

RAJASTHAN ELECTRONICS & INSTRUMENTS LIMITED, JAIPUR

(An ISO 9001 : 2015 & 14001 : 2015 “Mini Ratna” Central Public Sector Enterprise)

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JAIPUR – 302 034

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NIT FOR

“Survey, Design, Supply of BOS, Installation – Commissioning and 5 years maintenance of various capacity Grid Connected SPV Power Plant(s) at various Training Institutions / Educational Institutions in various districts in the state of Rajasthan”

TENDER NO. REIL/RE/21-22/PP/01 dated 29.4.2021

The details for Bid are as follows.

S. No.	Item	Description
1	Last Date & Time for Submission of e-Tender	10.05.2021 up to 14:00 Hrs
2	Opening of technical Bid	11.05.2021 at 14:00 Hrs
3	Pre-bid meeting	05.05.2021 at 11:00 hrs virtually
4	Bid Security	<u>Bid security declaration form to be submitted alongwith technical bid .</u>
5	Address for Submission of Bid, and Opening of Bids	Dy. General Manager (MM) Rajasthan Electronics & Instruments Limited, 2, Kanakpura Industrial Area, Sirsi Road, JAIPUR – 302 034

- Kindly note that only online bid will be considered against this tender
- REIL reserve the right to reject the whole or part of any or all the bids, without assigning any reason.

ISSUED BY



RAJASTHAN ELECTRONICS & INSTRUMENTS LTD.
(A “Mini Ratna” Central Public Sector Enterprise)
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ANNEXURE (BOQ)	PRICE (FINANCIAL E- BID)	SEPARATE

RAJASTHAN ELECTRONICS & INSTRUMENTS LIMITED, JAIPUR

NOTICE INVITING TENDER NO. REIL/RE/21-22/PP/01

This is a Notice Inviting Tender (NIT) for “Survey, Design, Supply of BOS, Installation – Commissioning and 5 years maintenance period of Grid Connected SPV Power Plant(s) at various Training Institutions / Educational Institutions in various districts in the state of Rajasthan” as per description and terms & conditions specified hereinafter:

Item Description:

S. No.	Description
1.	Survey, Design, Supply of BOS, Installation – Commissioning and 5 years maintenance of various capacity Grid Connected SPV Power Plant(s) at various Training Institutions / Educational Institutions in various districts in the state of Rajasthan

E-Tendering Procedure: The work shall be carried out through submission of online tenders only. No offer in physical form will be accepted and any such offer if received by REIL will be out rightly rejected. Tender documents can be downloaded from our website www.reiljp.com or website of CPPP www.eprocure.gov.in. Final bids are to be submitted on website www.eprocure.gov.in. Any changes modification in the tender enquiry will be intimated through above websites only. Tenderer are therefore, requested to visit our Website regularly to keep themselves updated.

The bidder should have a valid Digital Signature certificate issued by any of the valid certifying Authorities to participate in the online tender.

The bids shall be uploaded in electronic form only through e-tendering system on website www.eprocure.gov.in .

Note: e- Procurement system does not allow submission of documents after due date of tender. Incomplete form or non-submission of documents to verify details may results into rejection of your offer and no communication shall be done for submission of documents.

Price Bid:- Price Bid format given with tender is to be uploaded after filling all relevant information like basic prices, taxes & duties. The Price bid should be uploaded strictly as per the format available with the tender failing which the offer is liable for rejection (remaining or changing format of price sheet will not be accepted by system). REIL reserve the right to distribute the work.

Pre-bid meeting :-

A pre-bid meeting shall be conducted on 05.05.2021 at 11:00 hrs. Looking to Covid pandemic conditions , pre-bid meeting shall be held virtually on Google-meet platform. Interested bidders have to provide their email id (gmail account) by email to Deepak.gupta@reil.co.in latest by 16:00 hrs on 04.05.2021.

