Bidding Documents

For

Provision of Solar Power Energy

Education & Literacy Department

(FINANCIAL PROPOSAL)

[F:PPRA BOOK (Azeem1)] Page 1

Part Two

Sample Forms

1. BID FORM
2. PRICE SCHEDULES
3. BID SECURITY FORM
4. CONTRACT FORM
5. PERFORMANCE SECURITY FORM
6. BANK GUARANTEE FOR ADVANCE PAYMENT
7. MANUFACTURER'S AUTHORIZATION FORM
RECEIPT
Issued to M/s
Rs (Non-Refundable Non-Transferable)
Cash / Pay order / Demand Draft No Date

SECTION OFFICER (S-I) Education & Literacy Department

1. Bid Form and Price Schedules

		Date:
		IFB N:
To: [name and address of Procurity	ng Agency]	
Gentlemen and/or Ladies:		
which is hereby duly acknow goods and services] in conformit	rledged, we, the undersigned with the said bidding door as may be ascertained	Addenda Nos. [insert numbers], the receipt of ed, offer to supply and deliver [description of uments for the sum of [total bid amount in word in accordance with the Schedule of Prices
We undertake, if our E schedule specified in the Sche		the goods in accordance with the delivery
		ee of a bank in a sum equivalent to f the Contract, in the form prescribed by the
	ructions to Bidders, and it	shall remain binding upon us and may be
Until a formal Contract i		is Bid, together with your written acceptance binding Contract between us.
Commissions or gratuiti contract execution if we are av	• •	d by us to agents relating to this Bid, and to ed below:
Name and address of agent	Amount and Currency	Purpose of Commission or gratuity
(if none, state "none")		_

Dated this	day of	20	
signature]		[in the capac	rity of]

Name of Bidder IFB Number					
1	2	3	4	5	6
em	Description	Quantity	Unit price Delivered duty paid (DDP)	Unit Price in words	Total
1	Solar System 1	25			
2	Solar System 2	20			
3	Solar System 3	7			
4	Solar System 4	2			
	TOTA	L		,	

Signature of Bidder:_____

Note: In case of discrepancy between unit price and total, the unit price shall prevail.

2. Bid Security Form

Whereas [name of the Bidder]	(hereinafter calle	d "the Bio	dder") has	submitted	its bid	dated [[date of
submission of bid] for the suppl	y of [name and/or de	escription of	f the goods] (hereinafter	called '	the Bio	d'').

KNOW ALL PEOPLE by these presents that we [name of bank] of [name of country], having our
registered office at [address of bank] (hereinafter called "the Bank"), are bound unto [name of Procuring
agency] (hereinafter called "the Procuring agency") in the sum of for which payment well and truly
to be made to the said Procuring agency, the Bank binds itself, its successors, and assigns by these
presents. Sealed with the Common Seal of the said Bank this day of
20

THE CONDITIONS of this obligation are:

- 1. If the Bidder withdraws its Bid during the period of bid validity specified by the Bidder on the Bid Form; or
- 2. If the Bidder, having been notified of the acceptance of its Bid by the Procuring agency during the period of bid validity:
 - (a) fails or refuses to execute the Contract Form, if required; or (b) fails or refuses to furnish the performance security, in accordance with the

Instructions to Bidders:

we undertake to pay to the Procuring agency up to the above amount upon receipt of its first written demand, without the Procuring agency having to substantiate its demand, provided that in its demand the Procuring agency will note that the amount claimed by it is due to it, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including twenty eight (28) days after the period of bid validity, and any demand in respect thereof should reach the Bank not later than the above date.

[signature]	

3. Contract Form

THIS AGREEMENT made the day of [country of Procuring agency] (hereinafter of Supplier] of [city and country of Supplier] (herein	called "the Procuring	gagency") of the one part and [name of
WHEREAS the Procuring agency invited by [brief description of goods and services] and has goods and services in the sum of [contract Price").	as accepted a bid by	the Supplier for the supply of those
NOW THIS AGREEMENT WITNESSET	H AS FOLLOWS:	
1. In this Agreement words and expression to them in the Conditions of Contract references		meanings as are respectively assigned
2. The following documents shall be deed Agreement, viz.: (a) the Bid Form and the of Requirements; (c) the Technical Special Conditions of Contract; and (f) the	Price Schedule substitutions; (d) the Ge	mitted by the Bidder; (b) the Schedule eneral Conditions of Contract; (e) the
3. In consideration of the payments to be n mentioned, the Supplier hereby covenant services and to remedy defects therein in co	ts with the Procurir	ng agency to provide the goods and
4. The Procuring agency hereby covenants goods and services and the remedying of d become payable under the provisions of th contract.	efects therein, the Co	ontract Price or such other sum as may
IN WITNESS whereof the parties hereto with their respective laws the day and year		reement to be executed in accordance
Signed, sealed, delivered by	the	(for the Procuring agency)
Signed, sealed, delivered by	the	(for the Supplier)

4. Performance Security Form

To: [name of Procuring agency]
WHEREAS [name of Supplier] (hereinafter called "the Supplier") has undertaken, in pursuance of Contract No. [reference number of the contract] dated 20 to supply [description of goods and services] (hereinafter called "the Contract").
AND WHEREAS it has been stipulated by you in the said Contract that the Supplier shall furnish you with a bank guarantee by a reputable bank for the sum specified therein as security for compliance with the Supplier's performance obligations in accordance with the Contract.
AND WHEREAS we have agreed to give the Supplier a guarantee:
THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Supplier, up to a total of [amount of the guarantee in words and figures], and we undertake to pay you, upon your first written demand declaring the Supplier to be in default under the Contract and without cavil or argument, any sum or sums within the limits of [amount of guarantee] as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.
This guarantee is valid until the day of20
Signature and seal of the Guarantors
[name of bank or financial institution]
[address]
 [date]

5. Bank Guarantee for Advance Payment

To: [name of Procuring agency] [name of Contract] Gentlemen and/or Ladies: In accordance with the payment provision included in the Special Conditions of Contract, which amends Clause 16 of the General Conditions of Contract to provide for advance payment, [name and address of Supplier] (hereinafter called "the Supplier") shall deposit with the Procuring agency a bank guarantee to guarantee its proper and faithful performance under the said Clause of the Contract in an amount of [amount of guarantee in figures and words]. We, the [bank or financial institution], as instructed by the Supplier, agree unconditionally and irrevocably to guarantee as primary obligator and not as surety merely, the payment to the Procuring agency on its first demand without whatsoever right of objection on our part and without its first claim to the Supplier, in the amount not exceeding [amount of guarantee in figures and words]. We further agree that no change or addition to or other modification of the terms of the Contract to be performed thereunder or of any of the Contract documents which may be made between the Procuring agency and the Supplier, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition, or modification. This guarantee shall remain valid and in full effect from the date of the advance payment received by the Supplier under the Contract until [date]. Yours truly, Signature and seal of the Guarantors [name of bank or financial institution]

[address]

[date]

6. Manufacturer's Authorization Form

[See Clause 13.3 (a) of the Instructions to Bidders.]

To: [name of the Procuring agency]

WHEREAS [name of the Manufacturer] who are established and reputable manufacturers of [name and/or description of the goods] having factories at [address of factory]

do hereby authorize [name and address of Agent] to submit a bid, and subsequently negotiate and sign the Contract with you against IFB No. [reference of the Invitation to Bid] for the above goods manufactured by us.

We hereby extend our full guarantee and warranty as per Clause 15 of the General Conditions of Contract for the goods offered for supply by the above firm against this Invitation for Bids.

[signature for and on behalf of Manufacturer]

Note: This letter of authority should be on the letterhead of the Manufacturer and should be signed by a person competent and having the power of attorney to bind the Manufacturer. It should be included by the Bidder in its bid.

Bidding Documents

For

Provision of Solar Power Energy

Education & Literacy Department Government of Sindh.

(TECHNICAL PROPOSAL)

PART ONE (FIXED)

- Instructions to Bidders (ITB)
- General Conditions of Contract (GCC)

Table of Contents - Part One

PART ONE - SECTION I
NSTRUCTIONS TO BIDDERS
ABLE OF CLAUSES
PART ONE - SECTION II.
GENERAL CONDITIONS OF CONTRACT
ABLE OF CLAUSES
NOTES ON THE INSTRUCTIONS TO BIDDERS
NOTES ON THE GENERAL CONDITIONS OF CONTRACT
RECEIPT
ssued to M/s
Rs (Non-Refundable Non-Transferable)
Pay order / Demand Draft NoDate

SECTION OFFICER (S-I)
EDUCATION & LITERACY DEPARTMENT

Part One - Section I.

