Ref# NRSP-SPPAP-V/Solar/2025-26

Prequalification Documents

For

Shortlisting of the Suppliers

for

Supply/Testing/Commissioning/Installation of Solar PV Systems through Community Institutions (CIs)

under

Southern Punjab Poverty Alleviation Project (SPPAP).

(Newspaper Advertisement)

NRSP
National Rural Support Programme

Prequalification of Suppliers

National Rural Support Programme (NRSP) is implementing Southern Punjab Poverty Alleviation Project (SPPAP). NRSP is assisting the Community Organizations working under SPPAP in prequalification of suppliers for supply/installation/testing/commissioning of Solar PV systems and supply of ear tags for small Ruminants (goats). A total of 1,150 solar systems need to be supply & install and 45,000 ear tags to be supplied. The details of project districts are provided below:

S. No	District	Tehsil	S. No	District	Tehsil
1	Bahawalpur	Ahmadpur East	6	Layyah	Layyah
2	Bahawalnagar	Bahawalnagar	7	Bhakhar	Darya Khan
3	Muzaffargarh	Jatoi	8	Mianwali	Isa Khel
4	Rajanpur	Rajanpur	9	RY Khan	Liaqatpur
5	DG Khan	Taunsa Sharif	10	Khushab	Khushab

Details of terms & conditions are available in the prequalification documents that can be downloaded free of cost from NRSP website **https://nrsp.org.pk/tenders/**. Last date for submission of documents is **December 19, 2025** till **3:00pm**. NRSP reserve the right to accept or reject any/all documents without any reason thereof or funding constraints.

NRSP on behalf of Community Organizations working under SPPAP National Rural Support Programme, 7, Sunrise Avenue, near COMSATS University, Park Road, Chak Shahzad, Islamabad. Tel: +92(51) 8746170-173

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Disclaimer: This prequalification is processed on behalf and request of community institutions of SPPAP-II project, NRSP, as a social mobilization partner in SPPAP-II, does not take any responsibility or liability arising out of any force majeure and conflict with communities during project execution.

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Details		
1.	Date of availability of documents on NRSP website	**December 04, 2025**
2.	Last date and time for sending queries/questions or clarifications by suppliers	**December 08, 2025**
3.	Last date and time for reply of queries/questions or clarifications by NRSP	**December 09, 2025**
4.	Last date, time and address for receipt of Documents (in hard copies)	**December 19, 2025 by3:00 p.m.(PST)** National Rural Support Programme, #7 Sunrise avenue, Near COMSATS University, Park Road, Chak Shahzad, Islamabad, Tel:+92(51) 8746170-173
5.	Date and Time of Opening of prequalification documents	**December 19, 2025 by3:30 p.m.(PST)**
6.	Place of opening	National Rural Support Programme, #7 Sunrise avenue, Near COMSATS University, Park Road, Chak Shahzad, Islamabad, Tel:+92(51) 8746170-173
7.	Address for communication and correspondence	National Rural Support Programme, #7 Sunrise avenue, Near COMSATS University, Park Road, Chak Shahzad, Islamabad, Tel:+92(51) 8746170-173
8.	Contact for Suppliers	Interested Suppliers are requested to send their queries on the following email: nrspprocurement@nrsp.org.pk. The email query should clearly have mentioned the following details, so that in case of any clarification, the same maybe issued to them: • Name of Company, Contact person, Mailing address, Telephone No. Email address, Mobile No. etc.

Note: Prequalification documents will be opened in presence of the supplier's representative who chooses/authorized to attend.

1. Introduction

Established in 1991, NRSP is the largest Rural Support Programme in the country in terms of outreach, staff and development activities. It is a not for profit organization registered under Section 42 of Companies Act 2017 (repealed Companies Ordinance 1984).

NRSP's mandate is to alleviate poverty by harnessing people's potential and undertake development activities in Pakistan. It has a presence in 72 Districts in all the four Provinces and Islamabad Capital Territory including Azad Jammu and Kashmir through Regional Offices and Field Offices. NRSP is currently working with more than 3.8 million poor households organized into a network of 255,831 Community Organizations. With sustained incremental growth, it is emerging as Pakistan's leading engine for poverty reduction and rural development.

2. Background and Methodology

Southern Punjab Poverty Alleviation Project (SPPAP) is an IFAD-assisted project of Government of the Punjab. The main objective of the project is to increase income of 382823+ households by enhancing the employment potential of the people. As per intervention, Project target will fall under Poverty Score Range 0-32 (PMT Quantile 01 & 02) as per new National Socio-Economic Registry (NSER) data of BISP (2021). 100% of the households in the score range 0 to 26 (PMT Quantile 01) categories will be exempted from paying the 10% of the community contribution for community infrastructure component; In case of individual benefit under CPI component, 10% share (Cash or kind) will be mandatory even for households 0-26 PMT Quantile 01. Under CPI and CSP component, the households having PSC/NSER above than 32 (above PMT Quantile 02)/Non-score
Households may be the beneficiaries.
SPPAP intends to provide Low Cost Housing Units to poorest women who are having their households NSCER score 0-26 PMT Quantile 01. This Low Cost Housing Unit is equipped with 570-585-watt solar home lighting system.
The process will be first to check the Eligibility criteria as per clause 4 of these documents. Suppliers scoring the min marks will be eligible, and their Prequalification documents will be further evaluated against the given technical specifications. Suppliers who could not score the minimum marks in the eligibility criteria, their Prequalification documents will not be further processed.

