



University of Agriculture, Faisalabad

Bidding Documents

Tender No.107/2017

SPECIAL INSTRUCTIONS

- No cutting, erasing is allowed in the Tender bid.
- Bid offered strictly in accordance with the bid document will only be accepted.
- Only typed bid will be accepted
- Call Deposit Receipt (CDR) will be preferred. In case of any bank instrument other than CDR except Bank Guarantee, the same would be deposited in the University relevant account and in that eventuality, the release of the requisite amount would be made in shape of crossed cheque after deductions of necessary taxes and bank charges

**THIS IS FOR STRICT COMPLIANCE, FAILING WHICH THE
RESPECTIVE BID SHALL STAND CANCELLED**

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Section I.

Invitation for Bids



UNIVERSITY OF AGRICULTURE, FAISALABAD (UAF)
(TENDER NOTICE No.107/2017)

Sealed tenders are invited from Income Tax and Sales Tax registered firms on the basis of Single Stage (two envelop procedure) on turnkey basis (complete in all respects as approved by the Purchaser) for **"Concept, supply, installation, commissioning testing and servicing of Solar System(s) at the roof top of IT-Library & other allied buildings of University of Agriculture, Faisalabad, coupled with existing generators"**.

Date of Receiving and Opening	10.08.2017	Receiving Time	10:30 a.m.
		Opening Time	11:00 a.m.
		Bid Security	2% of the
			Estimated Cost
		Tender Fee	Rs.500/-

The bidding documents are available in the office of the undersigned and the same may be obtained subject to the payment of the cost of the printing and provision of the document (tender Fee) as mentioned above to be deposited in the University Income Account (No.11-9/NBP, UAF Branch), in case of city other than Faisalabad add Rs.200/-. The bidding documents can also be down loaded free of cost from the UAF website http://uaf.edu.pk/directorates/dpiv/dpiv_tenders.html

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Section II.

Instructions to Bidders

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Instructions to Bidders

A. Introduction

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|---------------------------------------|---|
| 1. Source of Funds | University of Agriculture, Faisalabad. |
| 2. Eligible Bidders | <p>2.1 The invitation for Bids is opened to all supplier having trade relations with Pakistan and registration for National Tax Number & Sales Tax Number with Federal Board of Revenue.</p> <p>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 Purchaser 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.</p> <p>2.3 Only Government owned enterprises may participate, only if they are legally allowed.</p> <p>2.4 bidders shall not be under a declaration of ineligibility in accordance with ITB 36.1&37 by any Government organization. The bidder shall provide affidavit to this effect.</p> |
| 3. Eligible Goods and Services | <p>3.1 All goods and related services to be supplied under the contract shall have their origin in eligible source countries, and all expenditures made under the contract will be limited to such goods and services.</p> <p>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.</p> <p>3.3 The origin of goods and services is distinct from the nationality of the Bidder.</p> |
| 4. Cost of Bidding | <p>4.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Purchaser named in the bid date sheet, hereinafter referred to as “the purchaser” will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.</p> |

B. The Bidding Documents

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|--|--|
| 5. Content of Bidding Documents | <p>5.1 The goods required, bidding procedures, and contract terms are prescribed in the bidding documents. In addition to the Invitation for Bids, the bidding documents include:</p> <ul style="list-style-type: none">(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) Bank Guarantee Form if applicable(i) Manufacturer's Authorization Form(j) Integrity pact.(k) Mechanism of Blacklisting and Deregistration <p>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 documents in every respect will be at the Bidder's risk and may result in the rejection of its bid.</p> |
| 6. Clarification of Bidding Documents | <p>6.1 A prospective Bidder requiring any clarification of the bidding documents may notify the Purchaser in writing at the Purchaser's address indicated in the Bid Data Sheet. The Purchaser will respond in writing to any request for clarification of the bidding documents which it receives prior to the deadline for the submission of bids prescribed in ITB Clause 19.1. Written copies of the Purchaser's response (including an explanation of the query but without identifying the source of inquiry) will be sent to all prospective bidders that have received the bidding documents.</p> |
| 7. Amendment of Bidding Documents | <p>7.1 At any time prior to the deadline for submission of bids, the Purchaser, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, may modify the bidding documents by amendment.</p> <p>7.2 All prospective bidders that have received the bidding documents will be notified of the amendment in writing and will be binding on them.</p> <p>7.3 In order to allow prospective bidders reasonable time in which to take the amendment into account in preparing their bids, the</p> |

Purchaser, at its discretion, may extend the deadline for the submission of bids.

C. Preparation of Bids

- 8. Language of Bid** 8.1 The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser shall be written in English. 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 above, in which case, for purposes of interpretation of the Bid, the translation shall govern.
- 9. Documents Constituting 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.
- 10.2 Bidders tendering for engineering goods produced in Pakistan shall be accorded a price preference in rupees up to a specific percentage (in proportion to the value addition) of the lowest quoted landed cost of an item of foreign origin with similar specifications as mentioned in the tenders:
- (1) Provided that-
 - (a) The saving in foreign exchange is not less than the amount of price preference: and
 - (b) It is ensured that in each case of such preference, the total import requirements for producing the supplies tendered for locally manufactured items has been duly indicated by the bidders.
 - (2) Price preference shall be allowed as under:-

- (a) Having minimum of twenty percent value addition through indigenous manufacturing price preference shall fifteen percent;
 - (b) Having over twenty percent and up to thirty percent value addition through indigenous manufacturing, price preference shall be twenty percent, and
 - (c) Having over thirty percent value addition through indigenous manufacturing, price preference shall be twenty five percent.
- (3) For the purpose of granting a margin of domestic preference bids will be classified into following groups.

Group. A. Bids offering goods and services delivered in Pakistan

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 entered separately in the following manner or specified otherwise in the Bid Data Sheet: -
- a). for goods offered from within Pakistan;

the price shall be quoted on FOR UAF basis. (FOR means the price of goods quoted by the bidder shall be inclusive of all costs, expenses, charges, duties and taxes etc. whatsoever incidental to their delivery, installation and commissioning as the case may be at UAF site).
 - b) for goods offered from abroad by the LOCAL AGENT:

the price shall be quoted Cost and Freight (CFR), Carriage Paid to (Duty Paid) (CPT) Karachi seaport or Lahore/Faisalabad airport Pakistan, as the case may be. The bidder shall also add all cost expenses, charges, duties and taxes etc. whatsoever expect customs, incidental to delivery installation/commissioning of goods from the port of destination to UAF site. The bidder, in quoting the price, shall be free to use transportation in abroad except transit and means of transport through/of Israel. The LC at sight, as on Usance basis and Advance Payment will be governed as per following:-

- i. **If LC at sight** then the bidder shall provide Performa Invoice from the Principal within 5 days with 100% performance guarantee of the value of the shipment in shape of CDR in favor of Director (DPIC) to initiate the LC with the condition that all the charges including insurance, LC and clearance charges (inside/outside Pakistan) as indicated above, will be borne by firm. CDR of the firm as 100% amount of the equipment will be released after satisfactory receipt installation / commissioning / inspection of the respective equipment.
 - ii. **If LC on usance basis** then the bidder shall provide Performa Invoice from the Principal within 5 days to initiate the LC on usance basis (payment will be made within 90 days and 60 days from the date of issuance of Bill of Lading and Airway bill respectively. However, in case of any unforeseen unavoidable circumstances it may fluctuate to the extent of 10 days at both ends with the permission of the Director, DPIC) with the condition that the insurance, LC and clearance charges (inside/outside Pakistan all charges) will be borne by firm.
 - iii. **If advance payment** required by Principal /Manufacturer then local bidder will provide the Performa Invoice of the Principal within 5 days with 100% performance guarantee of the value of the shipment in shape of CDR in favor of Director (DPIC) with the condition that all (inside/outside Pakistan charges) insurance, bank and clearance charges will be borne by firm. However, amount will be transferred to the Principal/Manufacturer as per regulations of the State Bank of Pakistan.
- 11.3 The terms CFR, CPT, etc., shall be governed by the rules prescribed in the current edition of *Incoterms* published by the International Chamber of Commerce, Paris or otherwise specified in the Bid Data Sheet and SCC
- 11.4 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 Purchaser and will not in any way limit the Purchaser'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 non-responsive 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 the following currencies:

- (a) For goods and services that the Bidder will supply from within the Purchaser Country, the prices shall be quoted in Pak Rupees, unless otherwise specified in the **Bid Data Sheet**.
- (b) For goods and services that the Bidder will supply from outside the Purchaser Country, the prices shall be quoted in any currency. However the payment will only be made by the purchaser in Pak Rupees in case of ITB clause 11.2 (b) and SCC.