Instructions to Bidders

Table of Clauses

A. INTRODUCTION
1. SOURCE OF FUNDS
5. CONTENT OF BIDDING DOCUMENTS
C. PREPARATION OF BIDS
8. LANGUAGE OF BID
D. SUBMISSION OF BIDS
18. SEALING AND MARKING OF BIDS
E. OPENING AND EVALUATION OF BIDS
22. OPENING OF BIDS BY THE PROCURING AGENCY
F. AWARD OF CONTRACT
27. POST-QUALIFICATION

Instructions to Bidders A. Introduction

1. Source of Funds

- 1.1 The Procuring agency has received / applied for loan / grant federal / provincial / local government funds from the source(s) indicated in the bidding data in various currencies towards the cost of the project / schemes specified in the bidding data and it is intended that part of the proceeds of this loan/grant/funds/ will be applied to eligible payments under the contract for which these bidding documents are issued.
- 1.2 Payment by the Fund will be made only at the request of the Procuring agency and upon approval by the Government of Sindh, and in case of a project will be subject in all respect to the terms and conditions of the agreement. The Project Agreement prohibits a withdrawal from the allocated fund account for the purpose of any payment to persons or entities, or for any import of goods, if such payment or import, to the knowledge of the Federal Government/ Sindh Government, No party other than the Procuring agency shall derive any rights from the Project Agreement or have any claim to the allocated fund proceeds.
- 2.1 This Invitation for Bids is open to all suppliers from eligible source as defined in the SPP Rules, 2010 and its Bidding Documents except as provided hereinafter.

2.Eligible Bidders

- 2.2 Bidders should not be associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the Procuring agency to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods to be purchased under this Invitation for Bids.
- 2.3 Government-owned enterprises in the Province of Sindh may participate only if they are legally and financially autonomous, if they operate under commercial law, and if they are not a dependent agency of the Government of Sindh.
- 2.4 Bidders shall not be eligible to bid if they are under a declaration of ineligibility for corrupt and fraudulent practices issued by the any government organization in accordance with sub clause 34.1

3. Eligible Goods and Services

- 3.1 All goods and related services to be supplied under the contract shall have their origin in eligible source countries, defined in the SPP Rules 2010 and its Bidding Documents, and all expenditures made under the contract will be limited to such goods and services.
- 3.2 For purposes of this clause, "origin" means the place where the goods are mined, grown, or produced, or the place from which the related services are supplied. Goods are produced when, through manufacturing, processing, or substantial and major assembly of components, a commercially-recognized product results that is substantially different in basic characteristics or in purpose or utility from its components.
- 3.3 The origin of goods and services is distinct from the nationality of the Bidder.

4. Cost of Bidding

4.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Procuring agency named in the Bid Data Sheet, hereinafter referred to as "the Procuring agency," will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

B. The Bidding Documents

5. Content of Bidding Documents

5.1 the bidding documents include:

- (a) Instructions to Bidders (ITB)
- (b) Bid Data Sheet
- (c) General Conditions of Contract (GCC)
- (d) Special Conditions of Contract (SCC)
- (e) Schedule of Requirements
- (f) Technical Specifications
- (g) Bid Form and Price Schedules
- (h) Bid Security Form
- (i) Contract Form
- (j) Performance Security Form
- (k) Manufacturer's Authorization Form
- 5.2 The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding documents. Failure to furnish all information required by the bidding documents or to submit a bid not substantially responsive to the bidding document in every respect will be at the Bidder's

risk and may result in the rejection of its bid.

6. Clarification of Bidding Documents

6.1 A interested Bidder requiring any clarification of the bidding documents may notify the Procuring agency in writing. The Procuring agency will respond in writing to any request for clarification of the bidding documents which it receives no later than three working days prior to the deadline for the submission of bids prescribed in the Bid Data Sheet. Written copies of the Procuring agency's response (including an explanation of the query but without identifying the source of inquiry) will be sent to all interested bidders that have received the bidding documents.

7. Amendment of Bidding Documents 7.1

- 7.1 At any time prior to the deadline for submission of bids, the Procuring agency, for any reason, whether at its own initiative or in response to a clarification requested by a interested Bidder, may modify the bidding documents by amendment.
- 7.2 All interested bidders that have received the bidding documents will be notified of the amendment in writing, and will be binding on them.
- 7.3 In order to allow interested bidders reasonable time in which to take the amendment into account in preparing their bids, the Procuring agency, at its discretion, may extend the deadline for the submission of bids.

8. Language of Bid

C. Preparation of Bids

8.1 The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Procuring agency shall be written in the language specified in the Bid Data Sheet. Supporting documents and printed literature furnished by the Bidder may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified in the Bid Data Sheet, in which case, for purposes of interpretation of the Bid, the translation shall govern.

9.Documents Comprising the Bid

- 9.1 The bid prepared by the Bidder shall comprise the following components:
- (a) a Bid Form and a Price Schedule completed in accordance with ITB Clauses 10, 11, and 12;
- (b) documentary evidence established in accordance with ITB

Clause 13 that the Bidder is eligible to bid and is qualified to perform the contract if its bid is accepted;

- (c) documentary evidence established in accordance with ITB Clause 14 that the goods and ancillary services to be supplied by the Bidder are eligible goods and services and conform to the bidding documents; and
- (d) bid security furnished in accordance with ITB Clause 15.

10. Bid Form

10.1 The Bidder shall complete the Bid Form and the appropriate Price Schedule furnished in the bidding documents, indicating the goods to be supplied, a brief description of the goods, their country of origin, quantity, and prices.

11. Bid Prices

- 11.1 The Bidder shall indicate on the appropriate Price Schedule the unit prices (where applicable) and total bid price of the goods it proposes to supply under the contract.
- 11.2 Prices indicated on the Price Schedule shall be delivered duty paid (DDP) prices. The price of other (incidental) services, if any, listed in the Bid Data Sheet will be entered separately.
- 11.3 The Bidder's separation of price components in accordance with ITB Clause 11.2 above will be solely for the purpose of facilitating the comparison of bids by the Procuring agency and will not in any way limit the Procuring agency's right to contract on any of the terms offered.
- 11.5 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account, unless otherwise specified in the Bid Data Sheet. A bid submitted with an adjustable price quotation will be treated as nonresponsive and will be rejected, pursuant to ITB Clause 24. If, however, in accordance with the Bid Data Sheet, prices quoted by the Bidder shall be subject to adjustment during the performance of the contract, a bid submitted with a fixed price quotation will not be rejected, but the price adjustment would be treated as zero.

12. Bid Currencies 12.1 Prices shall be quoted in Pak Rupees unless otherwise specified in the Bid Data Sheet.

13. Documents **Establishing** Bidder's Eligibility and Qualification

- 13.1 Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid, documents establishing the Bidder's eligibility to bid and its qualifications to perform the contract if its bid is accepted
- The documentary evidence of the Bidder's eligibility to bid shall establish to the Procuring agency's satisfaction that the Bidder, at the time of submission of its bid, is from an eligible country as defined under ITB Clause 2.
- The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted shall establish to the Procuring agency's satisfaction:
 - that, in the case of a Bidder offering to supply goods (a) under the contract which the Bidder did not manufacture or otherwise produce, the Bidder has been duly authorized by the goods' Manufacturer or producer to supply the goods in the Procuring agency's country;
 - that the Bidder has the financial, technical, and (b) production capability necessary to perform the contract;
 - that, in the case of a Bidder not doing business within (c) the Procuring agency's country, the Bidder is or will be (if awarded the contract) represented by an Agent in that country equipped, and able to carry out the Supplier's maintenance, repair, and spare parts-stocking obligations prescribed in the Conditions of Contract and/or Technical Specifications; and
 - that the Bidder meets the qualification criteria listed in (d) the Bid Data Sheet.

14. Documents Eligibility and **Conformity to Bidding Documents**

- 14.1 Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid, documents establishing the eligibility and conformity to the bidding Establishing Goods' documents of all goods and services which the Bidder proposes to supply under the contract.
 - 14.2 The documentary evidence of the eligibility of the goods and services shall consist of a statement in the Price Schedule of the country of origin of the goods and services offered which shall be confirmed by a certificate of origin issued at the time of shipment.
 - 14.3 The documentary evidence of conformity of the goods and services to the bidding documents may be in the form of literature, drawings, and data, and shall consist of:
 - (a) a detailed description of the essential technical and performance characteristics of the goods;

- (b) a list giving full particulars, including available sources and current prices of spare parts, special tools, etc., necessary for the proper and continuing functioning of the goods for a period to be specified in the Bid Data Sheet, following commencement of the use of the goods by the Procuring agency; and
- (c) an item-by-item commentary on the Procuring agency's Technical Specifications demonstrating substantial responsiveness of the goods and services to those specifications, or a statement of deviations and exceptions to the provisions of the Technical Specifications.
- 14.4 For purposes of the commentary to be furnished pursuant to ITB Clause 14.3(c) above, the Bidder shall note that standards for workmanship, material, and equipment, as well as references to brand names or catalogue numbers designated by the Procuring agency in its Technical Specifications, are intended to be descriptive only and not restrictive. The Bidder may substitute alternative standards, brand names, and/or catalogue numbers in its bid, provided that it demonstrates to the Procuring agency's satisfaction that the substitutions ensure substantial equivalence to those designated in the Technical Specifications.