3. Procurement of Items

NRSP is in process of shortlisting of companies/firms/suppliers/vendors for supply/ installation/ testing/ commissioning of Solar PV Systems (As per given technical Specifications) through its CI's.

Total Number of PV Solar System Required — **1150 systems (Total number may vary)**

As per below given geographic and year wise details (tentative):

Lot. No	District	Tehsil	Quantity
1	Bahawalpur	Ahmadpur East	115
2	Bahawalnagar	Bahawalnagar	115
3	Muzaffargarh	Jatoi	115
4	Rajanpur	Rajanpur	115

5	RY Khan	Liaqatpur	115
6	DG Khan	Taunsa Sharif	115
7	Layyah	Layyah	115
8	Bhakhar	Darya Khan	115
9	Mianwali	Isa Khel	115
10	Khushab	Khushab	115
		Total:	**1,150**

The details are given below whereas complete specifications are given in **Annex - I**

Details of items for each Solar PV System

Items/description	UoM	Qty
1. Solar Panel, 570-610Wp, A Grade	Pcs	1
2. Battery Liquid Acid , 45-50Ah-12V	Pcs	1
3. Charge Controller, 60Amp MPPT	Pcs	1
4. Mounting Structure	Pcs	1
5. LED lights 12W	Pcs	5
6. DC Celling Fan 35 Watt	Pcs	2
7. Misc. Accessories, Breakers, fuses, clamps, ducts, flexible pipe, switches, switch boards, cables, connectors, nut bolts, bulb cover(only for one outer bulb) etc.	Lot	1
8. Concrete Blocks	Pcs	4
9. Installation and Logistics	Job	1

Specifications of individual components are given in **Annex-I**

4. Eligibility

Eligibility criteria for the suppliers to participate is given below: -

4.1 Relevant Local Experience
4.2 Pakistan Engineering Council (PEC) Registration.
4.3 Financial Position & Registration
4.4 Undertaking on Rs.100/- stamp paper dully attested by Notary Public for not blacklisted by any Government, Private or local or International organization. (no specific format for this undertaking)

Scoring details

S. No	Description	Max Marks	Remarks		Min Marks
1	**Relevant Solar Experience within Pakistan**	**30**	3 or more projects of similar nature in terms of volume of at least Rs.90 million within Pakistan	30	10
			2 projects of similar nature in terms of volume of at least Rs.90 million within Pakistan	20	

			1 project of similar nature in terms of volume of at least Rs.90 million within Pakistan	10	
2	**Certification & Enlistment**	**30**	The firm must have PEC registration in min.C-4 category with work limit of PKR. 160 Million	10	10
			The firm must have approved Field of Specialization from PEC in Solar systems (EE-11& EE-06)	10	10
			The firm must have PEC certified team of Engineers (each Engineer will have 2.5 marks)	10	5
3	**Financial Position**	**15**	Average annual turnover less than Rs. 100 million in past three years should be verifiable as per signed audit reports or annual tax return	5	5
			Average annual turnover more than Rs. 100 million in past three years should be verifiable as per signed audit reports or annual tax return	10	
			The firm must have valid and active NTN	05	05
4	**Compliant with required technical specifications**	**20**	Offered solar system (all items) are as per required specification (refer to compliance sheet)	20	20
5	**Undertaken on stamp paper of Rs.100/-that it has been never been blacklisted or never been involved in litigation with government or private organization**	**05**	As per clause 4.4	05	05
	Totals:-	**100**			**70**

The Minimum score required for eligibility is 70 Marks with minimum marks in each category. Failing to score minimum score in any category will result in ineligibility of supplier.

5. Submission

5.1. Prequalification documents should be submitted in sealed envelope with clearly mentioned as

"Prequalification documents under **Ref# NRSP-SPPAP-V/Solar/2025-26**

5.2. Prequalification documents should have the below mentioned documents at least:

5.2.1 Documentary evidence in the shape of Completion Certificate from client of experience for the successfully completed projects for the supply and installation of Solar PV Systems in Govt. and/or Private Sectors. Contact details for each such project must be provided for verification purpose.

5.2.2 Copy of Valid PEC registration certificate with complete details. If it is expired please attach proof of submission of renewal.

5.2.3 CVs of professional engineers working with supplier should clearly mention their PEC registration numbers, verifiable from PEC.

5.2.4 Copy of audited accounts duly signed by the audit firm or submitted annual tax return for the last three financial years.