**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.
- 13.2 The documentary evidence of the Bidder's eligibility to bid shall establish to the Purchaser's satisfaction that the Bidder, at the time of submission of its bid, is from an eligible country as defined under ITB Clause 2.
- 13.3 The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted shall establish to the Purchaser's satisfaction:
 - (a) that, in the case of a Bidder offering to supply goods 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 Purchaser Country;
 - (b) that the Bidder has the financial, technical, and production capability necessary to perform the contract;
 - (c) that, in the case of a Bidder not doing business within the Purchaser 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
 - (d) that the Bidder meets the qualification criteria listed in the **Bid Data Sheet**.

**14. Documents
Establishing
Goods'
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 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 Purchaser; and
- (c) an item-by-item commentary on the Purchaser'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 Purchaser 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 Purchaser'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 @ 2% of the Estimated Cost or in the amount specified otherwise in the **Bid Data Sheet**.

15.2 The bid security is required to protect the Purchaser 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 denominated in the currency of the bid or in another freely convertible currency, and shall be in one of the following forms:

- (a) Call deposit receipt (CDR).

15.4 Any bid not secured in accordance with ITB Clauses 15.1 and 15.3 will be rejected by the Purchaser as nonresponsive, pursuant to ITB Clause 24.

15.5 Unsuccessful bidders' bid securities 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 Purchaser 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 34, and furnishing the performance security, pursuant to ITB Clause 35.

15.7 The bid security may be forfeited:

- (a) if a Bidder:
 - (i) withdraws its bid during the period of bid validity specified by the Bidder on the Bid Form, or
 - (ii) does not accept the correction of errors pursuant to ITB Clause 24.2; or
- (b) in the case of a successful Bidder, if the Bidder fails:
 - (i) to sign the contract in accordance with ITB Clause 34; or
 - (ii) to furnish performance security in accordance with ITB Clause 35.

16. Period of Validity of Bids

16.1 Bids shall remain valid for the period specified in the **Bid Data Sheet** after the deadline date of bid submission prescribed by the Purchaser, pursuant to ITB Clause 19. A bid valid for a shorter period shall be rejected by the Purchaser as nonresponsive.

16.2 In exceptional circumstances, the Purchaser 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.

17. Format and Signing of Bid

17.1 The Bidder shall prepare an original bid indicated in the **Bid Data Sheet**, clearly marking each "TECHNICAL BID" and "FINANCIAL BID," as appropriate. In the event of any discrepancy between them, the original shall govern.

17.2 The original bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to bind the Bidder to the contract. All pages of the bid, except for unamended printed literature, shall be initialed by the person or persons 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 The Bidder shall seal the Technical and Financial Bid in separate envelopes, duly marking the envelopes as “TECHNICAL” and “FINANCIAL.” The envelopes shall then be sealed in an outer envelope.
- 18.2 The inner and outer envelopes shall:
- (a) be addressed to the Purchaser 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 22.1.
- 18.3 The inner 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 outer envelope is not sealed and marked as required by ITB Clause 18.2, the Purchaser 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 Purchaser at the address specified under ITB Clause 18.2 (a) not later than the time and date specified in the **Bid Data Sheet**.
- 19.2 The Purchaser 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 Purchaser 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 Purchaser after the deadline for submission of bids prescribed by the Purchaser pursuant to ITB Clause 19 will be rejected and returned unopened to the Bidder.

21. Modification and

- 21.1 The Bidder may modify or withdraw its bid after the bid’s submission, provided that written notice of the modification,

Withdrawal of Bids

including substitution or withdrawal of the bids, is received by the Purchaser 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. A withdrawal notice may also be sent by fax, but followed 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 Purchaser**

22.1 The Purchaser 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 Purchaser, 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.

22.4 The Purchaser will prepare minutes of the bid opening.

23. Clarification of Bids

23.1 During evaluation of the bids, the Purchaser 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 Purchaser 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 there is a discrepancy between words and figures, the amount in words will prevail. If the Supplier does not accept the correction of the errors, its bid will be rejected, and its bid security may be forfeited.
- 24.3 The Purchaser 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 26, the Purchaser 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 31), and Taxes and Duties (GCC Clause 33), will be deemed to be a material deviation. The Purchaser'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 Purchaser and may not subsequently be made responsive by the Bidder by correction of the nonconformity.

25. Conversion to Single Currency

25.1 To facilitate evaluation and comparison, the Purchaser will convert all bid prices expressed in the amounts in various currencies in which the bid prices are payable to either:

- (a) Purchaser Country at the selling exchange rate established for similar transactions by the State Bank of Pakistan and National Bank of Pakistan or specified otherwise;

25.2 The currency selected for converting bid prices to a common base for the purpose of evaluation is Pak Rupees to be converted as per rate of the bank shown in ITB 25.1 (a) on the date of opening of the financial bid or specified otherwise in the **Bid Data Sheet**.

26. Evaluation and Comparison of Bids

26.1 The Purchaser will evaluate and compare the bids which have been determined to be substantially responsive, pursuant to ITB Clause 24.

26.2 The Purchaser'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 26.3:

- (a) delivery schedule offered in the bid;
- (b) deviations in payment schedule from that specified in the Special Conditions of Contract;
- (c) the cost of components, mandatory spare parts, and service;
- (d) the availability in the Purchaser's country of spare parts and after-sales services for the equipment offered in the bid;
- (e) the projected operating and maintenance costs during the life of the equipment;
- (f) the performance and productivity of the equipment offered; and/or
- (g) other specific criteria indicated in the **Bid Data Sheet** and/or in the Technical Specifications.

26.3 For factors retained in the Bid Data Sheet pursuant to ITB 26.2, one or more of the following quantification methods will be applied, as detailed in the Bid Data Sheet:

- (a) *Delivery schedule.*
 - (i) 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.

(b) *Deviation in payment schedule.*

- (i) The SCC stipulates the payment schedule offered by the Purchaser. If a bid deviates from the schedule it will be considered as non-responsive bid.

(c) *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 shall be specified by the bidder. The total cost of these items, at the unit prices quoted in each bid, will be added to the bid price.

or

- (ii) The bidder 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. 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.

(d) *Spare parts and after sales service facilities in the Purchaser's country.*

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

(e) *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.

(f) *Performance and productivity of the equipment.*

- (i) 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 or otherwise specified in the **Bid Data Sheet** or in the Technical Specifications.

(g) *Specific additional criteria*

Other specific additional criteria to be considered in the evaluation and the evaluation method shall be detailed in the **Bid Data Sheet** and/or the Technical Specifications.

26.4. **Delivery Schedule.**

As mentioned in Bid Data Sheet.

27. Domestic Preference

27.1 If the **Bid Data Sheet** so specifies, the Purchaser will grant a margin of preference to goods manufactured in the Purchaser's country for the purpose of bid comparison, in accordance with the procedures outlined in subsequent paragraphs, provided the Bidder shall have established to the satisfaction of the Purchaser that its bid complies with the criteria specified in ITB Clause 10.2 (a):

27.2 The Purchaser will first review the bids to confirm the appropriateness of, and to modify as necessary, the bid group classification to which bidders assigned their bids in preparing their Bid Forms and Price Schedules, pursuant to ITB Clauses 10 and 11.

27.3 All evaluated bids in each group will then be compared among themselves to determine the lowest evaluated bid of each group. The lowest evaluated bid of each group will next be compared with the lowest evaluated bids of the other groups. If this comparison results in a bid from Group A or Group B being the lowest, it will be selected for contract award.

27.4 If, as a result of the preceding comparison, the lowest evaluated bid is from Group C, all Group C bids will then be further compared with the lowest evaluated bid from Group A, after adding to the evaluated bid price of the imported goods offered in each Group C bid, for the purpose of this further comparison only:

- (a) the amount of customs duties and other import taxes that a nonexempt importer would have to pay for the importation of goods offered in each Group C bid;

If the Group A bid in the further comparison is the lowest, it will be selected for award. If not, the lowest evaluated bid from Group C, as determined from the comparison under ITB Clause 27.3 above, will be selected for award.

28. Contacting the Purchaser

28.1 From the time of bid opening to the time of contract award, if any bidder wishes to contact the Purchaser on any matter related to the bid, it should do so in writing.