15. Bid Security

- 15.1 Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid, a bid security in the amount specified in the Bid Data Sheet.
- 15.2 The bid security is required to protect the Procuring agency against the risk of Bidder's conduct which would warrant the security's forfeiture, pursuant to ITB Clause 15.7.
- 15.3 The bid security shall be in Pak. Rupees and shall be in one of the following forms:
 - (a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the Procuring agency's country, in the form provided in the bidding documents or another form acceptable to the Procuring agency and valid for thirty (30) days beyond the validity of the bid; or
 - (b) irrevocable encashable on-demand Bank call-deposit.
- 15.4 Any bid not secured in accordance with ITB Clauses 15.1 and 15.3 will be rejected by the Procuring agency as nonresponsive, pursuant to ITB Clause 24.

- 15.5 Unsuccessful bidders' bid security will be discharged or returned as promptly as possible but not later than thirty (30) days after the expiration of the period of bid validity prescribed by the Procuring agency pursuant to ITB Clause 16.
- 15.6 The successful Bidder's bid security will be discharged upon the Bidder signing the contract, pursuant to ITB Clause 32, and furnishing the performance security, pursuant to ITB Clause 33.
- 15.7 The bid security may be forfeited:
 - (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Bid Form; or
 - (b) in the case of a successful Bidder, if the Bidder fails:
 - (i) to sign the contract in accordance with ITB Clause 32; or
 - (ii) to furnish performance security in accordance with

ITB Clause 33.

16. Period of Validity of Bids

- 16.1 Bids shall remain valid for the period specified in the Bid Data Sheet after the date of bid opening prescribed by the Procuring agency, pursuant to ITB Clause 19. A bid valid for a shorter period shall be rejected by the Procuring agency as nonresponsive.
- 16.2 In exceptional circumstances, the Procuring agency may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing. The bid security provided under ITB Clause 15 shall also be suitably extended. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request will not be required nor permitted to modify its bid, except as provided in the bidding document.

17. Format and Signing of Bid

- 17.1 The Bidder shall prepare an original bid, copies not required clearly marked as "ORIGINAL BID".
- 17.2 The bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or person duly authorized to bind the Bidder to the contract. All pages of the bid, except for un-amended printed literature, shall be initialed by the person or person signing the bid.

- 17.3 Any interlineations, erasures, or overwriting shall be valid only if they are initialed by the person or persons signing the bid.
- 17.4 The Bidder shall furnish information as described in the Form of Bid on commissions or gratuities, if any, paid or to be paid to agents relating to this Bid, and to contract execution if the Bidder is awarded the contract.

D. Submission of Bids

18. Sealing and Marking of Bids

- 18.1 Education & Literacy Department now invites sealed bids on Single stage Single Envelope procedure from eligible bidders from original manufacturers / their authorized distributers / suppliers/ in Sindh, registered with Income Tax & Sales Tax Department for Provision of Solar Power Energy ELD.
- 18.2 The envelopes shall:
 - (a) be addressed to the Procuring agency at the address given in the Bid Data Sheet; and
 - (b) bear the Project name indicated in the Bid Data Sheet, the Invitation for Bids (IFB) title and number indicated in the Bid Data Sheet, and a statement: "DO NOT OPEN BEFORE," to be completed with the time and the date specified in the Bid Data Sheet, pursuant to ITB Clause 2.2.
- 18.3 The envelopes shall also indicate the name and address of the Bidder to enable the bid to be returned unopened in case it is declared "late".
- 18.4 If the envelope is not sealed and marked as required by ITB Clause 18.2, the Procuring agency will assume no responsibility for the bid's misplacement or premature opening.

19. Deadline for Submission of Bids

- 19.1 Bids must be received by the Procuring agency at the address specified under ITB Clause 18.2 no later than the time and date specified in the Bid Data Sheet.
- 19.2 The Procuring agency may, at its discretion, extend this deadline for the submission of bids by amending the bidding documents in accordance with ITB Clause 7, in which case all rights and obligations of the Procuring agency and bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

20. Late Bids

20.1 Any bid received by the Procuring agency after the deadline for submission of bids prescribed by the Procuring agency pursuant to ITB Clause 19 will be rejected and returned unopened to the Bidder.

21. Modification and Withdrawal of Bids

- 21.1 The Bidder may modify or withdraw its bid after the bid's submission, provided that written notice of the modification, including substitution or withdrawal of the bids, is received by the Procuring agency prior to the deadline prescribed for submission of bids.
- 21.2 The Bidder's modification or withdrawal notice shall be prepared, sealed, marked, and dispatched in accordance with the provisions of ITB Clause 18. by a signed confirmation copy, postmarked not later than the deadline for submission of bids.
- 21.3 No bid may be modified after the deadline for submission of bids.
- 21.4 No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Bid Form. Withdrawal of a bid during this interval may result in the Bidder's forfeiture of its bid security, pursuant to the ITB Clause 15.7.

E. Opening and Evaluation of Bids

22. Opening of Bids by the Procuring agency

- 22.1 The Procuring agency will open all bids in the presence of bidders' representatives who choose to attend, at the time, on the date, and at the place specified in the Bid Data Sheet. The bidders' representatives who are present shall sign a register evidencing their attendance.
- 22.2 The bidders' names, bid modifications or withdrawals, bid prices, discounts, and the presence or absence of requisite bid security and such other details as the Procuring agency, at its discretion, may consider appropriate, will be announced at the opening. No bid shall be rejected at bid opening, except for late bids, which shall be returned unopened to the Bidder pursuant to ITB Clause 20.

- 22.3 Bids (and modifications sent pursuant to ITB Clause 21.2) that are not opened and read out at bid opening shall not be considered further for evaluation, irrespective of the circumstances. Withdrawn bids will be returned unopened to the bidders.
- 22.4 The Procuring agency will prepare minutes of the bid opening.

23. Clarification of Bids

23.1 During evaluation of the bids, the Procuring agency may, at its discretion, ask the Bidder for a clarification of its bid. The request for clarification and the response shall be in writing, and no change in the prices or substance of the bid shall be sought, offered, or permitted.

24. Preliminary Examination

- 24.1 The Procuring agency will examine the bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the bids are generally in order.
- 24.2 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected. If the Supplier does not accept the correction of the errors, its bid will be rejected, and its bid security may be forfeited. If there is a discrepancy between words and figures, the amount in words will prevail.
- 24.3 The Procuring agency may waive any minor informality, nonconformity, or irregularity in a bid which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any Bidder.
- 24.4 Prior to the detailed evaluation, pursuant to ITB Clause 25 the Procuring agency will determine the substantial responsiveness of each bid to the bidding documents. For purposes of these Clauses, a substantially responsive bid is one which conforms to all the terms and conditions of the bidding documents without material deviations. Deviations from, or objections or reservations to critical provisions, such as those concerning Bid Security (ITB Clause 15), Applicable Law (GCC Clause 30), and Taxes and Duties (GCC Clause 32), will be deemed to be a material deviation. The Procuring agency's determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.

24.5 If a bid is not substantially responsive, it will be rejected by the Procuring agency and may not subsequently be made responsive by the Bidder by correction of the nonconformity.

25. Evaluation and have been Comparison of Bids Clause 24.

- 25.1 The Procuring agency will evaluate and compare the bids which have been determined to be substantially responsive, pursuant to ITB Clause 24.
- 25.2 The Procuring agency's evaluation of a bid will be on delivered duty paid (DDP) price inclusive of prevailing duties and will exclude any allowance for price adjustment during the period of execution of the contract, if provided in the bid.
- 25.3 The Procuring agency's evaluation of a bid will take into account, in addition to the bid price quoted in accordance with ITB Clause 11.2, one or more of the following factors as specified in the Bid Data Sheet, and quantified in ITB Clause 25.4:
 - (a) incidental costs
 - (b) delivery schedule offered in the bid;
 - (c) deviations in payment schedule from that specified in the Special Conditions of Contract;
 - (d) the cost of components, mandatory spare parts, and service;
 - (e) the availability Procuring agency of spare parts and after sales services for the equipment offered in the bid;
 - (f) the projected operating and maintenance costs during the life of the equipment;
 - (g) the performance and productivity of the equipment offered; and/or
 - (h) other specific criteria indicated in the Bid Data Sheet and/or in the Technical Specifications.
- 25.4 For factors retained in the Bid Data Sheet pursuant to ITB 25.3, one or more of the following quantification methods will be applied, as detailed in the Bid Data Sheet:
- (a) Incidental costs provided by the bidder will be added by Procuring agency to the delivered duty paid (DDP) price at the final destination.

(b) Delivery schedule.

