

NATIONAL LOGISTICS CORPORATION
INVITATION TO TENDER FOR SUPPLY AND INSTALLATION
OF SOLAR SYSTEMS 20 KW AT ATIN KHAIRPUR & AMANGARH ON FOR BASIS
UNDER PPRA RULE 36 B - SINGLE STAGE TWO ENVELOPE BIDDING PROCEDURE
INSTRUCTIONS TO TENDERERS - WORDS OF CAUTION

1. **Participants**. The tender can be participated by experienced companies meeting the NLC Eligibility Criteria as per following: -
 - a. **AEDB registered** firm having **Category C-3 (Up to 250 KW)** or above for Solar On Grid / Off Grid and Hybrid application.
 - b. Firms having valid **PEC membership Category C3** or above.
 - c. Firms having substantial experience of turnkey solar projects of 50 KW or above at various locations of Pakistan.
 - d. Authorized dealers of Tier 1 OEMs having Backup Support Services in Pakistan.
2. **Eligibility / Bid Qualification Criteria**. The bidder must prove eligibility by completing the Bid Qualification Criteria, as following:-

Ser	Check List	Yes / No
a.	Tender Fee	
b.	Bid Security	
c.	Valid AEDB Registration Certificate - Category C-3	
d.	Valid PEC Membership required Category C-3	
e.	Copy of NTN / STRN and Active Tax Filer with 100% compliance	
f.	Authorization Letter from OEM (for dealers)	
g.	Complete Tech Data of Equipment	
h.	90 x Days Offer Validity	
i.	(1) Supply & Installation delivery Period at ATIN (Khairpur & Amangarh) - 60 x Days after issuance of letter of intent (2) Net-Metering (Only Amangarh) after 60 x days from Installation	
j.	Comparison Chart with user proposed specification (Annex "A") Response to all queries/requirements in full	

k.	Non-Blacklisting Certificate (Original) on e-Stamp/ affidavit of Rs 100	
l.	Certificate to accept all conditions of tender without exception	
m.	List of Major Clients	
n.	Hierarchy of the firm along with portfolio of owner & top management be attached	
o.	Firm must have experience of minimum 3 - 5 x years of Solar Installation with at least 5 x commissioned projects in this period of minimum capacity 50 KW. Details be attached duly supported with user feedback.	
p.	Last 3 x years Average Accumulative Turnover of Firm should be Rs 50 Million or above. Audited report of last 3 x financial years will be attached with Technical Proposal.	
q.	After in depth survey of site design with drawings be provided for installation and commissioning of solar system at specified sites incorporating following:- (1) Site layout, solar installation points, backup requirement, user's needs and expectations. (2) Load calculation with listing of electric appliances. (3) Duty cycles, peak loads etc (day / night). (4) Solar cost benefit analysis. (5) Design (High & low Level)	
r.	OEM authorization for quoted Inverters	

Note. The technical proposal must be submitted strictly in accordance with the sequence prescribed in the above checklist (PPRA Rule 18).

3. **Special Conditions**

- a. Quoted items / equipment should be Brand New.
- b. In case of importer, the firms will provide all relevant import documents to the purchaser.
- c. Offers must be accompanied by the schedule to tender duly completed / signed by authorized executive of the firm without which the offer will not be entertained.
- d. Authority letter from manufacturer in favor of bidder to participate and submit the bid, otherwise the bid shall not be considered.
- e. Bidder to furnish reference list of customers giving details (company name, contact person, email address and Cell phone number) to whom similar Solar Systems have been supplied.

- f. In case of default of firm, the Bid Security will be confiscated and punitive action will be taken against firm.
- g. The firm will provide a detailed schedule for the supply, installation and net metering of the solar system of the relevant site for smooth functioning after award of Letter of Intent/ Contract Agreement.
- h. **Stamp Duty**. The firm will deposit 0.25% amount against total value of the contract. This stamp duty is imposed by Govt of Pakistan as per Stamp Duty Act 1899 and it is responsibility of contractor / firm to deposit stamp duty.