28.2 Any effort by a Bidder to influence the Purchaser 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

- 29. Post-qualification**
- 29.1 In the absence of prequalification, the Purchaser 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.
- 29.2 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 Purchaser deems necessary and appropriate.
- 29.3 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 Purchaser will proceed to the next lowest evaluated bid to make a similar determination of that Bidder's capabilities to perform satisfactorily.
- 30. Award Criteria**
- 30.1 Subject to ITB Clause 32, the Purchaser 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 determined to be qualified to perform the contract satisfactorily.
- 31. Purchaser's Right to Vary Quantities at Time of Award**
- 31.1 The Purchaser reserves the right at the time of contract award to increase or decrease, as per requirement, the quantity of goods and services originally specified in the Schedule of Requirements without any change in unit price or other terms and conditions.
- 32. Purchaser's Right to Accept Bid and to Reject All Bids**
- 32.1 The Purchaser reserves the right to accept 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.
- 33. Notification of Award**
- 33.1 Prior to the expiration of the period of bid validity, the Purchaser will notify/inform the successful and unsuccessful Bidder in writing by letter or by Fax/ e-mail, or telephonically, that its bid has been accepted and unaccepted as the case may be.
- 33.2 The notification of award will constitute the formation of the Contract.
- 33.3 Upon the successful Bidder's furnishing of the performance security pursuant to ITB Clause 35, the Purchaser will discharge bid security to each unsuccessful Bidder on his written request, pursuant to ITB Clause 15.
- 33.4 If, after notification of award, a Bidder wishes to ascertain the grounds on which its bid was not selected, it should address its

request to the Purchaser. The Purchaser will promptly respond in writing to the unsuccessful Bidder.

34. Signing of Contract

34.1 After 10 days from the announcement of evaluation report, the Purchaser will send supply order or Formal Contract as the case may be to successful bidder. In case of formal contract, the successful bidder will send back the contract to the purchaser duly signed within 7 days from the issuance date. Failing which the Purchaser reserves the right under ITB Clause 15.7.

35. Performance Security

35.1 Within Seven (07) days from the issuance of acceptance letter from the Purchaser, the successful Bidder shall furnish the performance security in shape of CDR or Bank guarantee at the discretion of the Purchaser. In case the amount of bid security is equal or greater than the value of the goods to be supplied then the bidder shall not require furnishing the performance security separately and the bid security will be retained to meet the requirement of performance security.

35.2 Failure of the successful Bidder to comply with the requirement of ITB Clause 34.2 or ITB Clause 35.1 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security, in which event the Purchaser may make the award to the next lowest evaluated Bidder or call for new bids.

36. Corrupt or Fraudulent Practices

36.1 The purchaser as well as Bidders/Suppliers/Contractors should observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the PPRA Govt. of the Punjab;

(a) 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 Purchaser, 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 Purchaser of the benefits of free and open competition;

(b) The purchaser 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) The Purchaser will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a University Contract if it at any time determines that the

firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a University Contract.

36.2 Furthermore, Bidders shall be aware of the provision stated in Clauses 5.4 and 24.1 of the General Conditions of Contract.

37.Blacklisting/37.1 the Purchaser reserves the right to blacklist or deregister (may
Deregistration impose Permanent or temporary bar for participation in the procurement proceedings respectively) the bidder as follows:-

(a) **Blacklisting:** The bidder who

- (i) Fail to perform contractual obligations or the performance under the contract is not upto the mark;
- (ii) Found to be indulging in corrupt or fraudulent practices;
- (iii) Commit an action causing or liable to cause loss to the University;
- (iv) Furnish false information;

(b) **Deregistration:** The bidder who

- (i) Submit bid as employee of the firm, or proprietor or shareholder being an employee of the University;
- (ii) Show non-responsive attitude in case of summoning by the University.
- (iii) Back out from their offers after opening of tender;
- (iv) Misbehave with the University employee;

37.2 The bidder shall provide affidavit that the firm was not declared blacklisted or deregistered by any of the Federal and Provincial Government institution.

Section III.

Bid Data Sheet

Bid Data Sheet

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

A-Introduction	
ITB 2.1	The invitation for Bids is opened to all suppliers having registration for National Tax Number & Sales Tax Number with Federal Board of Revenue.
ITB 2.3	Government owned enterprises may participate, only if they are legally allowed.
ITB 2.4	In addition to the contents of ITB 2.4 the bidder shall not be blacklisted by any organization of the Government of the Punjab as well as Federal Government. The bidder shall provide affidavit to this effect.
ITB 4.1	Name of Purchaser: Dr. Anjum Munir, Chairman/Convener, Faculty of Agri. Engineering & Technology, UAF
B- Bidding Documents	
ITB 5.1(h)	Not applicable
ITB 6.1	<p>Purchaser's address: Dr. Anjum Munir, Chairman/Convener, Faculty of Agri. Engineering & Technology, University of Agriculture, Faisalabad (UAF), telephone, and facsimile numbers through</p> <p>Directorate of Procurement & Inventory Control (DPIC) University of Agriculture, Faisalabad Phone No. 041-9200898 Fax. 041-9200898</p> <p><u>FOR TECHNICAL RESPONSE:</u></p> <ol style="list-style-type: none"> 1. Dr. Anjum Munir (Contractual and technical issues) anjum.munir@uaf.edu.pk 2. Fritz Böhmeler (solar topics, electrical work, planning, Site Management) fritz.bohmeler@uaf.edu.pk (English only) 3. Mr. Shoaib Rehman (Site management, civil work) 4. Mr. Kashif Rasheed, XEN (Electrical)

C-Preparation of Bid				
ITB 8.1	Language of the bid. "English"			
ITB 11.2 (a) & (b)	Prices on F.O.R. OR CFR/CPT basis as per following			
	Sr #	Name of Items	Capacity in kW_p	Output kWh/year
	1.	Solar system IT-Library		
	2	Solar system associated Building 1		
	3	Solar system associated Building 2		
		
	.	Scalable unit 1		
	.	Scalable unit 2		
		Subject	Capacity labor (days)	Capacity engineers (days)
		Planning/ Concept		
		Material		
		PV-Array + cabling until inverter		
		Inverter + electric work		
		Generator control and synchronization		
		Monitoring		
		Labour (Establishing)		
		Installation PV arrays until inverter		
		Installation inverter and electrical work		
		Commissioning and testing		
		Installation monitoring +		
		2-weekly cleaning panels and irradiation sensors.		
		Monthly performance report and battery check		
		Quarterly visibility check, filter cleaning, training		
		Yearly performance report and presentation		
		Fee for site visit		
		Hourly rates for Labour, Electrician, Engineers.		
ITB 11.2 (c)	Not applicable			
ITB 11.3				
ITB 13.3 (d)	Qualification requirements.			

	<p>1. Company /Bidder Profile:</p> <p>Eligibility Criteria:</p> <p>i. The bidders shall provide proper evidence</p> <ol style="list-style-type: none"> of designing and installing solar systems having 3 years' experience with solar systems coupled with generators, designed and installed Solar-Off-Grid systems with AC supply. of successful installation of systems with more than 50 kW within the last 3 years. service contract of at least 2 years with governmental /private institutes. to have tested installed solar systems for PR, IV-Curves. to have the authority of this supplier to offer for this project. <p>ii. The bidders staff shall be able to assign</p> <ol style="list-style-type: none"> responsible supervisor who has been installing/ supervising solar systems for the last 3 years for this project at least 2 professional/registered with solar experience to execute / supervise electrical work permanently and explain in English. <p>iii. The prospective bidder may submit their offer with following documents: -</p> <ol style="list-style-type: none"> Name of the firm, address, status, telephone and fax numbers and all proof of experience required above. Income tax registration certificate Income tax return of last three years Sales tax registration certificate List of permanent engineering staff with qualifications List of special machinery Tools & equipment available with the firm for this project. Undertaking that the firm has never been blacklisted for any government or semi government department Undertaking that the firm has never been involved in litigation with any government /semi government or private department Bank statement of last 3 years Copy of CNIC Copy of Professional Tax
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ITB 15.1	<u>Amount of bid security.</u> 2% of the Estimated Cost in shape of Call Deposit Receipt (CDR) in favor of Director (DPIC), UAF to be attached with the technical Bid. However, if attached with financial bid, please mention CDR No., Date and Bank Name
ITB 16.1	Bid validity period. 90 Days
ITB 17.1	Bid: Financial and Technical Separately. Also a soft copy of Technical Bid Only. However; the bidder shall quote financial bid including and excluding GST / PST.
D-Submission of Bid	
ITB 18.2 (a)	Address for bid submission. Directorate of Procurement & Inventory Control, University of Agriculture, Faisalabad
ITB 18.2 (b)	Tender Notice No. 107/2017
ITB 19.1	Deadline for bid submission. 10.08.2017 at above indicated time
E-Bid Evaluation	
ITB 25.1(a)	State Bank or a Commercial Bank to be read as State Bank of Pakistan and National Bank of Pakistan
ITB 25.2	The common base currency is PAK Rupee to be converted as per rate of the bank shown in ITB 25.1(a) of the bid data sheet on the date of opening of the financial bid.
ITB 26.3 (a)(i)	The SCC stipulates the payment schedule offered by the purchaser. If a bid deviates from the schedule, then it will be considered as non-responsive.
ITB 26.3 (f)	Performance and productivity of Goods. As per Technical Specification
ITB 26.3 (g)	As per specification.
ITB.26.4	<u>Time constrains and requirements.</u> Latest day of handing over is 15. Dec. 2017. The detail is as under:-
ITB 27	As per ITB clause 10.2 prior to the award of procurement contract
ITB 33	Subject to PPRA Rule 2014/UAF Procurement Rule 2014, the bidder with the lowest evaluated bid in Rs./kWh, if not in conflict with any other law, shall be awarded the procurement contract within the original or extended bid validity period after 10 days of announcement of the evaluation report.