SECTION-I

INSTRUCTION TO BIDDERS

1. The Bid forms containing the Terms and Conditions, the Tender and the Schedule of contract, **should be submitted online** failing which the tender shall be liable for rejection. In the event of the space on the Schedule of contract / specifications of items/proforma being insufficient for the required purpose, additional pages may be added. Each

\such additional page must be numbered consecutively, bearing the Tender Number and be duly signed and stamped by the bidder. In such cases, reference to the additional pages must be made in the Tender Form. If any modification of the schedule is considered necessary, you should communicate the same by means of separate letter sent along with the Tender.

E-Tendering Procedure: The work shall be carried out through submission of online tenders only. No offer in physical form will be accepted and any such offer if received by REIL will be out rightly rejected. Tender documents can be downloaded from our website www.reiljp.com or website of CPPP www.eprocure.gov.in. Final bids are to be submitted on website www.eprocure.gov.in. Any changes modification in the tender enquiry will be intimated through above websites only. Tenderer are therefore, requested to visit our Website regularly to keep themselves updated.

The bidder should have a valid Digital Signature certificate issued by any of the valid certifying Authorities to participate in the online tender.

The bids shall be uploaded in electronic form only through e-tendering system on website www.eprocure.gov.in .

2. PROCEDURE FOR SUBMISSION OF TENDERS / BIDS:

- i. **The tender should be submitted in “TWO BID” SYSTEM:-**

PART -1 TECHNICAL BID:

Technical Bid along with tender documents (duly signed on each page) to be uploaded in the e-procurement portal. Technical Bid to be opened by the REIL committee. Board resolution/ Authorization letter for signing of the bid document from the bidder be submitted. Prices / Costs of the items should not be indicated anywhere in the Technical Bid. This should be followed meticulously failing which the bid is liable to be rejected. **Bid security declaration form is to be given as per format attached at Annexure.**

All eligibility documents should be submitted with the technical bid.

PART -2 FINANCIAL BID:

Price Bid BOQ given with tender is to be uploaded strictly as per the format available with the tender failing which the offer is liable for rejection (renaming or changing format of BOQ sheet will not be accepted by the system).

Note: e-Procurement system does not allow submission of documents after due date of tender. Incomplete form or non-submission of required documents may results into rejection of your offer and no Communication shall be done for submission of documents.

1. OPENING OF TENDER:

The **Price/Financial bids** of the bidders whose technical bids are found technically suitable only will be opened later. **The decision of the evaluation committee on technical suitability shall be final and binding.**

2. PRICES:

- ii. Prices/Financial bid are to be quoted in Indian Rupees and must be meaningful and measurable in the context.
- iii. Bidders should clearly specify whether prices quoted are inclusive of GST/duties/ statutory charges or such charges as extra. Where no specific mention GST or other duties quoted shall be **deemed to be inclusive of such taxes / charges.**
- iv. Price must be quoted in original sheet of BOQ failing which the same is liable to be rejected.
- v. REIL reserve the right to distribute the work among the eligible bidders on L1 rate depending on their financial capability, experience, and field maintenance strength.
- vi. Two separate contracts name for supply of materials and for installation commissioning & maintenance of systems shall be issued.
- vii. The material shall be supplied at REIL works Jaipur/ or at site as per work order issued.

3. SECURITY DEPOSIT:- Security Deposit amounting to 3% of the contract value is to be submitted within 7 days from the date of issue of LOI . Security deposit shall be refunded on completion of installation – commissioning and handover the systems to concern authority within completion period mentioned in tender. **REIL reserves the right to forfeit the security deposit in case bidder fails to complete the project within stipulated completion period.**

4. PBG:- Bidder shall submit 3% amount of Contract Value in the form of Bank guarantee of RBI Scheduled banks valid for 66 months from date of handing over (Net Metering) of project. The bidder shall submit the PBG before handing over the project.

5. Bid security declaration form :

- i. The tender must be accompanied by a bid security declaration form on Rs 100/- stamp paper as per format attached at Annexure VIII duly signed by Authorized signatory.