5.2.5 Undertaking that Firm has never been blacklisted or never been involved in litigation with any government or private organization in PV line of business on Rs.100/- stamp paper dully attested by notary public. (**as per format attached as Annex III**).

5.2.6 Valid NTN Certificate.

5.2.7 Specification/details for the items being offered with technical data sheet/broachers/catalog/etc.

5.2.8 Compliance sheet (**Annex II**)

5.2.9 Updated company Profile.

5.2.10 Any other documents

5.3. The supplier should take care in submitting the Prequalification documents and ensure that enclosed papers are not found loose and should be properly numbered and submitted in a file in proper manner so that the papers do not bulge out and tear during scrutiny.

5.3. Last Date of submission is **December 19**, **2025** till 3:00 pm local time.

5.5. The Prequalification documents against this call must be submitted not later than **December 19, 2025** till 3:00 pm local time to the point of contact given below. Electronic submission will not be entertained. Any Prequalification document delivered after due date and time will be considered non-responsive and dis-qualified from further consideration.

5.6. The Prequalification documents should be addressed to:

(Ref# NRSP-SPPAP-V/Solar/2025-26
Community Institutions (CIs) of NRSP
Via
National Rural Support Programme
#7 Sunrise avenue, Near COMSATS University,
Park Road, Chak Shahzad, Islamabad, Tel: +92(51) 8746170-173

5.7. Payment of applicable taxes to Govt. of Pakistan is be responsibility of supplier.

5.8. The Prequalification documents should remain valid for a period of 90 days from the closing date of the document. Any Prequalification documents falling short of the validity period is liable for rejection.

5.9. Clearance of the equipment from Tax/Govt. Authorities would be the responsibility of the supplier.

5.10. The supplier may withdraw its Prequalification documents after its submission, provided that written notice of withdrawal is received by the purchaser prior to the closing date and time prescribed for submission of Prequalification documents. No Prequalification documents can be withdrawn by the supplier subsequent to the closing date and time for submission.

5.11. Supplier can submit Prequalification documents for one lot or more than one lot(s).

6. Deliverables

Solar PV Systems as per details given section 3.

7. Submission of prequalification documents

7.1. The Prequalification documents should comply with the technical specification required of the items as specified section 3 and **Annex-I**. The Prequalification documents should be complete in all respects and contain all information asked for, with the Technical specification must be organized neatly and securely in the following manner.

7.1.1. Prequalification documents as per details given in Clause 5.2

7.2. If the Prequalification documents are not submitted in the prescribed formats or any of the item in the as mentioned above, the Prequalification documents is liable for outright rejection.

7.3. Once the Prequalification document is submitted in sealed cover by the supplier, the purchaser will not accept any addition / alterations / deletions in the Prequalification documents. However, the purchaser reserves the right to seek clarification or call for supporting documents from any of the suppliers, for which the concerned supplier will need to submit the documentary evidence(s) as required by the purchaser.

7.4. Any Prequalification document, submitted within incorrect information will be liable for rejection. Further, if any supplier is found to have submitted incorrect information at any time, he/she may be debarred from participation in the future procurement processes.

8. Warranty & Maintenance

8.1. The supplier shall be fully responsible for the defected items and will be responsible to replace at his own cost within in 10-15 working days.

8.2. Standard Warranty for the complete solar PV systems is complete two years from the date of commissioning of each solar system for all items except battery which will carry 6 months warranty only.

9. Penalty for down time

In case of delay in the supply of material against the terms indicated in the purchase order, the supplier will have to pay a penalty @ 0.5 %(Half) percent of the approved cost of the balance quantity of PV systems for each day of delay. If shipment is delayed for more than 15 days, the Purchaser has the right to unilaterally cancel the contract/purchase order and his bid security will be forfeited.

10. Penalty on Liquidated Damages for delayed supply

In case the delivery is delayed beyond the stipulated date of delivery, 'Liquidated damage for late delivery @ (0.5%)of the Purchase order value for each day of delay or part thereof would be imposed, subject to maximum of 10% if the delay is for 10 days or more. The penalty for late delivery will be deducted from the bill amount.

11. Currency

All prices shall be expressed in Pakistani Rupees only.

12. Cost of prequalification documents

The supplier shall bear all the costs associated with the preparation and submission of prequalification documents, samples & testing of samples and Purchaser will in no case be responsible or liable for these costs regardless of the outcome of the bidding process.

13. Deadline for Submission of prequalification documents

Prequalification documents must be received by the Purchaser at the address specified in the documents not later than the specified date and time as specified in the Prequalification documents In the event of the specified date of submission being declared a holiday for the Purchaser, the Prequalification documents will be received up to the stipulated time on next working day.

The Purchaser may, at its discretion, extend this deadline for submission of documents by amending the Prequalification documents.