- (i) The Procuring agency requires that the goods under the Invitation for Bids shall be delivered at the time specified in the Schedule of Requirements which will be treated as the base, a delivery "adjustment" will be calculated for bids by applying a percentage, specified in the Bid Data Sheet, of the DDP price for each week of delay beyond the base, and this will be added to the bid price for evaluation. No credit shall be given to early delivery.
- or (ii) The goods covered under this invitation are required to be delivered (shipped) within an acceptable range of weeks specified in the Schedule of Requirement. No credit will be given to earlier deliveries, and bids offering delivery beyond this range will be treated as nonresponsive. Within this acceptable range, an adjustment per week, as specified in the Bid Data Sheet, will be added for evaluation to the bid price of bids offering deliveries later than the earliest delivery period specified in the Schedule of Requirements.
- **or** (iii) The goods covered under this invitation are required to be delivered in partial shipments, as specified in the Schedule of Requirements. Bids offering deliveries earlier or later than the specified deliveries will be adjusted in the evaluation by adding to the bid price a factor equal to a percentage, specified in the Bid Data Sheet, of DDP price per week of variation from the specified delivery schedule.
- (c) Deviation in payment schedule.
 - (i) Bidders shall state their bid price for the payment schedule outlined in the SCC. Bids will be evaluated on the basis of this base price. Bidders are, however, permitted to state an alternative payment schedule and indicate the reduction in bid price they wish to offer for such alternative payment schedule. The Procuring agency may consider the alternative payment schedule offered by the selected Bidder.
 - **or** (ii) The SCC stipulates the payment schedule offered by

the Procuring agency. If a bid deviates from the schedule and if such deviation is considered acceptable to the Procuring agency, the bid will be evaluated by calculating interest earned for any earlier payments involved in the terms outlined in the bid as compared with those stipulated in this invitation, at the rate per annum specified in the Bid Data Sheet.

(d) Cost of spare parts.

(i) The list of items and quantities of major assemblies, components, and selected spare parts, likely to be required during the initial period of operation specified in the Bid Data Sheet, is annexed to the Technical Specifications. The total cost of these items, at the unit prices quoted in each bid, will be added to the bid price.

or

(ii) The Procuring agency will draw up a list of high-usage and high-value items of components and spare parts, along with estimated quantities of usage in the initial period of operation specified in the Bid Data Sheet. The total cost of these items and quantities will be computed from spare parts unit prices submitted by the Bidder and added to the bid price.

or

- (iii) The Procuring agency will estimate the cost of spare parts usage in the initial period of operation specified in the Bid Data Sheet, based on information furnished by each Bidder, as well as on past experience of the Procuring agency or other procuring agencies in similar situations. Such costs shall be added to the bid price for evaluation.
- (e) Spare parts and after sales service facilities in the Procuring agency's country.

The cost to the Procuring agency of establishing the minimum service facilities and parts inventories, as outlined in the Bid Data Sheet or elsewhere in the bidding documents, if quoted separately, shall be added to the bid price.

(f) Operating and maintenance costs.

Since the operating and maintenance costs of the goods under procurement form a major part of the life cycle cost of the equipment, these costs will be evaluated in accordance with the criteria specified in the Bid Data Sheet or in the Technical Specifications.

- (g) Performance and productivity of the equipment.
 - (i) Bidders shall state the guaranteed performance or efficiency in response to the Technical Specification. For each drop in the performance or efficiency below the norm of 100, an adjustment for an amount specified in the Bid Data Sheet will be added to the bid price, representing the capitalized cost of additional operating costs over the life of the plant, using the methodology specified in the Bid Data Sheet or in the Technical Specifications.

or

- (ii) Goods offered shall have a minimum productivity specified under the relevant provision in the Technical Specifications to be considered responsive. Evaluation shall be based on the cost per unit of the actual productivity of goods offered in the bid, and adjustment will be added to the bid price using the methodology specified in the Bid Data Sheet or in the Technical Specifications.
- (h) Specific additional criteria indicated in the Bid Data Sheet and/or in the Technical Specifications.

The relevant evaluation method shall be detailed in the Bid Data Sheet and/or in the Technical Specifications.

Alternative

25.4 Merit Point System:

The following merit point system for weighing evaluation factors can be applied if none of the evaluation methods listed in 25.4 above has been retained in the Bid Data Sheet. The number of points allocated to each factor shall be specified in the Bid Data Sheet.

[In the Bid Data Sheet, choose from the range of]

Evaluated price of the goods	60 to 90
Cost of common list spare parts	0 to 20
Technical features, and maintenance and operating costs	0 to 20
Availability of service and spare parts	0 to 20
Standardization	0 to 20
Total	100

The bid scoring the highest number of points will be deemed to be the lowest evaluated bid.

26. Contacting the Procuring agency

- 26.1 Subject to ITB Clause 23, no Bidder shall contact the Procuring agency on any matter relating to its bid, from the time of the bid opening to the time the contract is awarded. If the Bidder wishes to bring additional information to the notice of the Procuring agency, it should do so in writing.
- 26.2 Any effort by a Bidder to influence the Procuring agency in its decisions on bid evaluation, bid comparison, or contract award may result in the rejection of the Bidder's bid.

F. Award of Contract

27. Post-

qualification

- 27.1 In the absence of prequalification, the Procuring agency will determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated responsive bid is qualified to perform the contract satisfactorily, in accordance with the criteria listed in ITB Clause 13.3.
- 27.2 The determination will take into account the Bidder's financial, technical, and production capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB Clause 13.3, as well as such other information as the Procuring agency deems necessary and appropriate.
- 27.3 An affirmative determination will be a prerequisite for award of the contract to the Bidder. A negative determination will result in rejection of the Bidder's bid, in which event the Procuring agency will proceed to the next lowest evaluated bid to make a similar determination of that Bidder's capabilities to perform satisfactorily.
- 28.1 Subject to ITB Clause 30, the Procuring agency will award the contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined to be the lowest evaluated bid, provided further that the Bidder is

28. Award Criteria

determined to be qualified to perform the contract satisfactorily.

29. Procuring agency's Right to Vary Quantities at Time of Award

29.1 The Procuring agency reserves the right at the time of contract award to increase or decrease, by the percentage indicated in the Bid Data Sheet, the quantity of goods and services originally specified in the Schedule of Requirements without any change in unit price or other terms and conditions.

30. Procuring agency's Right to Accept any Bid and to Reject any or All Bids

30.1 The Procuring agency reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to the affected Bidder or bidders or any obligation to inform the affected Bidder or bidders of the grounds for the Procuring agency's action.

31. Notification of Award

- 31.1 Prior to the expiration of the period of bid validity, the Procuring agency will notify the successful Bidder in writing by registered letter or by cable, to be confirmed in writing by registered letter, that its bid has been accepted.
- 31.2 The notification of award will constitute the formation of the Contract.
- 31.3 Upon the successful Bidder's furnishing of the performance security pursuant to ITB Clause 33, the Procuring agency will promptly notify each unsuccessful Bidder and will discharge its bid security, pursuant to ITB Clause 15.

32. Signing of Contract

- 32.1 At the same time as the Procuring agency notifies the successful Bidder that its bid has been accepted, the Procuring agency will send the Bidder the Contract Form provided in the bidding documents, incorporating all agreements between the parties.
- 32.2 Within thirty (30) days of receipt of the Contract Form, the successful Bidder shall sign and date the contract and return it to the Procuring agency.

33 Performance 33.1 Security from

- Fig. 23.1 Within twenty (20) days of the receipt of notification of award from the Procuring agency, the successful Bidder shall furnish the performance security in accordance with the Conditions of Contract, in the Performance Security Form provided in the bidding documents, or in another form acceptable to the Procuring agency.
- 33.2 Failure of the successful Bidder to comply with the requirement of ITB Clause 32 or ITB Clause 33.1 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid

security, in which event the Procuring agency may make the award to the next lowest evaluated Bidder or call for new bids.

34. Corrupt or Fraudulent Practices

- 34.1 The Government of Sindh requires that Procuring agency's (including beneficiaries of donor agencies' loans), as well as Bidders/Suppliers/Contractors under Government-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the SPPRA, in accordance with the SPP Act, 2010 and Rules made there under:
 - (a) defines, for the purposes of this provision, the terms set forth below as follows:
 - (i) "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution; and
 - (ii) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Procuring agency, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial noncompetitive levels and to deprive the Procuring agency of the benefits of free and open competition;
 - (b) will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;
 - (c) will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a Government-financed contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a Government-financed contract.
- 34.2 Furthermore, Bidders shall be aware of the provision stated in sub-clause 5.4 and sub-clause 24.1 of the General Conditions of Contract.

Part One - Section II.