SECTION – 2
ELIGIBILITY CRITERIA

ELIGIBILITY CONDITION

A. Bidder must fulfill following criteria:-

Following are required for considering responsiveness of the bidders.

1. The bidder should be a Company / Firm / Corporation / LLP in India having experience in Design, Supply, Installation, Commissioning & maintenance of Solar Power Plants.
2. The Bidder should have installed & commissioned at least one Grid Connected Solar PV Power Plant of capacity not less than 100 kWp which should have been commissioned in FY 2019-20, 2020-21 in any Govt. Department / Institutions and shall submit 6 months successful operation certificate.
3. The bidder shall have experience of completion of atleast 50 nos. of SPV installation sites (>10kWp) in any one of last two financial years in Govt. Department / Institutions.
4. The bidder should have cumulative experience of >= 4000kWp Grid Connected SPV Power Plants/systems in last three years which should have been commissioned in **FY 2018-19, 2019-20, 2020-21** in any Govt. Department / Institutions. Out of this atleast 1000 kWp shall be installed in the state of Rajasthan.
5. The list of project(s) commissioned prior to Techno-Commercial Bid opening date, along with a copy of the commissioning certificate and work order / contract / agreement from the client / owner/ expert PSU/ SNA shall be submitted.
6. PAN & GST registration -
The firm must have valid PAN No and GSTIN No.
Copy of PAN card and GSTIN Registration are required to be submitted with the bid.
Bidder(s) should have valid GST registration certificate.
7. Bidder shall give an undertaking as per Annexure-XI regarding satisfactory completion of work and shall also furnish undertaking as per Annexure-XII regarding certificate towards Legal / Contractual Disputes.
8. The bidder shall have Office in Rajasthan. Documentary proof shall be provided with the bid.

To substantiate above, necessary documents, certificates shall have to be attached with the proposal.

B. FINANCIAL ELIGIBILITY CRITERIA

Following are required for considering responsiveness regarding financial capability of the bidders:

1. Minimum Annual Average Turnover (MAAT) in solar field of the bidder for last three financial years **(2018-19, 2019-20 & 2020-21)** should be at least Rs. 6 Crore under CAPEX mode
2. The bidder should have adequate financial resources or should have sufficient resources audited financial statement to undertake the contract (below document required):

Letter from a Financial Institution that it is willing to fund the project.

OR

Declaration on bidder's letter head (incase the bidder wish to use the internal resources for funds/shall be furnished.

3. Bidder shall submit positive Net Worth certificate with the bid.

2 Bidder should submit following documents along with Technical bid:-

- i. Balance sheet for FY 2018-19, 2019-20, 2020-21. In case balance sheet for FY 2020-2021 is not prepared, provisional balance sheet shall be submitted by the bidder.
- ii. Turnover and net worth value duly certified by CA.
- iii. Photocopy of the last Two years Income Tax Return.
- iv. Experience in Installation, Commissioning and maintenance of SPV Power Plant Systems. (Kindly attach verified documents such as I&C and maintenance certificate.
- v. Photocopy of GST, PAN no.
- vi. EMD.
- vii. Declaration that firm is not blacklisted by any government department/ PSU.
- viii. Test Certificate of Inverter as per MNRE / BIS / IEC guidelines
- ix. Any other relevant documents