4. **Solar Equipment and after Sale Support**

- a. Solar panels should be of latest proven technology most suitable for the site.
- b. Solar System should be marked with manufacturer brand name, model no and capacity.
- c. The bidder should have reliable monitoring mechanism (NOC) 24/7 for any solar fault removal at site.
- d. Availability of Solar Parts after sales and service in Pakistan has to be ensured for at least 10 x years.
- e. Bidder to furnish complete technical printed details and original brochure published by manufacturer in English, photo copies shall not be accepted.
- f. The type of equipment quoted with relevant specifications will be marked on brochure and duly signed in case the brochure caters to a generic product.
- g. Complete technical details of the quoted machine/model should be available on official website of manufacturer.
- h. Details of contact person for conduct of survey is as follows: -

Ser	Location	Name	Contact
a.	ATIN Khairpur	Maj M Zeeshan ®	0322-4422334
b.	ATIN Amangarh	Lt Col M Iqbal ®	0330-1939393

5. **Technical Proposal**. Technical proposal for ATIN (Khairpur & Amangarh) will be submitted separately for Solar System 20 KW as per PPRA guidelines. Each site will be evaluated separately as a separate project. **NO PROPOSAL WILL BE ACCEPTED WITHOUT SURVEY OF SITE.**

- a. All surveys, technical proposals and their revision will be on “no cost no obligation basis”.
 - b. The firm will submit a separate technical proposal for each site, which will be evaluated independently.
 - c. Cost benefit analysis and payback period with backup calculations for each location.
 - d. Firms must attach all required documents as per Check list (Para 2) with the technical proposal (compulsory).
6. **Financial Proposal.** The firm must give price breakdown of each component, assembly line items with aggregate price, interface, net metering (only Amangarh) and allied requirements without which the financial proposal will be “REJECTED”.
7. **Rejection of Bid.** A bid can be rejected under following circumstances: -
 - a. Bidders not qualified and eligible as per Bid Qualification Criteria.
 - b. Bidders who have not done survey of the site.
 - c. Offers not accompanied with complete technical specifications of items being offered and not supported with detailed technical brochures.
 - d. Non responsive bid to any required criteria / specification.
 - e. Non submission of Tender Fee & Bid Security.
 - f. Late submission of tender from given date & time.
 - g. Offers not complying with the special instructions (para 3), Equipment conditions (para 4) and proposal conditions (para 7) in addition to other conditions.
8. **Particulars and Specifications.** Standard particulars and specifications are attached at **Annex “A”** for reference.
9. **Delivery of Tender**
 - a. The original copy of the tender is to be enclosed in double cover. (i) Technical Offer (ii) Commercial Offer, separately. The outer covers should be sealed and bear tender Enquiry Number, date of opening and address of this office without any indications.

- b. The firm's authorized representative shall be required to submit the tender accompanied by a duly signed authority letter from the Chief Executive Officer (CEO) of the firm, along with a valid copy of the representative's Computerized National Identity Card (CNIC). The authority letter must explicitly confirm the representative's mandate to act on behalf of the firm in all matters pertaining to the tender submission.

10. **Date and Time for Submission of Tender**

- a. Tender must reach at Head Quarters National Logistics Corporation, Harding Road, Rawalpindi by the date and time specified in tender notice by hand or by post.
- b. Tender must be dropped in the tender box before given time.
- c. NLC will not be responsible for delay occurring in post.

11. **Price**

- a. The firms must quote prices on FOR Basis (Khairpur & Amangarh) and inclusive of all taxes, packing, delivery charges, net metering (only Amangarh), installation and all other associated charges etc.
- b. The final decision of lowest firm will be done on quoted price of each location (Khairpur & Amangarh).
- c. The price must be quoted in **PAK RUPEES** in figures and words at the appropriate space of the schedule to tender.
- d. Prices will be given with unit and aggregate price of each component separately. **REFERENCE OF ONE-LINE PRICE WILL NOT BE CONSIDERED.** Local taxes and GST shown separately for each item.
- e. Additional information, if any, must be linked with entries on the Schedule to Tender.
- f. Prices quoted should be firm and final.
- g. Tax exemption (if any) may be provided with the tender documents.

12. **Validity of Offers**. The validity period of quoted rates must be indicated and should be at **least 90 x days** from the date of opening the tender without any condition, extendable for further processing of the case, if required.