General Conditions of Contract

Table of Clauses

1. Definitions
2. Application
3. Country of Origin
T
5. Use of Contract Documents and Information; Inspection and Audit by the Government
6. Patent Rights
7. Performance Security
8. Inspections and Tests.
9. Packing
10. Delivery and Documents
11. Insurance
12. Transpor-tation.
13. Incidental Services
14. Spare Parts.
15. Warranty
16. Payment
17. Prices
18. Change Orders
19. Contract Amendments.
20. Assignment.
21. Subcontracts
22. Delays in the Supplier's Performance.
23. Liquidated Damages.
24. Termination for Default.
25. Force Majeure
26. Termination for Insolvency
27. Termination for Convenience
28. Resolution of Disputes
29. Governing Language
30. Applicable Law
31. Notices
32. Taxes and Duties

General Conditions of Contract

- **1. Definitions** 1.1 In this Contract, the following terms shall be interpreted as indicated:
 - (a) "The Contract" means the agreement entered into between the Procuring agency and the Supplier, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.
 - (b) "The Contract Price" means the price payable to the Supplier under the Contract for the full and proper performance of its contractual obligations.
 - (c) "The Goods" means all of the equipment, machinery, and/or other materials which the Supplier is required to supply to the Procuring agency under the Contract.
 - (d) "The Services" means those services ancillary to the supply of the Goods, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Supplier covered under the Contract.
 - (e) "GCC" means the General Conditions of Contract contained in this section.
 - (f) "SCC" means the Special Conditions of Contract.
 - (g) "The Procuring agency" means the organization purchasing the Goods, as named in SCC.
 - (h) "The Procuring agency's country" is the country named in SCC.
 - (i) "The Supplier" means the individual or firm supplying the Goods and Services under this Contract.
 - (j) "The Project Site," where applicable, means the place or places named in SCC.
 - (k) "Day" means calendar day.
- **2. Application** 2.1 These General Conditions shall apply to the extent that they are

not superseded by provisions of other parts of the Contract.

3. Country of Origin

- 3.1 All Goods and Services supplied under the Contract shall have their origin in the countries and territories eligible under the rules and further elaborated in the SCC.
- 3.2 For purposes of this Clause, "origin" means the place where the Goods were mined, grown, or produced, or from which the Services are supplied. Goods are produced when, through manufacturing, processing, or substantial and major assembly of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.
- 3.3 The origin of Goods and Services is distinct from the nationality of the Supplier.

4. T

4.1 The Goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications, and, when no applicable standard is mentioned, to the authoritative standards appropriate to the Goods' country of origin. Such standards shall be the latest issued by the concerned institution.

5. Use of Contract Documents and Information; Inspection and Audit by the Government

- 5.1 The Supplier shall not, without the Procuring agency's prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the Procuring agency in connection therewith, to any person other than a person employed by the Supplier in the performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.
- 5.2 The Supplier shall not, without the Procuring agency's prior written consent, make use of any document or information enumerated in GCC Clause 5.1 except for purposes of performing the Contract.
- 5.3 Any document, other than the Contract itself, enumerated in GCC Clause 5.1 shall remain the property of the Procuring agency and shall be returned (all copies) to the Procuring agency on completion of the Supplier's performance under the Contract if so required by the Procuring agency.

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

6. Patent Rights

6.1 The Supplier shall indemnify the Procuring agency against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the Goods or any part thereof in the Procuring agency's country.

7. Performance Security

- 7.1 Within twenty (20) days of receipt of the notification of Contract award, the successful Bidder shall furnish to the Procuring agency the performance security in the amount specified in SCC.
- 7.2 The proceeds of the performance security shall be payable to the Procuring agency as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.
- 7.3 The performance security shall be denominated in the currency of the Contract acceptable to the Procuring agency and shall be in one of the following forms:
 - (a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the Procuring agency's country, in the form provided in the bidding documents or another form acceptable to the Procuring agency; or
 - (b) a cashier's or certified check.
- 7.4 The performance security will be discharged by the Procuring agency and returned to the Supplier not later than thirty (30) days following the date of completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless specified otherwise in SCC.

8. Inspections and Tests

- 8.1 The Procuring agency or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Procuring agency. SCC and the Technical Specifications shall specify what inspections and tests the Procuring agency requires and where they are to be conducted. The Procuring agency shall notify the Supplier in writing, in a timely manner, of the identity of any representatives retained for these purposes.
- 8.2 The inspections and tests may be conducted on the premises of the Supplier or its subcontractor(s), at point of delivery, and/or at

the Goods' final destination. If conducted on the premises of the Supplier or its subcontractor(s), all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Procuring agency.

- 8.3 Should any inspected or tested Goods fail to conform to the Specifications, the Procuring agency may reject the Goods, and the Supplier shall either replace the rejected Goods or make alterations necessary to meet specification requirements free of cost to the Procuring agency.
- 8.4 The Procuring agency's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival in the Procuring agency's country shall in no way be limited or waived by reason of the Goods having previously been inspected, tested, and passed by the Procuring agency or its representative prior to the Goods' shipment from the country of origin.
- 8.5 Nothing in GCC Clause 8 shall in any way release the Supplier from any warranty or other obligations under this Contract.

9. Packing

- 9.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit.
- 9.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional requirements, if any, specified in SCC, and in any subsequent instructions ordered by the Procuring agency.

10. Delivery and Documents

- 10.1 Delivery of the Goods shall be made by the Supplier in accordance with the terms specified in the Schedule of Requirements. The details of shipping and/or other documents to be furnished by the Supplier are specified in SCC.
- 10.2 Documents to be submitted by the Supplier are specified in SCC.

11. Insurance

11.1 The Goods supplied under the Contract shall be delivered duty paid (DDP) under which risk is transferred to the buyer after having been delivered; hence insurance coverage is seller responsibility.

12.Transportation

12.1 The Supplier is required under the Contact to transport the Goods to a specified place of destination within the Procuring agency's country, transport to such place of destination in the Procuring agency's country, including insurance and storage, as shall be specified in the Contract, shall be arranged by the Supplier, and related costs shall be included in the Contract Price.

13. Incidental Services

- 13.1 The Supplier may be required to provide any or all of the following services, including additional services, if any, specified in SCC:
 - (a) Performance or supervision of on-site assembly and/or start-up of the supplied Goods;
 - (b) Furnishing of tools required for assembly and/or maintenance of the supplied Goods;
 - (c) Furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods;
 - (d) Performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract; and
 - (e) Training of the Procuring agency's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Goods.
- 13.2 Prices charged by the Supplier for incidental services, if not included in the Contract Price for the Goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged for other parties by the Supplier for similar services.

14. Spare Parts

14.1 As specified in SCC, the Supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier:

- (a) such spare parts as the Procuring agency may elect to purchase from the Supplier, provided that this election shall not relieve the Supplier of any warranty obligations under the Contract; and
- (b) In the event of termination of production of the spare parts:
 - (i) Advance notification to the Procuring agency of the pending termination, in sufficient time to permit the Procuring agency to procure needed requirements; and
 - (ii) Following such termination, furnishing at no cost to the Procuring agency, the blueprints, drawings, and specifications of the spare parts, if requested.

15. Warranty

- 15.1 The Supplier warrants that the Goods supplied under the Contract are new, unused, of the most recent or current models, and that they incorporate all recent improvements in design and materials unless provided otherwise in the Contract. The Supplier further warrants that all Goods supplied under this Contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the Procuring agency's specifications) or from any act or omission of the Supplier, that may develop under normal use of the supplied Goods in the conditions prevailing in the country of final destination.
- 15.2 This warranty shall remain valid for twelve (12) months after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the Contract, or for eighteen (18) months after the date of shipment from the port or place of loading in the source country, whichever period concludes earlier, unless specified otherwise in SCC.
- 15.3 The Procuring agency shall promptly notify the Supplier in writing of any claims arising under this warranty.
- 15.4 Upon receipt of such notice, the Supplier shall, within the period specified in SCC and with all reasonable speed, repair or replace the defective Goods or parts thereof, without costs to the Procuring agency.
- 15.5 If the Supplier, having been notified, fails to remedy the defect(s)

within the period specified in SCC, within a reasonable period, the Procuring agency may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Procuring agency may have against the Supplier under the Contract.

16. Payment

- 16.1 the method and conditions of payment to be made to the Supplier under this Contract shall be specified in SCC.
- 16.2 The Supplier's request(s) for payment shall be made to the Procuring agency in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and Services performed, and by documents submitted pursuant to GCC Clause 10, and upon fulfillment of other obligations stipulated in the Contract.
- 16.3 Payments shall be made promptly by the Procuring agency, but in no case later than sixty (30) days after submission of an invoice or claim by the Supplier.
- 16.4 The currency of payment is Pak. Rupees.

17. Prices

17.1 Prices charged by the Supplier for Goods delivered and Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid, with the exception of any price adjustments authorized in SCC or in the Procuring agency's request for bid validity extension, as the case may be.

18. Change Orders

- 18.1 The Procuring agency may at any time, by a written order given to the Supplier pursuant to GCC Clause 31, make changes within the general scope of the Contract in any one or more of the following:
 - (a) drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Procuring agency;
 - (b) the method of shipment or packing;
 - (c) the place of delivery; and/or
 - (d) the Services to be provided by the Supplier.
- 18.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be

made in the Contract Price or delivery schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this clause must be asserted within thirty (30) days from the date of the Supplier's receipt of the Procuring agency's change order.