Section IV.

General Conditions of Contract

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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 Purchaser and the Supplier, as recorded in the Contract Form signed by the parties, or the supply order issued by the purchaser to the supplier, as the case may be, 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 Purchaser 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 Purchaser” means the organization purchasing the Goods, as mentioned in Bid Data Sheet.
- (h) “The Purchaser’s country” is **Pakistan**.
- (i) “The Supplier” means the individual or firm supplying the Goods and Services under this Contract and **named in Supply Order**.
- (j) “The University” means the **University of Agriculture, Faisalabad**.
- (k) “The Project Site,” where applicable, means the place or places **named in Bid Data Sheet and technical specifications**
- (l) “Day” means calendar day.

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|--|--|
| 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 | <p>3.1 All Goods and Services supplied under the Contract shall have their origin in the countries as elaborated in the Technical Specifications.</p> <p>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.</p> <p>3.3 The origin of Goods and Services is distinct from the nationality of the Supplier.</p> |
| 4. Standards | 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 Purchaser | <p>5.1 The Supplier shall not, without the Purchaser’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 Purchaser 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.</p> <p>5.2 The Supplier shall not, without the Purchaser’s prior written consent, make use of any document or information enumerated in GCC Clause 5.1 except for purposes of performing the Contract.</p> <p>5.3 Any document, other than the Contract itself, enumerated in GCC Clause 5.1 shall remain the property of the Purchaser and shall be returned (all copies) to the Purchaser on completion of the Supplier’s performance under the Contract if so required by the Purchaser.</p> <p>5.4 The Supplier shall permit the Purchaser to inspect the Supplier’s accounts and records relating to the performance of the Supplier and to have them audited by auditors appointed by the Purchaser, if so required by the Purchaser.</p> |

- 6. Patent Rights** 6.1 The Supplier shall indemnify the Purchaser 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 Purchaser's country.
- 7. Performance Security** 7.1 Within Seven (07) days from the issuance of acceptance letter from the Purchaser, the successful Bidder shall furnish the performance security in shape of CDR at the discretion of the Purchaser in the amount **specified in SCC**. In case the amount of bid security is equal or greater than the value of the goods to be supplied then the bidder shall not require furnishing the performance security separately, it will be retained or deducted from the bidder's claim on bidder's choice.
- 7.2 The proceeds of the performance security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.
- 7.3 The performance security shall be denominated in the currency of the Contract, or in a freely convertible currency acceptable to the Purchaser and shall be in one of the following forms:
- (a) bank guarantee or CDR issued by a reputable bank located in the Purchaser's country or abroad, acceptable to the Purchaser, in the form provided in the bidding documents or another form acceptable to the Purchaser.
- 7.4 The performance security will be discharged by the Purchaser and returned to the Supplier not later than thirty (30) days following the date of completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless otherwise **specified in SCC**.
- 8. Inspections and Tests** 8.1 The Purchaser 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 Purchaser. **SCC** and the Technical Specifications shall specify what inspections and tests the Purchaser requires and where they are to be conducted. The Purchaser 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 Purchaser.

8.3 Should any inspected or tested Goods fail to conform to the Specifications, the Purchaser 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 Purchaser.

8.4 The Purchaser's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival in the Purchaser's country shall in no way be limited or waived by reason of the Goods having previously been inspected, tested, and passed by the Purchaser 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 Purchaser.

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 For purposes of the Contract, "CFR," "CPT", the terms used to describe the obligations of the parties shall have the meanings assigned to them by the current edition of *Incoterms* published by the International Chamber of Commerce, Paris.

10.3 Documents to be submitted by the Supplier are **specified in SCC**.

11. Insurance

- 11.1 The Goods supplied under the Contract shall be fully insured in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery in the manner **specified in the SCC**.
- 11.2 Where delivery of the Goods is required by the Purchaser on a CFR or CPT basis, the Purchaser shall arrange and pay for cargo insurance, naming the supplier as beneficiary.

12. Transportation

- 12.1 Where the Supplier is required under Contract to deliver the Goods FOB, transport of the Goods, up to and including the point of putting the Goods on board the vessel at the specified port of loading, shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract Price. Where the Supplier is required under the Contract to deliver the Goods FCA, transport of the Goods and delivery into the custody of the carrier at the place named by the Purchaser or other agreed point shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract Price.
- 12.2 Where the Supplier is required under Contract to deliver the Goods CFR or CPT, transport of the Goods to the port of destination or such other named place of destination in the Purchaser's country, as shall be specified in the Contract, shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract Price.
- 12.3 Where the Supplier is required under the Contract to transport the Goods to a specified place of destination within the Purchaser's country, defined as the Project Site, transport to such place of destination in the Purchaser'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.
- 12.4 Where the Supplier is required under Contract to deliver the Goods CFR or CPT, no restriction shall be placed on the choice of carrier. Where the Supplier is required under Contract (a) to deliver the Goods FOB or FCA, and (b) to arrange on behalf and at the expense of the Purchaser for international transportation on specified carriers or on national flag carriers of the Purchaser's country, the Supplier may arrange for such transportation on alternative carriers if the specified or national flag carriers are not available to transport the Goods within the period(s) specified in the Contract.

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 Purchaser'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 to 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 Purchaser 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 Purchaser of the pending termination, in sufficient time to permit the Purchaser to procure needed requirements; and
 - (ii) following such termination, furnishing at no cost to the Purchaser, 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 Purchaser'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 Purchaser 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 notice or in SCC and with all reasonable speed, repair or replace the defective Goods or parts thereof, without costs to the Purchaser.

15.5 If the Supplier, having been notified, fails to remedy the defect(s) within the period specified in the notice or in SCC, the Purchaser 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 Purchaser 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 Purchaser 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 Purchaser, but in no case later than thirty (30) days after submission of an invoice or claim by the Supplier.

16.4 The currency or currencies in which payment is made to the Supplier under this Contract shall be **specified in SCC** subject to the following general principle: payment will be made in the currency or currencies in which the payment has been requested in the Supplier's bid.

16.5 All payments shall be made in the currency or currencies specified in the SCC pursuant to GCC 16.4.

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 Purchaser's request for bid validity extension, as the case may be.

18. Change Orders

18.1 The Purchaser may at any time, by a written order given to the Supplier pursuant to GCC Clause 32, make changes within the general scope of the Contract in any one or more of the following:

- (a) drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser;
- (b) the method of shipment or packing;
- (c) the place of delivery; and/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 Purchaser'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 Purchaser's prior written consent.

21. Subcontracts

21.1 The Supplier shall notify the Purchaser 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 Purchaser 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 Director (DPIC) in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, the Director, (DPIC) 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 Damages

- 23.1 Subject to GCC Clause 25, if the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Purchaser 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 Purchaser may consider termination of the Contract pursuant to GCC Clause 24.

24. Termination for Default

- 24.1 The Purchaser, 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 Purchaser 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 Purchaser, 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 Purchaser of the benefits of free and open competition.