13. **Delivery Period.** Equipment must be delivered and installed within **60** x days starting from the date of Letter of Intent or Award of Contract (whichever is earlier) and net metering (only Amangarh) within 60 x days after installation, beyond which Late Delivery Charges will apply.
14. **Packing.** Unless a method of packing is indicated in the specification in the schedule to tender form, the method of packing proposed by supplier must be described in schedule to the tender form. Contractors are at liberty to quote for additional alternative sizes and description of packs and these must be described in the schedule of tender. Packing should be such that item shall not damage in transit till place of delivery. **SAFE DELIVERY OF ITEMS IS SOLE RESPONSIBILITY OF FIRM.**
15. **Inspection at Consignee End.** Inspection by consignee will be carried out before and after delivery and post installation for any damages / breakages during transportation and correct functioning.
16. **Arbitration.** Any bidder feeling aggrieved by any act of procuring agency after submission of his bid and prior to award of the contract may lodge a written complaint to procurement agency under Rule - 48 PPRA. In case of any dispute, DG NLC will be Arbitrator.
17. **Risk and Expense.** Failure to supply the goods quoted or failure to meet the commitment made regarding delivery schedule, specifications, short supplies etc. will authorize HQ NLC to purchase the items at firm's risk and cost.
18. **Late Delivery.** Late Delivery charges will be imposed @ 2 % of value of goods delayed per month and thereof until actual delivery or performance up to a maximum deduction of 10% of the Contract Cost.
19. **Terms of Payment**
- a. **ATIN Khairpur.** 100 % payment will be released after installation, commissioning, operationalization, final Inspection and issuance of CRV (Certified Receipt Voucher)
 - b. **ATIN Amangarh.** 80 % payment will be released after installation, commissioning, operationalization, final Inspection and issuance of CRV (Certified Receipt Voucher) and 20 % payment will be released after net metering.

20. **Tender Fee and Bid Security.** Both will be prepared in the shape of bank draft (mentioning Firm Name & NTN on Back Side) in favor of **National Logistics Corporation HQ Main Account** and submitted as following: -

- a. **Tender Fee.** Rs 2,000 must be attached with technical offer.
- b. **Bid Security.** Rs 200,000/- in sealed envelope (**mentioning Name of Bank and Draft Number & Date**) must be attached with Technical offer.

21. **Bank Guarantee**

- a. Performance bank guarantee (as per **Annex “B”**) / certified cheque/ cashier's or manager's cheque or bank draft 5 % of the contract value must be provided / deposited by the successful firm for award of contract, within 20 x days from issuance of Letter of Intent.
- b. The Guarantee should be from a schedule bank of “AA” rating and valid till one month after warranty period.
- c. Performance bank guarantee will be released after receipt of “No Demand Certificate” from user as per following: -
 - (1) 2 % after one year from date of LOI
 - (2) 3% after 5 years from date of LOI

22. **Warranty Period**

- a. Inverter - 5 x years or more
- b. Complete System - At least 5 x years or more (Less solar panel)
- c. PV Panels - As following: -
 - (1) 30 x years or more (Linear Power Performance Warranty)
 - (2) 12 x years or more (Enhanced Product Warranty on Materials and Workmanship)

23. **Comparison Chart.** Firms will also attach comparison chart and response to all queries / requirement in Annex “A” as part of their technical offer: -

NLC Specification	Firms Specification of Offered System with brand, model, manufacturer & country of origin (Fill all columns)	Complied with or Not

24. **Evaluation.** Technical offer of bidders found eligible and qualified as per Bid Qualification Criteria will be evaluated as per specifications **Annex “A”**. Financial offers of

technically approved bidders will be opened and bidder with the lowest financial proposal will be considered as most advantageous bid.

Senior Manager Procurement
HQ NLC



HEADQUARTERS NATIONAL LOGISTICS CORPORATION

GENERAL CONDITIONS GOVERNING CONTRACT

- a. Tender will be opened at Head Office NLC, Harding Road Near AFIRM Rawalpindi at Date and Time mentioned in the newspaper add.
- b. Tender will be submitted in accordance with PPRA Rule 36 (b) i.e. **Single Stage Two Envelope Bidding Procedure.**
- c. Detail of Solar Systems (On-Grid) required to be procured is as under: -

Ser	Description	Quantity	Location
1.	Supply and Installation of Solar System 20KW Off Grid System	1	ATIN Khairpur
2.	Supply and Installation of Solar System 20KW Hybrid System with net metering	1	ATIN Amangarh



NL-3

Address _____

Telephone _____

Code Used _____

From: _____

To:

**THE DIRECTOR GENERAL
NATIONAL LOGISTICS CORPORATION
HARDING ROAD NEAR AFIRM RAWALPINDI**

Dear Sir,

1. I/We hereby offer to supply to the Director General NLC, stores as per detail in the Scheduled hereto or such portion thereof as you may specify in the contract at the prices given in the said schedule and agree to hold this offer open till _____. I/We shall be bound by a communication of acceptance dispatched within the prescribed time.
2. I/We hereby certify own eligibility as per Para 2 of NL-1.
3. I/We have understood the instructions to Tenders and Conditions of Contract as laid down in form NL-2 to "General Conditions Governing Contracts" and have thoroughly examined the specificity/drawing and or pattern quoted in the schedule hereto and am/are fully aware to the nature of the stores required and my/our offer is to supply stores strictly in accordance with the requirements.
4. Recommended technical manual/ data are also enclosed with the offer.
5. The following pages have been added to and form part of this tender.