19.Contract Amendments

- 19.1 Subject to GCC Clause 18, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.
- 20. Assignment
- 20.1 The Supplier shall not assign, in whole or in part, its obligations to perform under this Contract, except with the Procuring agency's prior written consent.
- 21. Subcontracts
- 21.1 The Supplier shall notify the Procuring agency in writing of all subcontracts awarded under this Contract if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the Supplier from any liability or obligation under the Contract.
- 21.2 Subcontracts must comply with the provisions of GCC Clause 3.

22.Delays in the Supplier's Performance

- 22.1 Delivery of the Goods and performance of Services shall be made by the Supplier in accordance with the time schedule prescribed by the Procuring agency in the Schedule of Requirements.
- 22.2 If at any time during performance of the Contract, the Supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the Goods and performance of Services, the Supplier shall promptly notify the Procuring agency in writing of the fact of the delay, it's likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, the Procuring agency shall evaluate the situation and may at its discretion extend the Supplier's time for performance, with or without liquidated damages, in which case the extension shall be ratified by the parties by amendment of Contract.
- 22.3 Except as provided under GCC Clause 25, a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 23, unless an extension of time is agreed upon pursuant to GCC Clause 22.2 without the application of liquidated damages.

23. Liquidated

23.1 Subject to GCC Clause 25, if the Supplier fails to deliver any or

Damages

all of the Goods or to perform the Services within the period(s) specified in the Contract, the Procuring agency shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in SCC of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in SCC. Once the maximum is reached, the Procuring agency may consider termination of the Contract pursuant to GCC Clause 24.

24. Termination for Default

- 24.1 The Procuring agency, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate this Contract in whole or in part:
 - (a) if the Supplier fails to deliver any or all of the Goods within the period(s) specified in the Contract, or within any extension thereof granted by the Procuring agency pursuant to GCC Clause 22; or
 - (b) if the Supplier fails to perform any other obligation(s) under the Contract.
 - (c) if the Supplier, in the judgment of the Procuring agency has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

For the purpose of this clause:

"corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.

"fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Borrower, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition.

24.2 In the event the Procuring agency terminates the Contract in whole or in part, pursuant to GCC Clause 24.1, the Procuring agency may procure, upon such terms and in such manner as it deems appropriate, Goods or Services similar to those

undelivered, and the Supplier shall be liable to the Procuring agency for any excess costs for such similar Goods or Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

25. Force Majeure

- 25.1 Notwithstanding the provisions of GCC Clauses 22, 23, and 24, the Supplier shall not be liable for forfeiture of its performance security, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
- 25.2 For purposes of this clause, "Force Majeure" means an event beyond the control of the Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not restricted to, acts of the Procuring agency in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.
- 25.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Procuring agency in writing of such condition and the cause thereof. Unless otherwise directed by the Procuring agency in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

26. Termination for Insolvency

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

27. Termination for Convenience

- 27.1 The Procuring agency, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Procuring agency's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.
- 27.2 The Goods that are complete and ready for shipment within thirty (30) days after the Supplier's receipt of notice of termination shall be accepted by the Procuring agency at the

Contract terms and prices. For the remaining Goods, the Procuring agency may elect:

- (a) to have any portion completed and delivered at the Contract terms and prices; and/or
- (b) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and Services and for materials and parts previously procured by the Supplier.

28. Resolution of Disputes

- 28.1 The Procuring agency and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.
- 28.2 If, after thirty (30) days from the commencement of such informal negotiations, the Procuring agency and the Supplier have been unable to resolve amicably a Contract dispute, either party may require that the dispute be referred for resolution to the formal mechanisms specified in SCC. These mechanisms may include, but are not restricted to, conciliation mediated by a third party, adjudication in an agreed manner and/or arbitration.

29. Governing Language

29.1 The Contract shall be written in the language specified in SCC. Subject to GCC Clause 30, the version of the Contract written in the specified language shall govern its interpretation. All correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in the same language.

30. Applicable Law

30.1 The Contract shall be interpreted in accordance with the laws of the Procuring agency's country, unless otherwise specified in SCC.

31. Notices

- 31.1 Any notice given by one party to the other pursuant to this Contract shall be sent to the other party in writing or by cable, telex, or facsimile and confirmed in writing to the other party's address specified in SCC.
- 31.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.

32. Taxes and Duties

32.1 Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Procuring agency.

Sindh Public Procurement Regulatory Authority

Bidding Documents

For

Provision of Solar Power for Schools

EDUCATION & LITERACY DEPARTMENT - GOS

PART TWO (PROCUREMENT SPECIFIC PROVISIONS)

- Invitation for Bids (IFB)
- Bid Data Sheet (BDS)
- Special Conditions of Contract (SCC)
- Schedule of Requirements
- Technical Specifications
- Sample Form
- Eligibility

Table of Contents - Part Two

PART TWO
SECTION I. INVITATION FOR BIDS
Notes on the Invitation for Bids
SECTION II. BID DATA SHEET
Notes on the Bid Data Sheet
SECTION III. SPECIAL CONDITIONS OF CONTRACT
Notes on the Special Conditions of Contract
Table of Clauses
SECTION IV. SCHEDULE OF REQUIREMENTS
Notes for Preparing the Schedule of Requirements
SECTION V. TECHNICAL SPECIFICATIONS
Notes for Preparing the Technical Specifications
SECTION VI. SAMPLE FORMS
Notes on the Sample Forms
Sample Forms
1. Bid Form and Price Schedules
2. Bid Security Form
3. Contract Form
4. Performance Security Form
5. Bank Guarantee for Advance Payment
6. Manufacturer's Authorization Form

Invitation for Bids



GOVERNMENT OF SINDH EDUCATION & LITERACY DEPARTMENT

TENDER NOTICE

Date: 04-20-2015

REF NO: SO (S-I) SOLAR-ELD/2014-15

1. The Planning & Development & Research Department- ELD now invites sealed bids on Single Stage – Two Envelope procedure from eligible bidders for "Provision of Solar Power Energy for Schools in Sindh" from original manufacturers / their authorized distributers / suppliers in Sindh, registered with Income Tax & Sales Tax Department

A complete set of Blank Tender form / bidding document may be purchased by interested bidders on the submission of a written application to the above and upon payment of a nonrefundable fee of Rs.1000/- in shape of Demand Draft or Pay Order in favor of Section Officer (S-I), Directorate of Planning & Development & Research - ELD, Old KDA Building, Sindh Secretariat #3, Kamal Atta Turk Road, Karachi up to 1.00 pm 08-05-2015.

Sealed Bids must be delivered to the above office on or before <u>08-05-2015 at 2.00 pm</u> and must be accompanied by a bid security of Three (3) % of total bid cost.

Bids will be opened by the purchase committee of the Department in the presence of bidders/representatives of bidders on <u>08-05-2015 at 2.30 pm</u> at the committee room of Planning & Development & Research Department

The rates quoted should be inclusive of GST/SST/SRB Income Tax, etc

Procurement Committee reserves the Right to accept or Reject any or All Bids prior to award of contract as per SPPRA Rules, 2010.

10. Invitation for Bids/Tender Notice can be downloaded from SPPRA website: www.spprasindh.gov.pk.

SECTION OFFICER (S-I)

EVALUATION CRITERIA

BID EVALUATION CRITERIA

Firm must get 80% i.e. 80/100 marks in Technical Proposal for qualifying as per above mentioned criteria

S#	Evaluation Parameter for proposal	Quantity Description	Marks
	Mandatory	All companies should have GST and income tax registration numbers	
2.	Company Profile		10 marks
	Period since Firm was established. (Submit Security and Exchange Commission of Pakistan registration	From 1 to 7 years. 8 years and above.	3
	certificate)	o years and above.	3
		1	3
	Number of office locations in Sindh	2 or more	5
3.	Company Experience		25 marks
	Experience in Public Sector	1 to 2 2 and above	5 10
	Experience of Similar nature projects	1 to 5 6 to 10 10+	5 10 15
4.	Technical Solution		40 marks
	Solution Design		10
	Deployment Methodology		10
	Quality of Proposal		10
6.	Team Qualifications		25 marks
	a) Installation and Technical Specialists	1 to 2 3 to 4 5 or more	5 10 15
	b) Engineers	1 2 or more	5 10

Bid Data Sheet

Introduction							
ITB 1.1	Name of Procuring Agency: Education & Literacy Department - Government of Sindh.						
ITB 1.1	ADP SCHEME No. 533 of 2014-15						
ITB 1.1	Name of Contract:						
	Provision of Solar Power in Government Schools – Education & Literacy Department						
ITB 4.1	Name of Procuring agency. Education & Literacy Department - Government of Sindh.						
ITB 6.1	Procuring agency's address, telephone, telex, and facsimile numbers:						
	Section Officer (S-I)						
	Education & Literacy Department, Old KDA Building, Sindh Secretariat #3, Kamal Atta Turk Road, Karachi						
ITB 8.1	Language of the bid. English						
	Bid Price and Currency						
ITB 11.2	The price quoted shall be:						
	In addition to delivered duty paid (DDP) price.						
ITB 11.5	The price shall be fixed.						
	Preparation and Submission of Bids						
ITB 13.3 (d)	Qualification requirements.						
	Requirement for a minimum level of experience in a similar type of goods for which the Invitation for Bids is issued. And also meet the requirement.						
ITB 14.3 (b)	Spare parts required for years of operation. Yes						
ITB 15.1	Amount of bid security.						
	Three (3%) percent of the bid amount.						