24.2 In the event the Purchaser terminates the Contract in whole or in part, pursuant to GCC Clause 24.1, the Purchaser 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 Purchaser 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 Purchaser 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 Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

26. Termination for Insolvency

26.1 The Purchaser 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 Purchaser.

**27. Termination
for
Convenience**

- 27.1 The Purchaser, 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 Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.
- 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 Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser 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. Settlement of
Disputes**

- 28.1 If any dispute or difference of any kind whatsoever shall arise between the Purchaser and the Supplier in connection with or arising out of the Contract, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation.
- 28.2 If the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given.
- 28.2.1 Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract.
- 28.2.2 Arbitration proceedings shall be conducted in accordance with the rules of procedure **specified in the SCC**.
- 28.3 Notwithstanding any reference to arbitration herein,
- (a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and

- (b) the Purchaser shall pay the Supplier any monies due the Supplier.
- 29. Limitation of Liability**
- 29.1 Except in cases of criminal negligence or willful misconduct, and in the case of infringement pursuant to Clause 6,
- (a) the Supplier shall not be liable to the Purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Supplier to pay liquidated damages to the Purchaser and
- (b) the aggregate liability of the Supplier to the Purchaser, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment.
- 30. Governing Language**
- 30.1 The Contract shall be written in the language **specified in SCC**. Subject to GCC Clause 31, 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.
- 31. Applicable Law**
- 31.1 The Contract shall be interpreted in accordance with the laws of the Purchaser's country, unless otherwise **specified in SCC**.
- 32. Notices**
- 32.1 Any notice given by one party to the other pursuant to this Contract shall be sent to the other party in writing or facsimile and confirmed in writing to the other party's address **specified in SCC**.
- 32.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.
- 33. Taxes and Duties**
- 33.1 A foreign Supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the Purchaser's country and purchaser's country as **specified in SCC**.
- 33.2 A local Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser.

Section V.

Special Conditions of Contract

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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. Performance Security (GCC Clause 7)

GCC 7.1—

- A. For goods offered from within Pakistan and abroad by the local agent by Pakistan:
 - i. the successful Bidder shall furnish the performance security @ 10% of the value of Supply Order or Contract in shape of CDR for the warranty period of 2 years in favor of Director (P&IC), UAF within Seven (07) days from the issuance of acceptance letter from the Purchaser. In case the amount of bid security is equal or greater than the value of the performance security, then the bidder shall not require to furnish the performance security separately.
 - ii. Warranty of all the material mentioned in the specifications should be provided from the principal manufacturer

GCC 7.3 a): Bank Guarantee is not allowed

2. Inspection and Tests (GCC Clause 8)

GCC 8.1- In accordance with the specifications as required by following members of the committee onsite inspection.

- i. **Dr. Anjum Munir (Convener)**
- ii. **Mr. Fritz Böhmeler (Responsible for solar, system-integration, commissioning and testing, handing over)**
- iii. **Mr. Shoaib-ur-Rehman, Executive Engineer, ECD-P (Civil work)**
- iv. **Mr. Kashif Rasheed (Executive Engineer - Electrical work)**

3. Warranty (GCC Clause 15)

The warranty will be as per following:

- i. **Inverter:** Five Years warranty
- ii. **PV Panel (Product warranty 10 years and Linear warranty 25 years)**
 - a) Replacement warranty at an efficiency of 90 to 100% of the first 10 years
 - b) Replacement warranty at an efficiency of 80 to 90% of the subsequent 10 years
 - c) Replacement warranty at an efficiency of not less than 80 of subsequent 5 years

GCC15.2&15.4: 051 year onsite free parts and labor warranty; however in-case of imported goods, local authorized bidder shall provide warranty of the Principal.

6. Payment (GCC Clause 16)

7. Prices (GCC Clause 17)

GCC17.1: No Price adjustment is allowed.

8. Change Orders (GCC Clause 18)

Not applicable

9. Liquidated Damages (GCC Clause 23)

GCC 23.1—Applicable rate:

The liquidated damages, if imposed, will be recovered at the rate of up to 0.67% of the value of goods supplied/installed/commission late per day or a part of a period exceeding the original delivery period, subject to the provision that the total liquidated damages thus imposed will not exceed 10% of the total value of the goods delivered/installed/commission late.

10. **Settlement of Disputes (GCC Clause 28)**

The settlement of dispute will be settled in accordance with mechanism for redressal of grievances and settlement of dispute as specified below:-
Complaints of bidder/contractor shall be disposed/settled by a committee and arbitration prior to the entry into force and after into force of procurement contract respectively. Accordingly, grievances committee with powers and terms of reference and method of arbitration are as under:-

A. Grievances Committee:

The committee comprises the following to address the complaints of the bidders prior to entry into force of the procurement contract:-

- i. The Treasurer (Email address: treasurer_uaf@yahoo.com) (Convener)
- ii. Dr. Anjum Munir (Member)
Chairman, Department of Energy Systems Engineering
- iii. Resident Auditor or the Technical Expert(s) not (Member)
below the rank of Assistant Professor
- iv. The Director (DPIC) (Secretary)

Any bidder feeling aggrieved by any act of the procuring agency after the submission of his bid may lodge a written complaint concerning his grievances not later than 10 days after the announcement of the bid evaluation report under rule 37 of the UAF Procurement Rules 2014.

The committee shall address the complaints of bidders that may occur prior to the entry into force of the procurement contract. The committee shall investigate and decide upon the complaint within fifteen days of the receipt of the complaint. Mere fact of lodging of a complaint shall not warrant suspension of the procurement process.

Any bidder not satisfied with the decision of the committee may lodge an appeal in the relevant court of jurisdiction.

B. Arbitration:

After coming into force of the procurement contract, all matters of dispute or difference except regarding rejection of goods by the Inspector under GCC clause 8 (Standard Bidding Document) or cancellation of the contract by the Purchaser, under GCC Clause 24 and 27 (Standard Bidding Document) arising out of the agreement between the parties thereto, the settlement of which is not otherwise specially provided for in contract agreement, shall be referred to arbitration as under:-

(a) Foreign Currency Contracts (CFR/CPT, etc.) made directly with Foreign Principal / Manufacturer

- i. The dispute shall be referred for adjudication to two arbitrators one to be nominated by each party, who before entering upon the reference shall appoint an umpire by mutual agreement, and if they do not agree, a judge of the Superior Court will be requested to appoint the umpire. The arbitration proceedings shall be held in Pakistan and under Pakistan Law.
- ii. The venue of arbitration shall be the place from which the contract is issued or such other places as the Purchaser at his discretion may determine.
- iii. Arbitration award so given will be firm and final.

(b) Indigenous (FOR) contracts

The settlement of dispute, if not otherwise especially provided for in the contract shall be referred for the decision of Vice Chancellor, University of Agriculture, Faisalabad. His decision shall be final and binding on both the parties. The work under the contract shall if reasonably

possible continue, under the proceedings before the Vice Chancellor and no account of such proceeding unless they are subject of the dispute.

Note:

- The arbitration award shall be recorded in writing.
- CFR/CPT, etc., contracts made through local agents would be dealt under sub para-B (b) above.

(c) Prior Notice for arbitration:

If the supplier intends to go for arbitration, he shall have to give 30 days notice in writing informing the purchaser of his intention to refer to the points of differences or dispute of arbitration. He shall have to define clearly the point of difference and or dispute in his notice.

C. Court Jurisdiction

Only the Courts at Faisalabad shall have exclusive jurisdiction to adjudicate upon any “lis” brought by either of the parties in relation to the contract.’

11. Applicable Law (GCC Clause 31)

GCC 31.1—UAF Procurement Rules 2014 and Laws governing in Pakistan

12. Notices (GCC Clause 32)

GCC 32.1: The Supplier shall provide address for notice purposes:

13. Taxes and Duties (GCC Clause 33)

14. Stamp Act

In accordance with the Stamp Act 1899 amended from time to time, the successful bidder shall require to affix stamp duty @ 25 paisa per hundred rupees on the value of the contract.

Section VI.

Schedule of Requirements

ESTIMATED SCHEDULE

Sr. No.	Description	Deadline
1	Tender opening	August 10, 2017
2	Technical Evaluation	August 17, 2017
3	Financial Evaluation	August 22, 2017
4	Acceptance Letter	August 25, 2017
5	Award of Contract	September 07, 2017
6	Meeting after acceptance but before signing contract all concerning managers / supervisors. Mutual agreement to a realistic time schedule /Gant plan outlining Milestones and other crucial issues which will be mandatory for all further activities.	September 11, 2017
7	Delivery and installation after signing contract	November 20, 2017
8	Weekly meetings on site. Update of Gant Chart, defining goals of next week, etc.	Every Thursday 4pm
9	Commissioning, Testing, Documentation, and Handing over Library system. Completion includes following actions (mandatory but not limited): Automatic operational work of solar system for 3 days in sequence in combination with generator, having set all parameters for inverter and electronic devices, display indicating required data and availability of data to be available on portal. Complete documentation, detailed instruction and signed notice of handing over.	November 30, 2017
10	Testing and handing over other allied buildings See above.	December 15, 2017
11	Estimated Cost	Rs 17.024 Million

Section VII.