Your faithfully
(Signature of Tendered)

Address _____

Dated _____

Signature of witness _____

Address _____

Annex-A

GSR - Supply and Installation of Solar System 20KW Off Grid System
ATIN Khairpur

Ser	Specification	NLC Requirement
1	Solution Types	20Kw Off-grid Solar system.
2	Site Survey (Required)	- Technical proposal must cover following besides the other system specifications: - Exact solar load calculation at site followed by accurate details of electric appliances, duty cycles, time of operations (day/night), load management aspects. - Solarization will be planned with recovery of payback period 3-4 years. - Synchronization of solar load with local realities of having no grid or unreliable grid power. - Solar cost benefit analysis vs existing arrangements.
3	Photovoltaic Panels - Canadian - Jinko - Longi - JA - Or equivalent	- Mono crystalline 600 Watt or above, Half cut; N type Bi-facial, Tier-1, Efficiency 24 - 25% with latest technology. - Name of the manufacturer of PV Module - Month and year of the manufacture - Country of origin - I-V curve for the module - Peak Wattage, Im (max current flow in peak hrs), Vm (max voltage produced by panel in peak hrs) and FF (fill factor) for the module - Unique Serial No and Model No of the module - Name of the test lab issuing IEC certificate other relevant information on traceability of solar cells and module as per ISO 9000 series including construction details of the panels. - The PV modules must conform to the latest edition of IEC 61215 Standard for PV module design qualification and type approval; and IEC 61230 standard for earthing and short circuiting; and IEC 61730 standard for safety qualification. A certificate and a report stating compliance to the relevant standards which is also verifiable from the certifying laboratory shall be submitted.
4	Inverter - Goodwe - Inverex - Solis - Huawei - Or equivalent	- Inverter Topology: Off-grid, rated capacity 20 kW, with the capability to operate both with and without a battery bank. The inverter shall be fully compatible with LiFePO4 (Lithium Iron Phosphate) battery systems, including appropriate battery communication/BMS interface, protection and charging/discharging management. - Should have input lightning protection, Anti - ice landing protection, PV string input reverse polarity protection, insulation resistor detection, Residual current monitoring unit, output over current protection, output shorted protection, ground fault protection, surge protection, pure sine wave characteristics. - Monitoring software for real-time status display and fault control. - The unit should be able to operate in a high ambient temperature environment. - Efficiency: must be more than 98%. - The inverter must conform to the latest edition of IEC 61727, IEC 61000-6-1, IEC 610006-2, IEC 62109 and IEC 62116 standard, and grid regulation standards: EN50549, AS4777.2, VDE0126, VDEN4105, G99, NBT32004, CEIO-21, NRS097, NBR16149/16150, RD1699 - Schedules charging and discharging cycle for lowest energy bill. - Protection type: IP65/ IP66/ IP67/ IP68
5	Software Interface	User friendly, Touch Screen showing all features i.e., solar status, Grid Status, with history records up to 01x Month, fault Notification, data Storage (cell temp & voltage levels etc), forecasted data (Solar availability, Load Shedding hours etc).