ITB 16.1	Bid validity period:
	The validity should be One Hundred Eighty (120) days.
ITB 17.1	Number of copies. One Original
ITB 18.2 (a)	Address for bid submission:
	Directorate of Education & Literacy Department, NJV School Building M.A. Jinnah Road Karachi.
ITB 18.2 (b)	IFB title and number: REF NO:
ITB 19.1	Deadline for bid submission. 08-05-2015, 2.00 pm
ITB 22.1	Time, date, and place for bid opening.
	on 08-05-2015 at 2.30 pm at the committee room of Education & Literacy Department, Old KDA Building, Sindh Secretariat #3, Kamal Atta Turk Road, Karachi
	Bid Evaluation
ITB 25.3	Criteria for bid evaluation.
	criteria listed in ITB Clause 25.3 (e.g., 25.3 (b) and (c)), and in the reference under ITB 25.4 below. Retain only the evaluation method to apply and the relevant parameters corresponding to the retained
	criteria (e.g., 25.4 (b) (i) and (c) (ii)).
ITB 25.4 (a)	One option only.
ITB 25.4 (b)	Delivery schedule.
	Relevant parameters in accordance with option selected:
	adjustment expressed as a percentage,
Option (i)	
	or
Option (ii)	adjustment expressed in an amount in the currency of bid

	evaluation,
	or
Option (iii)	adjustment expressed as a percentage
	[A rate of one-half (0.5) percent per week is a reasonable figure. The percentage
	of liquidated damages specified in SCC should be higher.]
ITB 25.4 (c) (ii)	Deviation in payment schedule.
	Annual interest rate.
ITB 25.4 (d)	Cost of spare parts. N/A
	[Specify the applicable method—(i), (ii), or (iii)—and factors (e.g., number of
	years) and reference to the Appendix to the Technical Specifications, as required.]
ITB 25.4 (e)	Spare parts and after sales service facilities in the Procuring agency's country:
	After sales service facilities according to requirement required.
ITB 25.4 (f)	Operating and maintenance costs. N/A
	Factors for calculation of the life cycle cost:
	(i) number of years for life cycle [it is recommended that the life cycle
	period should not exceed the usual period before a planned major
	overhaul of the goods];
	(ii) operating costs [e.g., fuel and/or other input, unit cost, and annual and
	total operational requirements];
	(iii)maintenance costs [e.g., spare parts—without duplication of above
	Clause 25.4(d) requirements—and/or other inputs]; and
	(iv)rate, as a percentage, to be used to discount all annual future

	costs calculated under (ii) and (iii) above to present value.						
	or						
	Reference to the methodology specified in the Technical						
	Specifications or elsewhere in the bidding documents. 0.05%						
ITB 25.4 (g)	Performance and productivity of equipment: required						
ITB 25.4 (h)	Details on the evaluation method or reference to the Technical						
	Specifications: According to criteria mentioned						
ITB 25.4	Specify the evaluation factors.						
Alternative	According to criteria mentioned						
	Contract Award						
ITB 29.1	Percentage for quantity increase or decrease. (15) percent						

Section III. Special Conditions of Contract

Part Two - Section III. Special Conditions of Contract

Table of Clauses
1. Definitions (GCC Clause 1)
2. Country of Origin (GCC Clause 3)
3. Performance Security (GCC Clause 7)
4. Inspections and Tests (GCC Clause 8)
5. Packing (GCC Clause 9)
6. Delivery and Documents (GCC Clause 10)
7. Insurance (GCC Clause 11)
8. Incidental Services (GCC Clause 13)
9. Spare Parts (GCC Clause 14)
10. Warranty (GCC Clause 15)
11. Payment (GCC Clause 16)
12. Prices (GCC Clause 17)
13. Liquidated Damages (GCC Clause 23)
14. Resolution of Disputes (GCC Clause 28)
15. Governing Language (GCC Clause 29)
17. Notices (GCC Clause 31)

Part Two - Section III. Special Conditions of Contract

Special Conditions of Contract

The following Special Conditions of Contract shall supplement the General Conditions of Contract. Whenever there is a conflict, the provisions herein shall prevail over those in the General Conditions of Contract. The corresponding clause number of the GCC is indicated in parentheses.

1. Definitions (GCC Clause 1)

GCC 1.1 (g)—The Procuring agency is: Education & Literacy Department

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

GCC 1.1 (i)—The Supplier is:

Sample Provision

GCC 1.1 (j)—The Project Site is:

2. Country of Origin (GCC Clause 3)

All countries and territories as indicated in Part Two Section VI of the bidding documents, "Eligibility for the Provisions of Goods, Works, and Services in Government-Financed Procurement".

3. Performance Security (GCC Clause 7)

GCC 7.1—The amount of performance security, as a percentage of the Contract Price, shall be 5% of the contract price.

GCC 7.4— After delivery and acceptance of the Goods/services, the performance security shall be reduced to two (2) percent of the Contract Price to cover the Supplier's warranty obligations in accordance with Clause GCC 15.2.

4. Inspections and Tests (GCC Clause 8)

GCC 8.6—Inspection and tests prior to shipment of Goods and at final acceptance are as follows:

5. Packing (GCC Clause 9)

Sample provision

GCC 9.3—The following SCC shall supplement GCC Clause 9.2:

6. Delivery and Documents (GCC Clause 10)

Sample provision (DDP terms)

GCC 10.3—Upon shipment, the Supplier shall notify the Procuring agency the full details of the shipment, including Contract number, description of Goods, quantity and usual transport document. The Supplier shall mail the following documents to the Procuring agency:

- (i) copies of the Supplier's invoice showing Goods' description, quantity, unit price, and total amount:
- (ii) original and two copies of the usual transport document (for example, a negotiable bill of lading, a non-negotiable sea waybill, an inland waterway document, an air waybill, a railway consignment note, a road consignment note, or a multimodal transport document) which the buyer may require to take the goods;
- (iii) copies of the packing list identifying contents of each package;
- (iv) insurance certificate:
- (v) Manufacturer's or Supplier's warranty certificate;
- (vi) inspection certificate, issued by the nominated inspection agency, and the Supplier's factory inspection report; and
- (vii) certificate of origin.

7. Insurance (GCC Clause 11)

GCC 11.1— The Goods supplied under the Contract shall be delivered duty paid (DDP) under which risk is transferred to the buyer after having been delivered, hence insurance coverage is sellers responsibility. Since the Insurance is seller's responsibility they may arrange appropriate coverage.



GCC 13.1—Incidental services to be provided are:

All incidental services should be covered in the bid price under GCC Clause 13.

9. Spare Parts (GCC Clause 14)

GCC 14.1—Additional spare parts requirements are:

Sample provision

GCC 14.1—Supplier shall carry sufficient inventories to assure ex-stock supply of consumable spares for the Goods. Other spare parts and components shall be supplied as promptly as possible, but in any case within six (6) months of placing the order and opening the letter of credit.

10. Warranty (GCC Clause 15)

Sample provision

GCC 15.2—In partial modification of the provisions, the warranty period shall be $\underline{1}$ year of operation or $\underline{12}$ months from date of acceptance of the Goods or ($\underline{18}$) months from the date of shipment, whichever occurs earlier. The Supplier shall, in addition, comply with the performance and/or consumption guarantees specified under the Contract. If, for reasons attributable to the Supplier, these guarantees are not attained in whole or in part, the Supplier shall, at its discretion, either:

(a) make such changes, modifications, and/or additions to the Goods or any part thereof as may be necessary in order to attain the contractual guarantees specified in the Contract at its own cost and expense and to carry out further performance tests in accordance with SCC 4,

 \mathbf{or}

(b) pay liquidated damages to the Procuring agency with respect to the failure to meet the contractual guarantees. The rate of these liquidated damages shall be $(\underline{20\%})$.

GCC 15.4 & 15.5—The period for correction of defects in the warranty period is one month.

11. Payment (GCC Clause 16)

Sample provision

GCC 16.1—The method and conditions of payment to be made to the Supplier under this Contract shall be as follows:

Payment for Goods supplied:

Payment shall be made in Pak. Rupees in the following manner:

(i) 20% of the Contract Price on complete delivery of store within thirty (30) days on submission of claim supported by acceptance certificate from procuring agency declaring Goods have been delivered and that all contracted services have been performed.

12. Prices (GCC Clause 17)

Sample provision

GCC 17.1—Prices shall be adjusted in accordance with provisions in the Attachment to SCC.

13. Liquidated Damages (GCC Clause 23)

GCC 23.1—Applicable rate:

Maximum deduction:

(0.5) percent per week, percent of the Contract Price.

