letter by the Guarantor to the Employer]

Name of Guarantor (Bank) with address:

[Scheduled Bank in Pakistan]

Name of Principal (Company) with address:

Penal Sum of Security [to be 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 Employer) in the penal sum of the amount stated above for the payment of which sum well and truly to be made to the said Employer, 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 Employer's above said Letter of Acceptance for [name and number of the Contract] for the [name of the Project].

NOW THEREFORE, if the Principal (Company) 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 Employer, 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 relevant Clauses of Conditions of Contract are fulfilled.

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

We, _____ (the Guarantor), waiving all objections and defenses under the Contract, do hereby irrevocably and independently guarantee to pay to the Employer without delay upon the Employer's first written demand without cavil or arguments and without requiring the Employer to prove or to show grounds or reasons for such demand any sum or sums up to the amount stated above, against the Employer'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 Employer's designated Bank & Account Number.

PROVIDED ALSO THAT the Employer shall be the sole and final judge for deciding whether the principal (Company) 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 Employer 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

1. _____

Name, Title & Address

Corporate Guarantor

(Seal)

Form-05

Performance Security for Operation Phase

[Performance Security Form for Construction Phase may be used with necessary modifications in respect of validity of Performance Security for Operation Phase]