6	Power Cables - Newage - Pakistan cables - Or equivalent	- Must confirm to latest edition / standards. - Temperature Range should be -10°C to +80°C. - AC cables: as per system requirement. - DC cables: as per system requirement. - Array interconnections (as per system requirement). - Array to junction boxes (as per system requirement). - Junction boxes to Inverter (as per system requirement). - The cables should be insulated with a special grade PVC compound. - The Cable should bear minimum losses of maximum 2%. - The ratings given are approximate. Bidder to indicate size and length as per system design requirement. All cables required for the plant provided by the bidder. Any change in cable sizing if desired by the bidder/approved after citing appropriate reasons. All cable schedules/ layout drawings approved prior to installation.
7	Battery Same manufacturer as of the inverter	- Battery type: Lifepo4 - Battery capacity: 15Kw - C Rating: Minimum .5 & preferable 1 - Battery voltage: 51.2VDC - Battery AH: 100/200AH (as per sys/ user requirement)
8	Battery Rack	- Heavy-duty mild steel / structural steel - Fully welded or heavy-duty bolted construction - Anti-corrosion treatment + powder coating - Static load capacity: Minimum 500 kg, preferably 1,000 kg
9	Mounting Structure	- L2 solar structure - Low-Profile C-Channel/GI structure with a front clearance of 1.5–2 ft and a rear height of 3.5–5 ft for optimal tilt angle. - High-grade Hot-Dip Galvanized (HDG) steel (2.0mm–2.5mm thickness) with Grade SS-304 stainless steel fasteners. - Engineered to withstand wind speeds up to 130 km/h, equipped with cross-bracing members to prevent structural vibration. - Minimum 6" x 6" x 5mm steel base plates anchored onto 1' x 1' x 1' RCC concrete pads with complete rooftop waterproofing. - Total combined load of the mounting structure, concrete pads, and PV modules must not exceed 40–50 kg/m². - Vendor must submit 3D CAD designs, wind load analysis, and a feasibility report for technical vetting prior to deployment.
10	Mobile App	- All features displayed on inverter panel can be monitor on Mobile app & on central display on screen. - Connected through Internet and remote-control room for rectification purposes compatible with all smart phones.
11	Monitoring Mechanism	The company should provide a comprehensive fault detection, accident prevention, efficiency monitoring 24/7 without any holiday and fault removal mechanism.
12	Company Employees	15 + Engineers / Technicians preferably to provide backup support
13	Net-metering/ NEPRA Registration	- Net metering is not required. - Firm must be registered with AEDB/ PEC/ SECP.
14	Completion Time	As per system capacity and requirements
15	Training	01 Day Training (on site)

16	System accessories	• All type Circuit Breakers: LG, Schneider, LS or equivalent. • Change over bypass switches: (LG, Schneider, equivalent), As per system requirements • Disconnect switch: as per system requirements. • Earthing wire: as per system requirements. • Cable ties: as per system requirements. • MC4 PV connectors (QC solar or equivalent), Lugs, Nuts/Bolts (stainless steel grade 304, 18/8 or as per system req), Thimbles (chrome plated), stainless steel cable ties, PVC Cable Duct & conduits (Adam Jee or equivalent). • All wires/ cables must be terminated through cable lugs. Lightning Arrester with its accessories made by pure copper (rod, base, spikes, ball).	
17	Commissioning	• The contractor must show results for following Tests, on site: • Proper Earthing solar project & Earthing Test • Lightning Arrester: Pure copper ball with spikes on rod type. • Note: Testing Equipment including Earthing Tester etc. will be supplier's responsibility.	
18	Warranty	• PV Panels	30 Years
		• Inverter	5 Years or more
		• Battery	5 Years or more
		• Complete System	5 Years or more complete system (less Inverter & PV panels)



GSR - Supply and Installation of Solar System 20KW Hybrid System
ATIN Amangarh

Ser	Specification	NLC Requirement
1	Solution Types	20Kw Hybrid Solar system.
2	Site Survey (Required)	- Technical proposal must cover following besides the other system specifications: - Exact solar load calculation at site followed by accurate details of electric appliances, duty cycles, time of operations (day/night), load management aspects. - Solarization will be planned with recovery of payback period 3-4 years. - Synchronization of solar load with local realities of having no grid or unreliable grid power. - Solar cost benefit analysis vs existing arrangements.
3	Photovoltaic Panels - Canadian - Jinko - Longi - JA - Or equivalent	- Mono crystalline 600 Watt or above, Half cut; N type Bi-facial, Tier-1, Efficiency 24 - 25% with latest technology. - Name of the manufacturer of PV Module - Month and year of the manufacture - Country of origin - I-V curve for the module - Peak Wattage, Im (max current flow in peak hrs), Vm (max voltage produced by panel in peak hrs) and FF (fill factor) for the module - Unique Serial No and Model No of the module - Name of the test lab issuing IEC certificate other relevant information on traceability of solar cells and module as per ISO 9000 series including construction details of the panels. - The PV modules must conform to the latest edition of IEC 61215 Standard for PV module design qualification and type approval; and IEC 61230 standard for earthing and short circuiting; and IEC 61730 standard for safety qualification. A certificate and a report stating compliance to the relevant standards which is also verifiable from the certifying laboratory shall be submitted.
4	Inverter - Goodwe - Inverex - Solis - Huawei - Or equivalent	- Inverter Topology: Hybrid, rated capacity 20 kW, with the capability to operate both with and without a battery bank. The inverter shall be fully compatible with LiFePO4 (Lithium Iron Phosphate) battery systems, including appropriate battery communication/BMS interface, protection and charging/discharging management. - Should have input lightning protection, Anti - ice landing protection, PV string input reverse polarity protection, insulation resistor detection, Residual current monitoring unit, output over current protection, output shorted protection, ground fault protection, surge protection, pure sine wave characteristics. - Monitoring software for real-time status display and fault control. - The unit should be able to operate in a high ambient temperature environment. - Efficiency: must be more than 98%. - The inverter must conform to the latest edition of IEC 61727, IEC 61000-6-1, IEC 61006-2, IEC 62109 and IEC 62116 standard, and grid regulation standards: EN50549, AS4777.2, VDE0126, VDEN4105, G99, NBT32004, CEI0-21, NRS097, NBR16149/16150, RD1699 - Schedules charging and discharging cycle for lowest energy bill. - Protection type: IP65/ IP66/ IP67/ IP68
5	Software Interface	User friendly, Touch Screen showing all features i.e., solar status, Grid Status, with history records up to 01x Month, fault Notification, data Storage (cell temp & voltage levels etc), forecasted data (Solar availability, Load Shedding hours etc).