Detailed Specification of Concept, Products, Craftsmanship, Procedures, Commissioning, Testing and Handing over Methodology of Marking and Disqualification

Nr	Specification / Requirement
	<p><u>Introduction</u></p> <p>The University of Agriculture as a leading institute of Asia with an own Department of Energy Systems Engineering tenders:</p> <p>“Concept, supply, installation, commissioning testing and servicing solar systems tied to grid (400V) at the roof top of IT-Library & other allied buildings of University of Agriculture Faisalabad, coupled with existing generator, having an optimum capacity in kWh/kWp/year and a range of nominal capacity scalable units depending upon available roof space without having shadow effects”</p> <p>The power supply of a defined number of computers, fans and lights of 1st floor of IT Library as well as Monitoring system, display and security equipment should be 100% by solar as long as the total installed capacity of rooftop exceeds the demand and provide a defined backup time.</p> <p>The bidder has not only to proof quality of used components but as well to document in a comprehensive manner the expected output in kWh considering possible shadow effects and coupling to a generator.</p> <p>For a university with an own Energy Systems Engineering Department and the ambition to train its students practically the system, especially on roof top of library, has to be very suitable to be used for teaching solar and research purpose.</p> <p>To ensure proper working and managing the system a service contract for 2 years is required.</p>
1	Concept
1.1	Basic documents for documentation system and concept of each building / solar system
1.1.1	Comprehensive and detailed roof + array plan incl. all relevant shadow objects. Distances between all relevant objects have to be shown. Metric dimensions. Print in at least A1. (Softcopy per USB-stick)
1.1.2	Comprehensive and detailed shadow and string plan. Using roof and array plan as base. Written explanation how the chosen stringing concept minimize shadowing impacts.
1.1.3	Comprehensive concept explaining how the layout and spacing ensures security for students / teachers during teaching and executing experiments.
1.1.4	<p>Comprehensive and detailed electrical scheme, which shows visually components used and explain functionality of system. Comprising following components (but not limited) to judge the system</p> <ul style="list-style-type: none"> - panels, mounting structure, combiner boxes, inverter, switches, cables - Distribution panels each floor, and main DP of building - Safety components like fuses as well as cabling for grounding of relevant components, over voltage arrestors etc. - All sensors for monitoring and research
1.1.4	Sizing of capacity / Number of systems
	<p>Basic system on IT-Library, suitable for teaching and research including Hybrid system for unbreakable power supply. Other systems on allied buildings. It is responsibility of bidder to evaluate space of each building. Each building requires a separate system coupled with generator. For each building, offer is required for a basic system between 20-30 kW_p (complete in all respects, including monitoring and display) + standardized separately prized scalable units (attachable in multiple to basic system incl. sensors for monitoring) until roof is used wisely. Capacity of all systems will be summed up until total capacity of max 150 kW_p or budget is reached.</p>
1.2	Power output calculation for each building
1.2.1	<p>Comprehensive power output calculation and documentation for each solar system /roof and in addition for proposed scalable unit. The bidder has to indicate software and weather file used for his</p>

	calculation. However, the final qualification will be executed according to procedure below.
1.2.2	Comparison / power evaluations: The bidder has parallel calculation of output above to provide all parameter required to calculate output in PVsyst (actual evaluation software). In case of missing parameter or data the offer will be rejected. Only the proved output calculation of UAF will be used for qualification of bidder. For evaluation of bidder, UAF will use the typical 10 years weather file of SolarGIS for Faisalabad.
1.2.3	In order to ensure comparability for final size of system output corresponding calculation and data have to be provided and separate calculation will be executed as well for the proposed scalable unit.
1.1.2.b	Comprehensive explanation how the relation PV-power / inverter kW power is reflected in the yield calculation above.
1.3	Providing unbreakable power (For IT-Library only)
1.3.1	For IT equipment, computers, fans and lights of 1 st floor 10 computer, 20 light, 10 Fans, 1 printer/ 1 photocopier as well general security devices as for example lights, scanner at ground floor /entrance and display a solar system with unbreakable power has to be provided according to load profile provided by UAF.
1.3.2	For the load defined, a backup time of 1 hour is required.
1.3.3	Basic assumptions for calculation of battery capacity: No generator running. Calculation of backup time during daytime only Assumption of hourly irradiance 500W/m ² on tilt surface of proposed system. Aging of 25% of battery capacity within 2 years have to be considered.
1.3.4	As long as the combined solar system on roof of library is producing energy and Battery is not lower than DOD 50, the battery has to be charged by electrical design powered exclusively through solar. DOD 50 max.
1.3.5	Copmrehensive calculation of capacity of battery including all relevant assumptions (based on average efficiency factors) Comprehensive calculation of size of inverter, considering and documenting reasonable assumption of simultaneously factor and peaks of connected load Detailed electrical scheme including wiring to all defined loads.
1.3.6	Hybrid inverter or a combination of charge controller and inverter charger is allowed. List of all settings have to be provided 1 week before commissioning and testing the system.
1.3.7	The delivered power through this inverter, power to and power out of battery as well as power consumption has to be monitored by the same system as the pure on-grid system.
1.3	Mounting system
1.3.1	Functional specifications
1.3.1a	Mounting structure of panels has got to be installed without violating surface of the roof.
1.3.1.b	Structure should consider people moving around, working on systems and avoid in a reasonable manner injuries.
1.3.2	Research and teaching requirements
1.3.2.a	One inverter has to be connected to a mounting structure which allows easy change of tilt (+/- 20%) without necessity of any disconnection. This array should have no shadow impacts on output of other inverters. (No shadowing of other strings)
1.3.2.b	In order to ensure teaching groups up to 7 people on roof and experimenting suitable space and pathways should be planned, which specially consider security of not roof experienced students as well as possible protection of solar system (Documentation on identic copy of roof and array plan).

1.5	Monitoring and system control
1.5.1	To ensure awareness of quality of the system to as many persons as possible the performance data have to be displayed on a big display mounted at ground floor. (AC supply and data cable from server/ inverter room to display will be laid by UAF)
1.5.2	The bidder has to provide a comprehensive description which outlines the structure and functionality of the system.
1.5.3	The described functionality has to be approved in written by manufacturer of hardware (HW) of monitoring and /or by concerned engineering company.
1.5.4	All subsystems have to be monitored and on string level with aggregation on inverter level to allow to identify problems and specially to secure proper research for student's projects.
1.6	Protection against damage
1.6.1	Clear description how related electronic devices, data and communication structure is protected against overvoltage. Proper drawing of protection system with all relevant components and connection with grounding of building
2	Quality of components
2.1	Panels
2.1.1.a	Serial number below glass. No stickers allowed.
2.1.1.b	European or American brand
2.1.1.c	Unique serial-number, name of manufacturer of PV Module, of Manufacturer of Solar cells, month and year of manufacturing (separately for solar cells and module), country of origin (separately for solar cells and module), I-V curve for the module, date and year of obtaining IEC PV module qualification certificate or other relevant information on traceability of solar cells and module as per ISO
2.1.2	International bankable panel or 1-Tier 3 rd party insurance supplier accepted by bidder committee
2.1.3	Original datasheet of supplier signed by supplier. If required modifications signed on a separate paper.
2.1.4.	Parameter
2.1.4.a	Uoc, Isc, Impp, Umpp
2.1.4.b	Minimum power at 200 W/m ² (STC) (25°C /AM1.5)
2.1.4.c	Fill-Factor
2.1.4.d	Information to glass quality and thickness 2500 Pa Load
2.1.4.e	Dimensions of panels
2.1.4.f	Monocrystalline panels $T_{\text{coefficient of V}} -0.32 <$ and of A < 0.043 Polycrystalline panels $T_{\text{coefficient of V}} < -0.31$ and of A $0.063 <$
2.1.4.g	Cell efficiency $\geq 17.5\%$ Module efficiency $\geq 16.5\%$
2.1.4.h	4 Busbar technology
2.1.5	PID free certificate (+ test documentation in English, if production of panels of supplier < 10 years)
2.1.6	Panels delivered in original packing to ensure damage during transport
2.1.7	Flash reports in excel / CSV, comprising S.No., W _p , Uoc, Isc, Impp, Umpp at STC. Provision 14 days prior to delivery to concerned manager of UAF.
2.1.8	Cable length suitable for landscape mounting (if offered so), without any prolongation of cables.
2.1.7	Warranty / certificates/ manufacturer
	Materials and workmanship warranty of a minimum of 10 years in the form of a certified data sheet from the supplier.
	Power warranty/performance guarantee of a minimum of 25 years: the power output should not fall below 90% within 10 years, and below 80% within 25 years; linear warranty