14. Confidentiality Statement

All data and information received from Purchaser for the purpose of this assignment is to be treated confidential and is to be used ONLY in connection with the execution of these Prequalification documents. All intellectual property rights arising from the execution of these deliverables are assigned to Purchaser. The contents of written materials obtained and used in this assignment may not be disclosed to any third party without the expressed advance written authorization of Purchaser.

Purchaser may then disclose the draft, final report and/or any related information to any person and for any purpose they may deem appropriate.

15. General Terms & Conditions

15.1. Purchaser has the right to increase or decrease the quantity by 15% of any item before the time of final order placing.

15.2. The Purchaser reserves the right to resort to repeat or repeal the process without providing any reason what so ever. The Purchaser shall not incur any liability on account of such rejection.

15.3. The tentative start date of the installation would around be **February, 2025.**

15.4 The Purchaser reserves the right to modify any terms, conditions, quantities or specifications for submission of Prequalification documents and to obtain revised documents from the suppliers due to such changes, if any.

15.5. Canvassing of any kind will be a disqualification and the Purchaser may decide to cancel the shortlisting process from its empanelment.

15.6. The supplier is expected to examine all instructions, forms, Annexures, Terms and Conditions and specifications in the Prequalification documents. Submission of a document not responsive to the Prequalification documents in every respect will be at the supplier's risk and may result in the rejection of its document without any further reference to the supplier.

16. Special Conditions.

16.1. Supplier has to complete the installation and commissioning of the Solar systems in the Small Housing Units at Community Institutions (CIs) level.

16.2. Supplier will provide one complete Solar PV system as per offered/required specification for testing from Center for Energy Research And Development (CERAD) of Al-Khawarazmi Institute of Computer Science (*KICS*), University of Engineering and Technology (UET) Lahore, the testing cost will also be paid by the supplier. The Project shall also get ONE random sample from each supplier for testing during project or when required by the Technical Committee (TC) from Center for Energy Research And Development (CERAD) of Al-Khawarazmi Institute of Computer Science (*KICS*), University of Engineering and Technology (UET) Lahore, the testing cost will also be paid by the supplier. List of tests is given below with tentative cost.

Test Name	Tentative Price (PKR)	Number of samples	Total	Duration
PV Module				
Visual Inspection Test	1000	1	1000	1 hour
Flash Test	12,000	1	12,000	3 hours
Electroluminescence Test	1,500	1	1,500	2 hours
Sub Total				**14,500**
Battery				
Battery Capacity Test	15,000	1	15,000	2 days
Sub Total				**15,000**
Charge Controller				
Functionality Verification Test	7,500	1	7,500	1 day
Sub Total				**7,500**
LED Light				
Photometric Measurements	25,000	1	25,000	1 day
Sub Total				**25,000**
DC Ceiling Fan				
Performance verification	3,000	1	3,000	1 day
Minimum and Maximum RPM w.r.t voltage level	1,500	1	1,500	1 day

Sub Total				**4,500**
Wires				
Strand Diameter (mm) Overall Diameter (mm) Insulation Thickness (mm) DC resistance at 20°C (Ω/1000m) Insulation Resistance @ 70°C (MΩkm) High Voltage 2kV for 5 min	6,500	3	19,500	2 days
Sub Total				**19,500**
Grand Total PKR				**86,000**

17. Rejection of the Prequalification documents

The Prequalification documents are liable to be **rejected** if:

- The document doesn't bear signature of authorized person.
- It is received **through** E-mail or whatsapp.
- If the Prequalification documents received without compliance sheet.
- It is received after **expiry** of the due date and time stipulated.
- **Incomplete Prequalification documents, including non-submission or non-furnishing of requisite documents/Conditional** document not conforming to the Terms and condition stipulated in this Prequalification documents are liable for rejection by Purchaser.
- If any of the information provided is found incorrect/false or misleading.

18. Modifications and Withdrawal of Prequalification documents

Prequalification documents once submitted will be treated as final and no further correspondence will be entertained on this.

- No Prequalification document will be modified after the deadline for submission.
- No supplier shall be allowed to withdraw the Prequalification documents, if the supplier happens to be a successful supplier.

19. Opening and Evaluation

- The Purchaser will FIRST open the Prequalification documents, in the presence of supplier's representative(s) who choose/or are authorized to attend, at the time and date mentioned in Prequalification documents at the address mentioned.
- The supplier's representatives who are present shall sign the sheet certifying their attendance. In the event of the specified date of opening being declared a holiday for Purchaser, the document shall be opened at the stipulated time and place on next working day.
- Suppliers satisfying the eligibility criteria, technical requirements as determined

by the Purchaser and accepting the Terms and Conditions of this document shall be prequalified.

- Decision of the Purchaser in this regard shall be final and binding on the suppliers.

20. Clarifications

To assist in the examination, evaluation and comparison of Prequalification documents, the Purchaser may, at its discretion, ask the supplier for clarification. The response shall be in writing and no change in the substance or price of the document shall be sought, offered or permitted.