6	Power Cables - Newage - Pakistan cables - Or equivalent	- Must confirm to latest edition / standards. - Temperature Range should be -10°C to $+80^{\circ}\text{C}$. - AC cables: as per system requirement. - DC cables: as per system requirement. - Array interconnections (as per system requirement). - Array to junction boxes (as per system requirement). - Junction boxes to Inverter (as per system requirement). - The cables should be insulated with a special grade PVC compound. - The Cable should bear minimum losses of maximum 2%. - The ratings given are approximate. Bidder to indicate size and length as per system design requirement. All cables required for the plant provided by the bidder. Any change in cable sizing if desired by the bidder/approved after citing appropriate reasons. All cable schedules/ layout drawings approved prior to installation.
7	Battery Same manufacturer as of the inverter	- Following test reports must be submitted: - Copper purity test (at least 99.9% pure) - Insulation Thickness Test - DC Resistance Test - High Voltage Test
8	Battery Rack	- Battery type: Lifepo4 - Battery capacity: 15Kw - C Rating: Minimum .5 & preferable 1 - Battery voltage: 51.2VDC - Battery AH: 100/200AH (as per sys/ user requirement)
9	Mounting Structure	- Heavy-duty mild steel / structural steel - Fully welded or heavy-duty bolted construction - Anti-corrosion treatment + powder coating - Static load capacity: Minimum 500 kg, preferably 1,000 kg
10	Mobile App	- L2 solar structure - Low-Profile C-Channel/GI structure with a front clearance of 1.5–2 ft and a rear height of 3.5–5 ft for optimal tilt angle. - High-grade Hot-Dip Galvanized (HDG) steel (2.0mm–2.5mm thickness) with Grade SS-304 stainless steel fasteners. - Engineered to withstand wind speeds up to 130 km/h, equipped with cross-bracing members to prevent structural vibration. - Minimum 6" x 6" x 5mm steel base plates anchored onto 1' x 1' x 1' RCC concrete pads with complete rooftop waterproofing. - Total combined load of the mounting structure, concrete pads, and PV modules must not exceed 40–50 kg/m². - Vendor must submit 3D CAD designs, wind load analysis, and a feasibility report for technical vetting prior to deployment.
11	Monitoring Mechanism	- All features displayed on inverter panel can be monitor on Mobile app & on central display on screen. - Connected through Internet and remote-control room for rectification purposes compatible with all smart phones.
12	Company Employees	The company should provide a comprehensive fault detection, accident prevention, efficiency monitoring 24/7 without any holiday and fault removal mechanism.
13	Net-metering / NEPRA Registration	15 + Engineers / Technicians preferably to provide backup support
14	Completion	- Firm must be registered with AEDB/ PEC/ SECP. - Net-metering is required, provision & installation of green meter will be firm's responsibility. - License/ NOC fee of NEPRA/ MES whatever is applicable, purchase of green meter, documentation and all DISCO related dealings will be responsibility of firm. - CRV will not be cleared without active green meter.
		60 Days or as per system capacity and requirements