	All relevant ISO certificates concerning to the offered version of (!) panels.
	Official address, website, email of service department of manufacturer.
	Manufacturers installation guidelines / warranty conditions
	Degree of protection of junction box
	Specifications of diodes to proof suitability for high temperature, diodes replaceable, provision of proved and helpful specifications
2.2	Mounting structure
2.1.1	Material of structure of Aluminium. Fittings like washer, screws etc. V2A steel quality or proved high quality coating not interacting with Aluminium. Documentation of material through supplier.
2.1.2	Comprehensive documentation / proof by engineering calculation of stable location, for wind- speed up to 200 km/h for each type of mounting structure. Calculation of total weight, weight/m ² in combination with array plan. Weight /m ² must be lower than max load capacity of roof.
2.1.3	Complete list of all components of each <u>type</u> of mounting array including interconnections of rows.
2.1.4	Comprehensive drawing of mounting structure showing all details or adequate comprehensive pictures including suitable explanation of a sample mounting to judge according criteria as durability, security, stress free mounting of panels and other possible problems.
2.1.5.	Description of flexible tilt system (only for one “inverter unit” as requested by 1.3.2.a) without need of disconnection of panels as required above.
2.1.6	Panels pinched to structure. No fixing by wholes in frame.
2.3	String/ Combiner-Boxes / String switches
2.3.1	All strings per each single inverter must be able to be disconnected from inverter with suitable switch which fulfill security standards .
2.3.2	Documentation of brand and specifications of fuses by a datasheet of supplier. Calculation for size of fuses at max ambient temperature of 50°C.
2.3.3	Suitable for outdoor installation according to ISO or equal standards. Certificate of box is required.
2.4	Inverter
2.4.1	On-Grid inverter
2.4.1.a	Datasheet of manufacturer, signed by responsible engineer of bidder.
2.4.1.c	European or American brand
2.4.1.c	DC input side: Maximum input voltage, operating input voltage range, number of MPP-Tracker, Maximum input current, maximum input power at maximum output power, maximum recommended PV power.
2.4.1.d	AC output side: Grid voltage range, rated grid voltage, maximum output current, maximum active power (cos phi = 1), max active power (cos phi =0.95), rated power, rated frequency, operating frequency range, distortion factor (at cos phi =1), power factor cos phi for inductive and capacitive load.
2.4.1.e	Characteristics of operation performance: Maximum efficiency, European or American efficiency, static and/or dynamic MPP efficiency, Self consumption, Temperature °C when power derating starts.
2.4.1.f	Suitable ambient temperature range up to 45°C, high relative humidity but non-condensing.
2.4.1.g	Fitting and construction: Degree of protection, Overvoltage category, DC and AC industrial connections like MC4 or equivalent (no screwing allowed), Weight and dimensions, Integrated DC circuit breaker required, indication of sockets and communication protocol, type and specification of cooling principle, international test certificate (ISO covering all parameters mentioned above)
2.4.1.g	Certified data sheet of manufacturer, signed by manufacturer / responsible engineer of bidder.

2.4.3	Power unit for unbreakable power supply for computers of one floor.
2.4.3.a	Hybrid inverter solution
	a) Pure sine wave
	b) Switching speed minimum 10 milli seconds
	c) Remote control of parameters like charging parameters for maximizing lifetime of batteries. (Preferably through monitoring system used for On-Grid system)
	d) Dust protection of electronic. If 3 rd party filter is used, written comment of inverter supplier necessary If cleaning by blower is proposed, a permission of supplier is required, confirming warranty will stay valid.
	e) Internal temperature can be checked /monitored (if possible through monitoring system)
	f) Documentation / proof to withstand torque load of at least 100% of attached load for 5 sec
	g) Operation at 45°C and high humidity not condensing.
	h) Monitoring with same system as On-Grid inverters
2.4.3.b	Option: Charge controller (in combination with inverter charger)
	a) MPPT Tracker
	b) Monitoring with same system as On-Grid inverters
	c) Operation at 45°C and high humidity not condensing.
2.4.3.c	Option: Inverter charger (in combination with Charge controller)
	a) pure sine wave
	b) Switching speed minimum 10 milli seconds
	c) Remote programming of charging parameters for maximizing lifetime of batteries.
	d) Dust protection of electronic. See 2.4.3.a.a)
	e) State of Charge (SOC) calculation of battery
	f) Equalization charging possible
	g) Documentation / proof to withstand torque load of 50% of attached load.
	h) Operation at 45°C and high humidity not condensing.
	i) Monitoring with same system as On-Grid inverters
2.4.3.d	Batteries + Rack + Cabling
	a) Capacity suitable to ensure back up time required at max DOD of 50%. Comprehensive calculation required. (see as well 1.3.3)
	b) Maintenance free or Lead-Acid batteries. 2 years warranty by supplier or bidder (at proof by monitoring data that battery is used as designed)
	c) Professional cabinet for battery bank.
	d) Cabling and security according to international quality standards. Calculated drop of voltage of longest cable lower than 1.5V. Comprehensive calculation required.
2.5	Monitoring
2.5.1	Functional specifications
2.5.1.a	The HW + software of monitoring system has to be really stackable (modular). Bi-directional function to allow remote management of systems by setting parameters of inverters and other required actions.
2.5.1.b	Reliable system for measuring irradiation as well as on horizontal level as tilt level of all different offered arrays with their different orientation to ensure proper calculation of performance ratio (PR) Sensors with ISO certificates or equal.
	Methodology, algorithm on how average irradiation is calculated
	Explanation of expected accuracy of measurement of irradiation.
	Amendment for measurement of direct irradiation possible by same supplier
	Data sheet with suitable specifications for all components proving reliable function at high temperature and humidity.

2.5.1.c	Measurement of energy provided by solar, grid, generator, to the battery and out of battery etc.
2.5.1.d	Display suitable for in door and corridor installation Comprehensive certificate required documenting suitability for max ambient temperature of 50°C, anti reflex screen, robust glass, suitable for dusty environment, at least 42 inch.
2.5.1.e	Suitable to display freely information provided by monitoring system
2.5.1.f	Data stored and accessible at a portal.
2.5.2	Optional and research specifications
2.5.2.a	Without interfering standard functions additional parameters, sensors should be able to be monitored and data should be accessible by portal.
2.5.2.b	Additional measurement of temperatures, wind, and humidity freely combinable with all other data should be provided and for research purpose the quality of measurement should be suitable.
2.5.2.c	Useful analysis of all energy flows in combination with existing data should be able to be programmed on a PLC which could be connected to the monitoring by one of the standard protocols of monitoring system. (No individual programming of interface)
2.5.2.d	Every string has to be fitted with at least one temperature sensor for measurement of cell temperature of panels. Strings equal or larger than 6 panels with 2 sensors per string.
2.6	Cables
2.6.1	Manufacturer / specifications have to be visible on outer side of cable shielding
2.6.2	Cable have to be double shielded
2.6.3	UV stability for use as solar cable has to be proved by ISO certificates or equal
2.6.4	All DC cables (panels combiner box, combiner box to inverter) without any prolongation.
2.6.5	Calculation of diameter for longest connection panel-combiner box and combiner box-inverter) based on material specifications of chosen cable to ensure max voltage drop 1.5%
2.6.6	All cable connections with industrial cable connectors. (MC4 or equivalent) Used connectors have to be compatible with connectors of panel supplier. Preferably connectors of supplier used for connecting strings to combiner box / inverter. Certificates of all connectors required.
2.7	Genset paralleling control and power management system
2.7.1	American or European brand. Manual in English.
2.7.2	Basic functions:
2.7.2.a	Start, stop, control generator and mains breakers, generator power, load dependent start stop by reserve power, color display, front panel and remote operation
2.7.2.b	Ability to manage and control of up to 6 inverters to operate together with generator and / or Grid
2.7.2.c	Suitable to operate single stand alone emergency backup power, parallel load sharing of multiple gensets in complex, segmented distribuion systems with multiple utility feeds and tie breakers.
2.7.2.d	Protection of generator against reverse power.
2.7.3	Quality/ security of operation
2.7.3.a	Three-phase true RMS power sensing with Class I accuracy (1%)
2.7.3.b	Both: Slip frequency /phase matching synchronization
2.7.3.c	Absolute unbreakable power supply during reconnecting of grid.
2.7.3.d	Inputs for genset, busbar, utility to measure voltage, frequency etc. able to synchronize to busbar and to grid, synchronization of multi Generators to grid
2.7.3.e	“System Update” function for removing or adding generator sets online
2.7.3.f	Time/Date synchronization over Simple Network Time Protocol (SNTP)