C. OTHER CONDITIONS:

- i. **Responsibility for executing Contract:** The contractor is to be entirely responsible for the execution of the contract in all respects in accordance with the terms and conditions as specified in the acceptance of tender.
- ii. The contractor shall not sublet transfer or assign the contract to any part thereof without the written permission of the Dy. General Manager (MM). In the event of the contractor contravening this condition, Dy. General Manager (MM) be entitled to place the contract elsewhere on the contractors account at his risk and the contractor shall be liable for any loss or damage, which the Dy. General Manager (MM), may sustain in consequence or arising out of such replacing of the contract.
- iii. **Document:** The bidder should have a valid **PAN /GST NO & other statutory document as applicable** and produce attested copies of such certificates along with the tender papers in Technical Bid, failing which the tender is liable to be rejected.
- iv. **Right to accept / reject:** REIL reserves the right to reject any or all tender without assigning any reason whatsoever. Also, the REIL authority reserve the right to **award** any or part or full contract to any successful agency at its discretion and this will be binding on the bidder.
- v. The quantity of the SPV Systems shown in the tender can be increased or decreased to any extent depending upon the actual requirement.
- vi. **Assistance to contractor:** The contractor shall not be entitled for assistance either, in the procurement of raw materials required for the fulfillment of the contract or in the securing of transport facilities.

D. Electrical Contractor License

- i. The work shall be carried out by the contractor having valid Electrical Contractor License for carrying out installation work under the direct supervision of the persons holding valid certificates of competency issued by the Central/State Government.
- ii. The successful bidder shall furnish the names and particulars of the certificate of competency of supervisor and workmen to be engaged for carrying out this work.

SECTION – 3

SCOPE OF WORK

Scope of work covers “Survey, Design, Supply of BOS, Installation – Commissioning and 5 years maintenance of various capacity Grid Connected SPV Power Plant(s) (cumulative 8 MWp capacity) at various Training Institutions / Educational Institutions in various districts in the state of Rajasthan” conforming to technical specification of tender documents.

Detailed scope of work is given here under:-

Work of installation of SPV grid connected Systems shall involve:

- (i) Survey of Identified Sites.
- (ii) Preparation of Detailed Project Report (DPR) of the proposed Proposal of SPV Power Plant.
- (iii) Obtaining No objection certificate from concerned DISCOM for grid connectivity.
- (iv) Supply of BOS (except SPV Modules), packaging & forwarding, transportation, storage, civil work, erection, testing and commissioning (Net Metering) of SPV grid connected Power Plant as per schedule.
- (v) Establishing after “sales service centre” in concerned area for cater maintenance needs of beneficiary.
- (vi) As per site requirement, work of land leveling, control room etc. shall be carried out by the successful bidder.
- (vii) Providing training module facility and necessary training to staff .
- (viii) Preparation and submission of documents as per client & REIL requirement for release of REIL payment from the client.

PROJECT COST

The Project cost shall include all the costs related to above Scope of work. Bidder shall quote for the entire facilities on a “single responsibility” basis such that the total Bid Price covers the obligations mentioned in the Bidding Documents in respect of Survey, Design, Supply of BOS (except SPV modules), Erection, Testing and Commissioning of project. The Bidder has to take all permits, approvals and licenses, insurance etc., provide training and such other items and services required to complete the scope of work mentioned above.

The price quoted is on lump sum turnkey basis including all taxes & duties applicable and the bidder is responsible for the total scope of work described as above.

The project cost shall remain firm and fixed and shall be binding on the Successful Bidder till completion of work. No escalation will be granted on any reason whatsoever. The bidder shall not be entitled to claim any additional charges, even though it may be necessary to extend the completion period for any reasons what so ever.

The cost shall be inclusive of all duties and taxes, insurance etc. The prices quoted by the firm shall be complete in all respect and no price variation/adjustment shall be payable.

The Project cost shall be specified by the successful Bidder” quote @ Rs. / Wp (Watt peak). The project cost shall be in accordance with all terms, conditions, specifications and other conditions of the Contract as accepted by the REIL and incorporated into the Rate Contract order.

The Vendor shall be responsible and take an Insurance Policy for transit- cum- storage-cum-erection for all the materials to cover all risks and liabilities for supply of materials on site basis, storage of materials at site, erection, testing and commissioning.

The Vendor shall also take insurance for Third Party Liability covering loss of human life, engineers and work men and also covering the risks of damage to the third party / material/ equipment/ properties during execution of the Contract. Before commencement of the work, the Successful bidder will ensure that all its employees and representatives are covered by suitable insurance against any damage, loss, injury or death arising out of the execution of the work or in carrying out the Contract. Liquidation, Death, Bankruptcy etc., shall be the responsibility of Successful bidder.