21. Purchaser's Right to Accept or Reject any or all Prequalification documents

The Purchaser reserves the right to accept or reject any Prequalification documents, annul or repeat the process and reject all Prequalification documents at any time prior to finalize the prequalification, without there by incurring any liability to the affected supplier or suppliers or any obligation to inform the affected supplier or suppliers on the ground for the Purchaser's action.

22. Governing Laws and Disputes

All disputes or differences what so ever arising between the parties out of or in relation to the meaning and operation or effect of these Prequalification documents or breach there of shall be settled amicably. If, however the parties are not able to solve them amicably, the same shall be settled by arbitration in accordance with the applicable Pakistani Laws, and the award made in pursuance there of shall be binding on the parties. The Arbitrator/Arbitrators shall give a reasoned award.

23. Authorized Signatory

The supplier should indicate the **authorized officials from their organization** who can discuss, correspond, sign agreements/ contracts, raise invoice and accept payments and also to correspond.

24. Appeal.

The supplier can send their complaints or grievances in connection with this Prequalification and its shortlisting/finalizations to complaints@nrsp.org.pk.

Specifications of Individual components for Solar Systems

1. Photovoltaic Module

Parameters	Min. Specifications required
Module Make	Brand should be verifiable
PV Module model No	Verifiable
PV Module Capacity	570-610W_p or above
PV Module Type	Mono/Polycrystalline
Cell Quality	A Grade
Efficiency	≥ 16% or higher for Poly
Power Tolerance	Must be +3 or more
Operating Temperature	–40 °C to +85°C
Temperature Coefficient	–0.43%/ ° C or less
Bypass Diode	3 or more
Certification	Compliance against 61215,61730
Frame	Must Withstand 3600 PA Load
Junction Box	IP 65/ IP 66
Cable	4mm^2 (IEC)/12Awg(UL), 1000mm
Connectors	MC4 or Comparable

2. Battery

Led Acid battery

Parameters	Min. Specifications required
Battery Make	Should be verifiable. (like AGS/Exide/Volta/ Osaka/Phoenix etc)
Battery Type	Led Acid
Battery Capacity (Ah)	45-50 Ah-12 V @ 10hr discharge or batter
Battery Life	~800 @ 50% DoD, 3~10 HR discharge
Self-Discharge	The maximum permissible self-discharge rate is maximum 4% percent of rated capacity per month at 25°C, certified compliance of EN 60896-21.

Relief Valves	Self-regulating pressure relief valve
Operating temperature	-15^{o} C ~ 45^{o}C (Be within 2% of the operating time up to max. 50°)
Batteries tested and certified in accordance with	All applicable standards that may includes IEC60896-21/22, ISO9001(TUV), DIN43539-T5, IEC61427, DIN40742-773-774, DIN 40736, CE, TL, Storage Standard GB/T 22473
Manufacturing Date	Max. four Months (Evidence required)
Performance guarantee	6 months
Replacement Warranty	6 months or more
Brands	Renowned and Verifiable

3. Cabling

1. All exposed wiring (with the possible exception of the module interconnects) must be covered in conduits/duct. Wiring through roofing, walls and other structures must be protected through the use of bushings. Wiring through roofing must form a waterproof seal (applicable for wiring only).
2. For conduit and duct flexible PVC material with ½ inch size must be used.
3. Field-installed wiring must be joined using terminal strips or screw connectors. Soldering or crimping in the field must be avoided if at all possible. Wire nuts are not allowed. The rated current carrying capacity of the joint must not be less than the circuit current rating. All connections must be made in junction boxes. Fittings for lights, switches, and polarity sensitive socket outlets may be used as junction boxes where practical.
4. All wiring shall be color coded and/or labeled.
5. Installation including wiring shall meet the requirement and recommendations given in 8.3 of IEC 62124 ed 1.
6. The commissioning and acceptance will be subject to the fulfillment of all requirements specified in the above mentioned paragraphs of IEC62124 ed.1 and additional requirement as detailed below.
7. No conduit or fitting shall be attached directly to thatch or any other non-supportive surface
8. Especially avoid installing the conduit direct over the roof; there must be distance not less than 1 inch between the roof surface and conduit/duct.
9. Cables must be joined by the use of junction boxes, screw-connectors, and block connectors.
10. All wires must be terminated with proper end sleeves and wire thimbles with different colors for positive and negative polarity.
11. Field installed wiring must be joined using terminal strips or screw connectors. Soldering or crimping in the field must be avoided if at all possible. Wire nuts are not allowed.

12. The rated current carrying capacity of the joint must not be less than the circuit current rating.
13. Fittings for PV, lights and battery must be with polarity sensitive socket outlets to avoid short circuiting.
14. Cable specifications are as followed.