	Time		
15	Training	• 01 Day Training (on site)	
16	System accessories	• All type Circuit Breakers: LG, Schneider, LS or equivalent. • Change over bypass switches: (LG, Schneider, equivalent), As per system requirements • Disconnect switch: as per system requirements. • Earthing wire: as per system requirements. • Cable ties: as per system requirements. • MC4 PV connectors (QC solar or equivalent), Lugs, Nuts/Bolts (stainless steel grade 304, 18/8 or as per system req), Thimbles (chrome plated), stainless steel cable ties, PVC Cable Duct & conduits (Adam Jee or equivalent). • All wires/ cables must be terminated through cable lugs. Lightning Arrester with its accessories made by pure copper (rod, base, spikes, ball).	
17	Commissioning	• The contractor must show results for following Tests, on site: • Proper Earthing solar project & Earthing Test • Lightening Arrestor: Pure copper ball with spikes on rod type. • Note: Testing Equipment including Earthing Tester etc. will be supplier's responsibility.	
18	Warranty	• PV Panels	30 Years
		• Inverter	5 Years or more
		• Battery	5 Years or more
		• Complete System	5 Years or more complete system (less Inverter & PV panels)



BANK GUARANTEE FOR PERFORMANCE ON JUDICIAL STAMP PAPER OF Rs.100/-
OR AS SUITABLE TO THE AMOUNT OF BANK GUARANTEE
FORM OF PERFORMANCE SECURITY (BANK GUARANTEE)

Guarantee No. : [Insert]
Date of Issuance : [Insert]
Date of Expiration : [Insert]
Amount of L/G : [Insert amount]
[Insert amount in words]
Name of the Principal (Contractor) : [Insert]
Address of the Principal (Contractor) : [Insert]
Name of the Guarantor/Warranter
(Bank) : [Insert name]
Address of the Guarantor/Warranter
(Bank) : [Insert branch address]
Letter of Acceptance : [Insert letter No. and date]
To (Employer) : National Logistic Corporation (NLC), HQ NLC
Harding Road, R.A Bazar, Saddar,
Rawalpindi.

WHEREAS, pursuant to the submission of a successful bid by M/s [Insert Entity name] (hereinafter referred to as the “**Contractor**”), a [legal status of the entity] registered under [insert relevant law], having its registered office at [Insert address], the National Logistics Corporation (hereinafter referred to as the “**Employer**”), on [Insert date], issued a letter of acceptance (hereinafter referred to as the “**LOA**”);

AND WHEREAS, in compliance with the terms and conditions of the LOA, and upon the request of the Contractor, [Insert Bank Name] (hereinafter referred to as the “**Guarantor**”) hereby undertakes to pay the amount due and payable under this guarantee (hereinafter referred to as the “**Guarantee**”) without any demur, by way of a written demand notice (hereinafter referred to as the “**Demand Notice**”) in order to secure the performance of the Contractor’s obligations under the LOA, including, *inter alia*, [Insert a brief description of the obligations] (hereinafter referred to as the “**Guaranteed Obligations**”);

AND WHEREAS, the condition precedent of this Guarantee is such that the Contractor has accepted the Employer’s LOA;

NOW THEREFORE, in pursuance of the terms and conditions of the LOA, and at the request of the Contractor, we hereby affirm that we the Guarantor, as named above, are responsible to you, on behalf of the Contractor, for a total amount of [Insert amount of Guarantee] [Amount in words] (hereinafter referred to as the “**Guaranteed Sum**”), and held firmly bound unto the Employer for the foregoing amount. We undertake to pay the Employer, upon its first written application and without cavil or argument within three (03) days of the receipt of the written demand (the “**Due Date**”), any sum(s) within the ambit of [Amount of Guarantee], without requiring the Employer to prove any specific grounds or reasons for the demand put forth for the sum specified therein;

PROVIDED THAT, the Guarantor hereby binds itself unconditionally and irrevocably, and undertakes and guarantees to pay the Guaranteed Sum, as primary obligor and not merely as surety,

without protest or demur and without reference, notice or recourse to the Contractor or any other person, and hereby expressly waives all rights to deny its obligation to the Employer irrespective of any dispute, difference or disagreement between the Contractor and Employer or contest by any other party or person;

PROVIDED FURTHER THAT, at any time during the validity of this Guarantee, the Employer may, at its sole discretion and decision, demand payment of the entire Guaranteed Sum, or any portion thereof, from the Guarantor. The decision of the Employer as to the Contractor's default, delay, or failure in performing the Guaranteed Obligations shall be final and binding on the Guarantor, which shall not be questioned by the Guarantor in any manner whatsoever;