2.7.4	Connectivity
2.7.4.a	Standard Interface for proposed monitoring / SCADA/ system. 3 individual Ethernet connections, 3 RS 485, 1 USB, 3 CAN bus
2.7.4.b	Remote control via interface (Modbus TCP, Modbus RTU, open CAN) and via discrete/ analog inputs for adjusting speed, frequency, voltage, power, reactive power, and power factor set points
2.7.5	Certificates
2.7.5.a	CE, UL, EAC, VDE
3	Installation, Commissioning, testing and handing over
3.1.1	General conceptual note outlining how the bidder will ensure management of site, (quality control, craftsmanship) names of assigned persons and there competences perceived interfaces to other works and rules to secure status of own work as well of others.
3.1.2	Conceptual note how to fulfill the responsibility to store and mange tools and material safely, to ensure security of work on site for his own staff as well as for the staff of University as far as impacts arise by his work. (Security instructions, signboards, security equipment and fencing etc.).
3.2	Special duties / rules
3.2.1	The bidder keeps responsible for proper protection of cables laid until final commissioning, even if proper work was approved by a previous step.
3.2.2	Electrical protection: Inverters, Monitoring and control system, Main distribution panels and other relevant solar equipment have to be earthened. It is the responsibility of bidder to identify and test suitable earthening point according to his own calculations and inform in time concerned persons in case earthening does not match with his calculations. In case final load or grounding connections are not provided at that time, the supplier has to make reasonable assumptions and get them approved in written. The supplier calculations based on these assumptions have to be proved as well before laying wiring and connecting to the earthening point. In case connection to own earthening cable is not possible, the supplier has to make his own measurements, However, the supplier has to refuse any connection to unsuitable wiring and inform responsible manager in written and wait until proper earthening connection is provided by UAF. The waiting time will be honored according to rules attached.
3.2.3	Cabling. Prolongation of cables is not allowed. Specially DC cables have to be in one piece from device to next device.
3.3	Start of work / quality control of components
3.3.1	The bidder may start only after initial meeting with all concerned responsible manager, supervisors of both parties, site visit with documenting interfaces of work done by previous contractors (Earthening connection points, Electrical Panels, surface of roof etc.) and mutual agreed time schedule with fixed dates for controls, approvals, testing and handing over the working system. It is the responsibility of the bidder to clarify all questions and to get all documents the supplier may need for final planning and execution.
3.3.2	All products used for the system have to be approved by concerned engineer after arrival. He has to indicate inspection of goods at least 2 days in advance. Its up to the bidder to calculate possible delay due to rejection of materials. This includes as well small parts as screws, cable joints etc.
3.4	Rules and procedures for Commissioning and testing
3.4.1	Commissioning and testing scheme and sign
3.4.2	Before final commissioning and testing partial work (according milestones) has to be approved separately to ensure smooth commissioning.
3.4.3	Commissioning, connecting panels to inverter, as well connecting inverter to batteries, grid and generator is only allowed in presence of

	concerned and assigned engineers of UAF and according to concept and procedures outlined below. Earlier test may lead to expensive quality test of single components on costs of bidder
3.4.4	2 weeks before each step of commissioning and testing the bidder has to provide a written description of procedures including reasonable time estimation subject to be approved by concerned UAF manager. Samples (not limited) Testing quality of installed panels on string level as well randomly for single panels, proving power output by short term performance ratio test, testing basic functions of inverters For monitoring, Inverter and Generator control device Manuals and list of settings for all parameters have to be provided 3 full working days before commissioning and testing.
3.4.5	List of main settings of parameter of inverters as well as procedure to measure all parameters being estimated to be relevant
3.4.6	List of suitable equipment which will be used to measure outlined parameters, results.
3.5	Services and duties of University
3.5.1	The University ensure that access to roof can be locked in a suitable way by bidder to ensure control of material and access during not working hours. The bidder is allowed to use his own lock.
3.5.2	The University provides electricity and water as well as the space for service container for small instruments/equipment if required. However, it is the responsibility of bidder to coordinate availability with concerned manager.
3.5.3	The University assigns one responsible project manager as well as his co-manager with all relevant combined authority to ensure a quick and efficient support of bidder and to avoid bureaucracy. The bidder will receive signed authority letters 2 weeks before start of work. Its up to the bidder to intimate the assigned project manager about expect range of authority
4	Service concept (Ability and Capacity)
4.1	Experience
	Solar experience as provide in the eligibility criteria in the bidding document
4.2	HR capacity
	The bidder has to ensure to have a solar specialist under contract which is trained for monitoring system and capable to fulfill the tasks defined. The bidder has to indicate immediately any change to the purchaser. Written reconfirmation every 3 month during validity of service agreement
	At least one (1) service engineer with the qualification required and having permanent access to suitable equipment, employee or under freelance contract should be live within a distance with maximum traveling time of 3h (door to door). Written reconfirmation every 3 month during validity of service agreement.
4.3	Availability of suitable equipment and material
4.3.1	Equipment
	The bidder has to proof ownership / access and training of following equipment to ensure proper service. IV curve tester, PR tester, testing electrical insulation, etc.
4.3.2	Availability of material
	MC4 connector, cable, fuses as specifications on stock 24h availability
	Solar inverter max 3 weeks delivery time. Proof of delivery confirmation by supplier within 3 working days.
	Monitoring and “generator controller” a spare part stock at UAF as far as no dealer agreement with the supplier can be provided or complete

	address of the company be provided for direct purchase by UAF. The value of spare parts will be deducted from the performance security.
4.4	Required services
4.4.1	Concept note including following subjects (but not limited) how bidder is planning to ensure proper performance and maintenance and long lifetime of all relevant components. List of possible problems and activities not under responsibility of bidder and definition criteria for payable operational services. Proposal for procedures for operational services, independent of responsibility.
4.4.2	Maintenance
	Daily check for failure warnings and written notice to concerned manager in case of any problem. Every 2 weeks Costs for cleaning panels every 2 weeks Cleaning and check of irradiations sensors Monthly Performance report Battery check (and filling in case of lead acid batteries) Quarterly (latest by 15 th of next month) Visibility check: Roof-cabling, damages, screws still tight, etc. Instruction / training of students (permanently new students) Filter check of inverter according to instructions of supplier (blower) Yearly (Latest by 15 th Jan) Presentation of Performance report to responsible manager of system
4.4.3	Service activities on client demand for non-warranty related issues
	Fee for each site visit. Hourly rate for electrician Hourly rate for engineers Hourly rate for simple worker.

Section VIII.

Sample Forms

Sample Forms

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1. Bid Form and Price Schedules

Date: _____
Tender No. _____

To:

Dr. Anjum Munir,
Chairman/Convener,
Department of Energy Systems Engineering
University of Agriculture, Faisalabad

Gentlemen and/or Ladies:

Having examined the bidding documents including Tender No.107/2017 the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply and deliver *[description of goods and services]*in conformity with the said bidding documents for the sum of *[total bid amount in words and figures]*or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this Bid. We understand that failure to furnish all information required by the bidding documents or to submit a bid not substantially responsive to the bidding documents in every respect will be at our risk and may result in the rejection of its bid.

If our bid is accepted, we undertake to provide a performance security in the form, in the amounts, and within the times specified in the bidding documents and to deliver the goods in accordance with the delivery schedule specified in the Schedule of Requirements. Failure to which, the Purchaser reserve the right to take action as per provisions of the bidding documents.

We agree to abide by this Bid for the Bid Validity Period specified in Clause 16.1 of the Bid Data Sheet and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

Commissions or gratuities, if any, paid or to be paid by us to agents relating to this Bid, and to contract execution if we are awarded the contract, are listed below:

Name and address of agent	Amount and Currency	Purpose of Commission or gratuity
_____	_____	_____
_____	_____	_____
_____	_____	_____
(if none, state “none”)		

Until a formal Contract is prepared and executed, this Bid, together with your written acceptance thereof and your notification of award, shall constitute a binding Contract between us. We understand that you are not bound to accept the lowest or any bid you may receive.

We certify/confirm that we comply with all requirements as per ITB Clause 2 of the bidding documents.

Dated this _____ day of _____ 19_____.

[signature]

[in the capacity of]

Duly authorized to sign Bid for and on behalf of _____

Price Schedule for Goods Offered from within the Purchaser’s Country

(ITB clause 11.2 (a))

11.2 (a): FOR

Name of Bidder _____ .Tender Number _____.Page _ of ____.

1	2	3	4	5	6	7	8
Item	Description	Country of origin	Quantity	Price without GST + PST	Price With GST	Price With PST	Price with GST + PST

Signature of Bidder _____

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

Manufacturer’s/Distributor’s/Dealer’s Certificate Form

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

To: *[name of the Purchaser]*

WHEREAS *[name of the Manufacturer/Distributor/Dealer]* who are established and reputable Manufacturer/Distributor/Dealer of *[name and/or description of the goods]* having factories/Warehouse/trading house 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 Tender 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/Distributor/Dealer 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.