Item	Requirement
1. PV to Charge Controller:	4mm^2 or higher, 99.99% pure copper (Stranded and flexible) Make sure that the voltage drop at end node should not be more than 2%
2. Charge Controller to Battery:	10mm^2 or higher, 99.99% pure copper (Stranded and flexible) Make sure that the voltage drop at end node should not be more than 2%
3. Charge Controller to Appliances:	1mm^2 or 40/0.76 two core or higher, 99.99% pure copper (Stranded and flexible)Make sure that the voltage drop at end node should not be more than 2%

4. Charge Controller

Parameters	Min. Specifications required
Charge Controller Make	Should be verifiable.
Continuous Output DC Load Capacity	60 Amps or above
Type	MPPT type (3 stage charging)
Output Voltage Range	As per design
DC input rating	250 Watts DC or above
Battery Application	12V / 24 V DC (as per string design)
Protections	Short Circuiting Surge Protection PV reverse polarity protection Over charging voltage (Battery)
Operating temperature Humidity	0 to 45oC. 10 ~ 90%RH
Alarm	Alarm on major fault. Auto restart after 10 sec of major fault.
Display and data storage	Display on LCD with controller buttons.
Performance guarantee	2 years Replacement

5. PV Mounting Structure

Description	Requirement
Structure material	Mild steel

Material Gauge	Gauge 12 or Better
Wind loading	Mounting system should be able to allow air circulation for cooling in high temperature and withstand wind speed of 150 Km/hour at 3 sec gust
Adjustable mounting structure	Angle adjustment between 14° to 25°
Material surface protection	Mounting structure should be Galvanized not less than 80 microns in case of hot dip & 30 microns in case of electroplating.
Operation and maintenance	Structure should be accessible for personnel to allow regular cleaning of the solar module
Concrete block weight	30 KG minimum compressed

7. LED Lights

Description	Requirement
LED Light Make	Should be verifiable like Sogo, Osaka, Tuff or equal
Rod/ Blub Type	Aluminum or Ceramic casing (must have better heat dissipation)
Watts	12 Watts with lux output not less than 370 on Gonio Photometer
CRI	75 or better
System efficiency	75 lumens/watt or better at nominal. Be designed for lumen maintenance of L70 or 70% at the end of useful life at ambient temperature of 35 deg C
Input voltage	+/- 25 tolerance% of rated voltage
Color Temperature	5000-6500 K
Working Temperature Range	-10°C to +55°C
Life Time	20,000 Hours or more
Beam Angle	120 Degrees
Lens/cover	Frosted
Optics	No discoloration (UV protection) in 5 years of indoor operation, white painted circuit
Thermal Dissipation	Perfect contact between board and housing. Metal Core PCB mounted on housing with highly efficient thermal interface material. Silicon glue must be avoided.
Photometric	Light fittings must be marked with the manufacturer, model number, rated operating voltage, rated current and date of manufacture or batch number

8. DC Ceiling Fan

Description	Requirement
DC Fan Make	Should be verifiable.

Description	Requirement
Sweep	1200 mm
Watts	35 Watt 15 % Tolerance in power consumption
RPM(Max)	≥ 280
Air Delivery	~ 150 Cubic Meter / minute ~ 10 % tolerance in air delivery
Voltage Range	12 V Application (or as per design)
Winding Wire	99.99 % Pure copper with durable enameled
Body	Metallic body with varnish insulation
Variable speed Controller	Robust button for On/Off/ variable speed operations
Documentation	CE, RoSH, UL / or PSQCA/NEECA compliance Data sheets and certifications should be provided
Performance guarantee	2 years Replacement

TECHNICAL COMPLIANCE SHEET

1. Photovoltaic Module

S. No.	Parameters	Min. Specifications required	Specifications Offered	Compliant (Yes/No)	Remarks (if any)
1	**Module Make**	Brand should be verifiable - Mention brand & model			
2	**PV Module model No**	Verifiable			
3	**PV Module Capacity**	570-610W_p or above			
4	**PV Module Type**	Mono/Polycrystalline			
5	**Cell Quality**	A Grade			
6	**Efficiency**	16% or higher for Poly			
7	**Power Tolerance**	Must be +3 or more			
8	**Operating Temperature**	–40 °C to +85°C			
9	**Temperature Coefficient**	–0.43%/ °c or less			
10	**Bypass Diode**	3 or more			
11	**Certification**	Compliance against 61215,61730			
12	**Frame**	Must Withstand 3600 PA Load			
13	**Junction Box**	IP 65/ IP 66			
14	**Cable**	4mm^2 (IEC)/12Awg(UL), 1000mm			
15	**Connectors**	MC4 or Comparable			