PROVIDED FURTHER THAT, this Guarantee shall remain in full force and be effective for a period up to [*Insert duration*], and any extension(s) thereof, and the Guarantor's obligations under this Guarantee shall be for payment of the Guaranteed Sum or part thereof as may be demanded by the Employer from time to time;

PROVIDED FURTHER THAT, the Employer may, if and when and in such manner as the Employer in its sole discretion deems appropriate, grant time or other indulgence to or accept or make any composition or arrangement with the Contractor and/or vary, renew, discharge, realize, release, enforce or deal with any other securities, guarantees, obligations, decrees, contracts, or agreements, now or hereinafter made or held by the Employer, and such acts shall not affect in any way whatsoever the Employer's rights under this Guarantee, and shall not affect in any way whatsoever the Guarantor's liability hereunder, or discharge the Guarantor from its obligations under this Guarantee;

PROVIDED FURTHER THAT, demands under this Guarantee may be made from time to time in accordance with its terms. Partial payments of the Guaranteed Sum shall not discharge this Guarantee and this Guarantee shall remain in full force and effect in accordance with its terms for the difference from time to time between the aggregate total of the partial payments made and the Guaranteed Sum;

PROVIDED FURTHER THAT, no delay or failure to exercise any right or remedy under this Guarantee by the Employer shall constitute a waiver of such right or remedy. No single or partial exercise of any right or remedy shall preclude any other or further exercise thereof or of any other right or remedy. No waiver by the Employer shall be valid unless made in writing;

PROVIDED FURTHER THAT, no set-off, counter claim, reduction, or diminution of any obligation that the Guarantor has or may have against the Employer shall be available to it against the Employer in connection with any of its obligations to the Employer under this Guarantee. The Guarantor shall make all payments under this Guarantee in [*Insert currency*] and in full, without set-off or counterclaim and free and clear of any deductions or withholdings in immediately available, freely transferable, cleared funds for value on the Due Date to the Employer, provided that if the Guarantor is required to make any deduction or withholding from such payments under applicable law, it shall pay to the Employer such additional amount necessary to ensure that the Employer receives an amount equal to the amount which it would have received had no such deduction or withholding been made. In the event under the laws of the Islamic Republic of Pakistan the payment of the Guaranteed Sum in a currency other than Pakistan Rupees is prohibited or becomes unlawful, or the due execution, validity, enforceability or performance of the obligations of the Guarantor hereunder is questioned by any Court, the State Bank of Pakistan or other competent authority or agency with jurisdiction over the Guarantor on the grounds of the Guaranteed Sum being denominated in a foreign currency, this Guarantee shall secure and shall be deemed always to have secured the Guaranteed Sum in equivalent Pakistan Rupees calculated at the average of the National Bank of Pakistan Telegraphic Transfer & On – Demand selling rate for United States Dollars prevalent on the date of issuance of this Guarantee and payment of the whole or part of the Guaranteed Sum as demanded by the Employer may in such event be made by the Guarantor in Pakistan Rupees;

PROVIDED FURTHER THAT, the Guarantor hereby declares and confirms that under its constitution and applicable laws and regulations, it has the necessary power and authority, and has obtained all necessary authorizations, approvals and consents thereunder to enter into, execute, deliver and perform the obligations it has undertaken under this Guarantee, which obligations are valid and legally binding on and enforceable against the Guarantor under the laws of the Islamic Republic of Pakistan. In addition thereto, the signatory to this Guarantee are the Guarantor's duly authorized officers;

PROVIDED FURTHER THAT, this Guarantee shall expire at the official closing of the counters of the Guarantor, *[Name of the Branch]* *[City]*, on *[Expiry date]* (hereinafter referred to as the "**Expiry Date**"). Except for demands made by the Employer under this Guarantee on or before the Expiry Date, the Guarantor shall stand fully discharged and released from any and all obligations, claims and liabilities under this Guarantee whether or not this instrument of Guarantee is returned to the Guarantor;

IN WITNESS THEREOF, the Guarantor executes this instrument which shall be unconditional and irrevocable, under its seal per his bounden duty on the date specified above, the name and corporate seal of the Guarantor hereto affixed and these presents duly signed by its undersigned representative, pursuant to the authority of its governing body.

For and on behalf of *[insert bank name]* and *[insert branch address]*

Dated *[Insert date]*, *[Insert year]*, at *[Insert location]*

Witnesses:

Witness # 1:

Name: _____

CNIC No. _____

Address: _____

Signature: _____

Witness # 2:

Name: _____

CNIC No. _____

Address: _____

Signature: _____