SPV Modules shall be provided by REIL.

Net metering of Power:

Net metering is the concept which records difference between export of generated energy and import of energy from DISCOM grid during billing cycle. The SPV power consumer shall pay for the net energy in a billing period as per applicable retail supply tariff as determined by regulatory commission, if the supplied energy by the Discom is more than the injected energy by the solar PV sources of the consumer(s).

Rajasthan Electricity Regulatory Commission (RERC) has issued “**Regulation for Net Metering and Grid Connectivity**” on 26thFebruary, 2015. **The SPV Power generators/ beneficiaries going for installation of SPV Power Plants under this scheme will also be governed by the rules & regulations of Net Metering scheme as notified by RERC and amended time to time.**

The Successful bidder shall bear the entire cost of metering arrangement provided including its accessories. The fee and other charges such as security deposit payable to office of DISCOM & Electrical inspector will be payable by beneficiary separately. The installation of meters including CTs & PTs, wherever applicable, shall be carried out by the Successful bidder as per the procedures in vogue of the Discom(s) with their permission.

PLANT PERFORMANCE EVALUATION:

REIL shall monitor the performance of the grid connected SPV Power Plants as per feasible subject to availability of proper measuring equipment being in vogue in DISCOM as under :

The successful bidders shall be required to meet minimum guaranteed generation with **Performance Ratio (PR)** at the time of commissioning and related **Capacity Utilization Factor (CUF)** as per the DNI level for the location during the O&M period. PR should be shown minimum of 75% at the time of inspection for initial commissioning. Minimum CUF of 15% should be maintained for a period of 5 years for release of performance related security deposit. The Successful bidder should send the periodic plant output details to REIL for ensuring the CUF. The PR will be measured at Inverter output level during peak radiation conditions. The PR and CUF will be evaluated considering 100% grid availability.

SECTION – 4

PRICE SCHEDULE

- i) The bidder shall quote their rates / costs for “Survey, Design, Supply of BOS, Installation – Commissioning and 5 years maintenance of various capacity Grid Connected SPV Power Plant(s) (cumulative 8 MWp capacity) at various Training Institutions / Educational Institutions in various districts in the state of Rajasthan” including all taxes etc. in format as per **online only**. It will be mandatory for Bidders to quote their prices.

The defect liability period shall be 5 years from date of commissioning of project.

SIGNATURE OF AUTHORISED

SIGNATORY WITH SEAL

SECTION – 5

COMPLETION PERIOD

REIL proposes to take up work of SPV Grid connected SPV systems installation as detailed at section-2 and allocations of Sites shall be carried out and completed within **one & a half months (45 days)** from the date of issue of LOI.

The extension of time period for implementation of the programme is solely on the discretion of the tendering authority.

SECTION-6

TECHNICAL SPECIFICATIONS FOR GRID CONNECTED SPV SYSTEMS

The proposed projects shall be commissioned as per the technical specifications given below. Any shortcomings will lead to penalty in full or part as decided by REIL.

1. DEFINITION

A Grid Tied Solar Rooftop Photo Voltaic (SPV) power plant consists of SPV Modules, String Inverters, Module Mounting Structure, Controls & Protections, interconnect cables, earthing, energy meters and switches. PV Array is mounted on a suitable structure. Components and parts used in the SPV power plants including the metallic structures, cables, junction box, switches, etc., should conform to the BIS or IEC or international specifications, wherever such specifications are available and applicable.

Solar PV system shall consist of following equipments/components.

- SPV Modules
- String Inverters
- Mounting structures.
- Junction Boxes.
- Earthing and lightning protections.
- IR/UV protected PVC Cables, pipes and accessories.
- Solar Meter and Bi-directional Energy Meter with boxes.
- PV Training Modules in Solar Lab
- Any other item required to complete / commissioning the project.