2. Battery (Led Acid Battery)

S. No.	Parameters	Min. Specifications required	Specifications Offered	Compliant (Yes/No)	Remarks (if any)
1	**Battery Make**	Brand should be verifiable (like AGS/Exide/Volta/ Osaka/Phoenix etc) - Mention brand & model			
2	**Battery Type**	Led Acid			
3	**Battery Capacity (Ah)**	45-50 Ah-12 V @ 10hr discharge or batter			
4	**Battery Life**	~800 @ 50% DoD, 3~10 HR discharge			
5	**Self-Discharge**	The maximum permissible self-discharge rate is maximum 4% percent of rated capacity per month at 25°C, certified			

		compliance of EN 60896-21.			
6	**Relief Valves**	Self-regulating pressure relief valve			
7	**Operating temperature**	-15° C ~ 45°C (Be within 2% of the operating time up to max. 50°)			
8	**Batteries tested and certified in accordance with**	All applicable standards that may includes IEC60896-21/22, ISO9001(TUV), DIN43539-T5, IEC61427, DIN40742-773-774, DIN 40736, CE, TL, Storage Standard GB/T 22473			
9	**Manufacturing Date**	Max. four Months (Evidence required)			
10	**Performance guarantee**	6 months			
11	**Replacement Warranty**	6 months			
12	**Brands**	Renowned and Verifiable			

3. Cabling

S. No.	Parameters	Min. Specifications required	Specifications Offered	Compliant (Yes/No)	Remarks (if any)
1	All exposed wiring (with the possible exception of the module interconnects) must be covered in conduits/duct. Wiring through roofing, walls and other structures must be protected through the use of bushings. Wiring through roofing must form a waterproof seal (applicable for wiring only).				
2	For conduit and duct flexible PVC material with ½ inch size must be used.				
3	Field-installed wiring must be joined using terminal strips or screw connectors. Soldering or crimping in the field must be avoided if at all possible. Wire nuts are not allowed. The rated current carrying capacity of the joint must not be less than the circuit current rating. All connections must be made in junction boxes. Fittings for lights, switches, and polarity sensitive socket outlets may be used as junction boxes where practical.				
4	All wiring shall be color coded and/or labeled.				
5	Installation including wiring shall meet the requirement and recommendations given in 8.3 of IEC 62124 ed 1.				

6	The commissioning and acceptance will be subject to the fulfillment of all requirements specified in the above mentioned paragraphs of IEC62124 ed.1 and additional requirement as detailed below.			
7	No conduit or fitting shall be attached directly to thatch or any other non-supportive surface			
8	Especially avoid installing the conduit direct over the roof; there must be distance not less than 1 inch between the roof surface and conduit/duct.			
9	Cables must be joined by the use of unction boxes, screw-connectors, and block connectors.			
10	All wires must be terminated with proper end sleeves and wire thimbles with different colors for positive and negative polarity.			
11	Field installed wiring must be joined using terminal strips or screw connectors. Soldering or crimping in the field must be avoided if at all possible. Wire nuts are not allowed.			
12	The rated current carrying capacity of the joint must not be less than the circuit current rating.			
13	Fittings for PV, lights and battery must be with polarity sensitive socket outlets to avoid short circuiting.			

Cable specifications are as followed.

S. No.	Item	Min. Specifications required	Specifications Offered	Compliant (Yes/No)	Remarks (if any)
1	**PV to Charge Controller:**	Brand should be verifiable - Mention brand			
		$4mm^2$ or higher, 99.99% pure copper (Stranded and flexible)			
		Make sure that the voltage drop at end node should not be more than 2%			
		Brand should be verifiable - Mention brand			
2	**Charge Controller to Battery:**	$10mm^2$ or higher, 99.99% pure copper (Stranded and flexible)			
		Make sure that the voltage drop at end node should not be more than 2%			
3	**Charge Controller to Appliances**	Brand should be verifiable - Mention brand			

		1mm^2 or 40/0.76 two core or higher, 99.99% pure copper (Stranded and flexible)			
		Make sure that the voltage drop at end node should not be more than 2%			

4. Charge Controller

S. No.	Parameters	Min. Specifications required	Specifications Offered	Compliant (Yes/No)	Remarks (if any)
1	**Charge Controller Make**	Brand should be verifiable - Mention brand & model			
2	**Continuous Output DC Load Capacity**	60 Amps or above			
		(Preferably MPPT with 96 % or above tracker efficiency)			
4	**Output Voltage Range**	As per design			
5	**DC input rating**	250 Watts DC or above			
6	**Battery Application**	12V / 24 V DC (as per string design)			
7	**Protections**	Short Circuiting			
		Surge Protection			
		PV reverse polarity protection			
		Over charging voltage (Battery)			
8	**Operating temperature Humidity**	0 to 45oC. 10 ~ 90%RH			
9	**Alarm**	Alarm on major fault.			
		Auto restart after 10 sec of major fault.			
10	**Display and data storage**	Display on LCD with controller buttons.			
		6 month or more data storage with easy access through USB or equaling.			
11	**Performance guarantee**	2 years Replacement			