14. Resolution of Disputes (GCC Clause 28)

GCC 28.3—The dispute resolution mechanism to be applied pursuant to GCC Clause 28.2 shall be as follows:

In the case of a dispute between the Procuring agency and the Supplier, the dispute shall be referred to adjudication or arbitration in accordance with the laws of the Procuring agency's country.

15. Governing Language (GCC Clause 29)

GCC 29.1—The Governing Language shall be:

16. Applicable Law (GCC Clause 30)

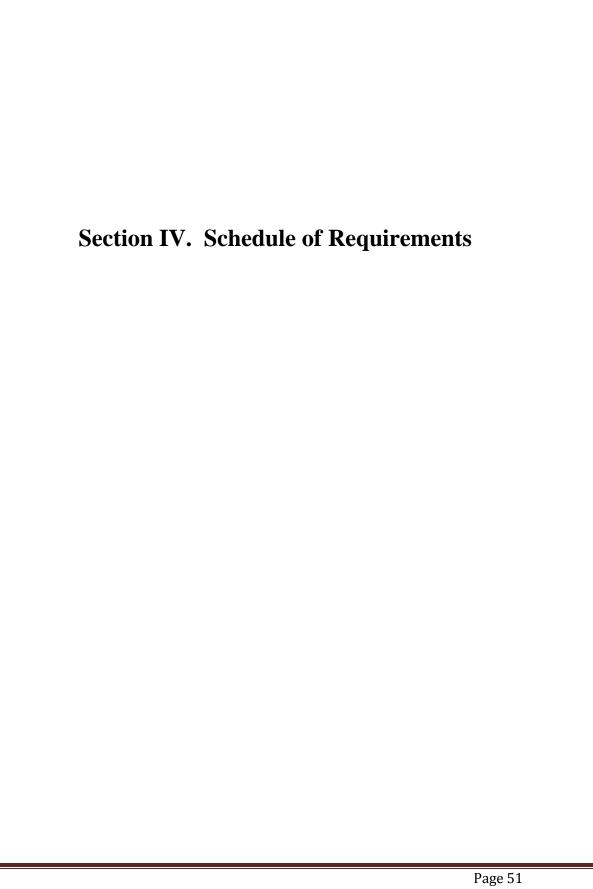
GCC 30.1-The Contract shall be interpreted in accordance with the laws of Islamic Republic of Pakistan which includes the following legislation:

The Employment of Children (ECA) Act 1991 The Bonded Labour System (Abolition) Act of 1992 The Factories Act 1934

17. Notices (GCC Clause 31)

GCC 31.1 —Procuring agency's address for notice purposes:

—Supplier's address for notice purposes:



Schedule of Requirements

Electricity shortage has become extremely severe over the last few years. Solution to this crisis at the national level is not anywhere in the near future. The urban areas face power outage for 8 to 10 hours, while rural areas receive electricity for 6 hours only. Any power failures and system faults add to the misery.

Due to this factor, the quality of education in the province is facing serious threat. Children are not able to concentrate on their studies, especially in the hot weather that prevails at least 9 months in a year. Immediate steps need to be taken to improve the already worsened situation.

This project aims to provide uninterrupted and inexpensive power to the schools in Sindh province. The benefits of the scheme will be immense, as the children will be able to concentrate on their studies, and teachers will be able to deliver their lectures. This process has been disturbed due to absence of electric power. The quality of education would improve significantly.

The schools that have computer labs can also benefit from this scheme, as they can be supplied with a system that could support one or two air conditioners (ACs) as well.

Solar power system at each site would involve supply and installation of solar panels, inverters, batteries, and installation services.

Solar panels would be installed on the rooftops of the schools, or on the ground. Stands for solar panels would be provided as well.

To run the system, support services on annual basis would be provided as well. The solar systems are generally very reliant, and have a long life. Solar panels' efficiency erodes due to dust and sand on the panels. Therefore, the panels should be cleaned regularly to ensure delivery of maximum power.

Requirements:

			Total		Watt
Solar System 1	Qty	Wattage	Watts	Hours	Hour
Classes	5			5	
Fans	10	80	800		4000
Energy Savers	20	23	460		2300
Offices	1			5	
Fans	1	80	80		400
Energy Savers	2	23	46		230
Computer	1	250	250		1,250
Toilets	6			2	
Energy Savers	6	23	138.00		276
Water pump	1	750	750.00	0.5	375

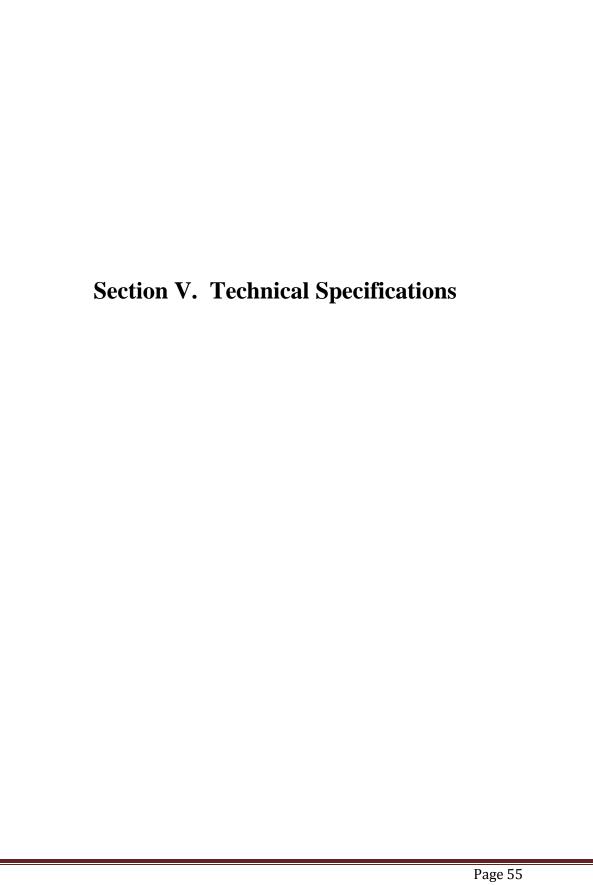
			Total		Watt
Solar System 2	Qty	Wattage	Watts	Hours	Hour
Classes	8			5	
Fans	16	80	1,280		6400
Energy Savers	24	23	552		2760
Offices	2			5	
Fans	2	80	160		800
Energy Savers	4	23	92		460
Computers	1	250	250		1,250
Toilets	8			2	
Energy Savers	8	23	184		368
Water pump	1	750	750	0.5	375

					Watt
Solar System 3	Qty	Wattage	Total Watts	Hours	Hour
Classes		8		5	
Fans	16	80	1,280		6,400
Energy Savers	32	23	736		3,680
Computer lab		1	0	2	0
Fans	2	80	160		320
Lights	4	24	96		192
Computers	5	250	1,250		2,500
AC	1	2,000	2,000		4,000
Offices		2		5	

Fans	2	80	160		800
Energy Savers	4	23	92		460
Toilets		8		2	
Energy Savers	8	23	184		368
Water pump	1	750	750	0.5	375

					Watt
Solar System 4	Qty	Wattage	Total Watts	Hours	Hour
Classes	10			5	
Fans	20	80	1,600		8,000
Energy Savers	40	23	920		4,600
Computer lab	1			3	0
Fans	2	80	160		480
Lights	4	24	96		288
Computers	10	250	2,500		7,500
AC	1	2,000	2,000		6,000
Offices	2			5	
Fans	2	80	160		800
Energy Savers	4	23	92		460
Toilets	8			2	
Energy Savers	8	23	184		368
Water pump	1	750	750	0.5	375

The batteries are required for schools that have Computer Labs.



<u>Technical Specifications – Capacity of Solar Power Energy</u>

Battery

Factor	Specifications
Nominal Voltage	12 V
Туре	AGM/Gel
Capacity	100 or 200 AH Units
Operating Temperature Range	-40 to 55 Degrees Celsius
Float Voltage	2.25 V/cell @ 25 Celsius
Self Discharge	Residual Capacity should be above 90% after 90 days
	storage
Charge Cycles and Depth of	Vendor to provide charge cycles at various depths of
Discharge	discharge

Panels

Factor	Specifications
Max Power	200 or 250 Watts
Optimum Operating Voltage	36.95 V
Optimum Operating Current	5.42 A
Open Circuit Voltage	44.95 V
Short Circuit Current	5.65 A
Cell Efficiency	17.9%

Inverter

Factor	Specifications	
Туре	Pure Sine wave	
Charge Controller	MPPT	
Efficiency	95% or higher	
Voltage Range	As per the system design	
Surge Protection	Required	
Operating Temperature	-20 to 55 Celsius	

Note:

- 1. DC cable should be used from panels to inverter.
- 2. Distribution boxes with breakers and surge protection devices should be installed.
- 3. Changeover switch should be installed.
- 4. Battery tack should be provided.
- 5. Solar panels should be installed in a secure cage to prevent from theft.