5. PV Mounting Structure

S. No	Description	Requirement	Offered	Compliant (Yes/No)	Remarks (if any)
1	Structure material	Mild steel			
2	Material Gauge	Gauge 12 or Better			
3	Wind loading	Mounting system should be able to allow air circulation for cooling in high temperature and withstand wind speed of 150 Km/hour at 3 sec gust			
4	Adjustable mounting structure	Angle adjustment between 14° to 25°			
5	Material surface protection	Mounting structure should be Galvanized not less than 80 microns in case of hot dip & 30 microns in case of electroplating.			
6	Operation and maintenance	Structure should be accessible for personnel to allow regular cleaning of the solar module			
7	Concrete block weight	30 KG minimum compressed			

6. LED Lights

S. No	Description	Requirement	Offered	Compliant (Yes/No)	Remarks (if any)
1	LED Lights Make	Brand should be verifiable - Mention brand & model			
2	Rod/ Blub Type	Aluminum or Ceramic casing (must have better heat dissipation)			
3	Watts	12 Watts with lux output not less than 370 on Gonio Photometer			
4	CRI	75 or better			
5	System efficiency	75 lumens/watt or better at nominal.			
		Be designed for lumen maintenance of L70 or 70% at the end of useful life at ambient temperature of 35 deg C			
6	Input voltage	+/- 25 tolerance% of rated voltage			
7	Color Temperature	5000-6500 K			

8	Working Temperature Range	-10°C to +55°C			
9	Life Time	20,000 Hours or more			
10	Beam Angle	120 Degrees			
11	Lens/cover	Frosted			
12	Optics	No discoloration (UV protection) in 5 years of indoor operation, white painted circuit			
13	Thermal Dissipation	Perfect contact between board and housing.			
		Metal Core PCB mounted on housing with highly efficient thermal interface material. Silicon glue must be avoided.			
14	Photometric	Light fittings must be marked with the manufacturer, model number, rated operating voltage, rated current and date of manufacture or batch number			
15	Test Reports form Manufacturers (recommended)	Punjab Energy Efficiency & Conservation Agency (PEECA) specifications			

7. DC Ceiling Fan

S. No	Description	Requirement	Offered	Compliant (Yes/No)	Remarks (if any)
1	Fan Make	Brand should be verifiable - Mention brand & model			
2	Sweep	1200 mm			
3	Watts	35 Watt			
		15 % Tolerance in power consumption			
4	RPM(Max)	$\geq$ 280			
5	Air Delivery	~ 150 Cubic Meter / minute			
		~ 10 % tolerance in air delivery			
6	Voltage Range	12 V Application (or as per design)			
7	Winding Wire	99.99 % Pure copper with durable enameled			
8	Body	Metallic body with varnish insulation			
9	Variable speed Controller	Robust button for On/Off/ variable speed operations			

10	Documentation	CE, RoSH, UL / or PSQCA/NEECA compliance			

Note: Data Sheet for item#1, 2, 4,6 & 7 must be attached with the technical document showing the detailed specifications

I/We, the undersigned do undertake that the information provided in the compliance sheet is 100% true and we are responsible for any mistake or error. Further we do hereby undertake and certify the following:

1. Batteries supplied for this project would be less than 4 months old from the date of manufacturing.
2. Solar panel, charge controller, fan, lights supplied would have 2 years' replacement/performance warranty from the date of supply/installation/commission of solar system.
3. Battery would have 6 months replacement/performance warranty from the date of supply/installation/commission of solar system.
4. All the technical requirements/specifications will be 100% fulfilled.
5. All the instructions of as given in the tender documents will be 100% fulfilled.

Signature: _____

Company:_____

Stamp:_____

Date: _____

Annex-III

UNDERTAKING

(To be submitted on at least Rs.100/- stamp paper dully attested by notary public)

Date:

I, the undersigned representative of M/s…… ……..... having its office at ……

……

Do hereby affirms that our company/firm/organization is eligible because we;

- Are registered company/firm/organization.
- Are registered with NTN.
- Are not bankrupt or in the process of going bankrupt.
- Have not been convicted for an offense concerning professional conduct.
- Have not been guilty of grave professional misconduct (proven by any means which the contracting authorities can justify).
- Have fulfilled obligations related to payment of taxes.
- Are not guilty of serious misinterpretation in supplying information.
- Are not in situations of conflict of interest (with prior relationship to project or family or business relationship to parties in NRSP)
- Were not declared at serious fault of implementation owing to a breach of their contractual obligations
- Have no relation, direct or indirect, with any terrorist or banned organizations under the provision of Anti money laundering and anti-terrorist financing act of Pakistan.
- Are not on any list of sanctioned parties issued by the Pakistan Government, DIFD, USAID, UN agencies, European Union and others.
- Are not blacklisted by any Local/International organization, Government/semi Government department, NGO or any other company/organization.
- Have no relation, direct or indirect, with proscribed individual/entities/political expose person/s.
- Have not been reported for/under litigation for child abuse and child labor.
- Have never been involved in litigation with any government or private organization in PV line of business.

Declared by:

Attested by Notary Public

_____
(Signature)
(Name)
(Designation)

Witness:

Signature: ----------

Name: ----------

CNIC: ----------