SPV Modules shall be provided by REIL.

2. ARRAYSTRUCTURE

- a) Hot dip galvanized MS mounting structures shall be used for mounting the modules/ panels/ arrays. Each structure should have angle of inclination as per the site conditions to take maximum insolation (as per latitude of place).
- b) The Mounting structure shall be so designed to withstand the speed for the wind zone of the location where a PV system is proposed to be installed in Rajasthan (150km/hr.). It may be ensured that the design has been certified by a recognized Lab/ Institution in this regard and submit wind loading calculation sheet to REIL. Suitable fastening arrangement such as grouting and calming should be provided to secure the installation against the specific wind speed.
- c) The mounting structure steel shall be as per latest IS 2062: 1992 and galvanization of the mounting structure shall be in compliance of latest IS 4759.
- d) Structural material shall be corrosion resistant and electrolytic ally compatible with the materials used in the module frame, its fasteners, nuts and bolts.
- e) The fasteners used should be made up of stainless steel. The structures shall be designed to allow easy replacement of any module. The array structure shall be so designed that it will occupy minimum space without sacrificing the output from the SPV panels.
- f) Regarding civil structures the bidder need to take care of the load bearing capacity of the roof and need arrange suitable structures based on the quality of roof.

g) The total load of the structure (when installed with PV modules) on the terrace should be less than **60kg/m²**.

- h) The minimum clearance of the structure from the roof / ground level should be **300 mm**.
- i) Bidder shall provide the valid STAD report of structures with duly verified by Chartered authorized Safety Engineer.

3. JUNCTION BOXES (JBs)

The junction boxes are to be provided in the PV array for termination of connecting cables. The J. Boxes (JBs) shall be made of GRP/FRP/Powder Coated Aluminium /cast aluminium alloy with full dust, water & vermin proof arrangement. All wires/cables must be terminated through cable lugs. The JB's shall be such that input & output termination can be made through suitable cable glands.

Copper bus bars/terminal blocks housed in the junction box with suitable termination threads conforming to IP65 standard and IEC 62208 Hinged door with EPDM rubber gasket to prevent water entry. Single /double compression cable glands. Provision of earthlings.

Each Junction Box shall have High quality Suitable capacity Metal Oxide Varistors (MOVs) / SPDs, suitable Reverse Blocking Diodes. The Junction Boxes shall have suitable arrangement monitoring and disconnection for each of the groups.

4. DC DISTRIBUTIONBOARD:

- A. DC Distribution panel to receive the DC output from the array field.
- B. DC DPBs shall have sheet from enclosure of dust & vermin proof conform to IP 65 protection. The bus bars are made of copper of desired size. Suitable capacity MCBs/MCCB shall be provided for controlling the DC power output to the PCU along with necessary surge arrestors.

5. AC DISTRIBUTION PANELBOARD:

- a) AC Distribution Panel Board (DPB) shall control the AC power from PCU/inverter, and should have necessary surge arrestors. Interconnection from ACDB to mains at LT Bus bar while in grid tied mode.
- b) All switches and the circuit breakers, connectors should conform to IEC60947, part I, II and III/ IS60947 part I, II and III.
- c) The changeover switches, cabling work should be undertaken by the bidder as part of the project.
- d) All the Panel's shall be metal clad, totally enclosed, rigid, floor mounted, air - insulated, cubical type suitable for operation on three phase / single phase, 415 or 230 volts, 50 Hz
- e) The panels shall be designed for minimum expected ambient temperature of 45 degree Celsius, 80 percent humidity and dusty weather.
- f) All indoor panels will have protection of IP54 or better. All outdoor panels will have protection of IP65 or better.
- g) Should conform to Indian Electricity Act and rules (till last amendment).
- h) All the 415 AC or 230 volts devices / equipment like bus support insulators, circuit breakers, SPDs, VTs etc., mounted inside the switchgear shall be suitable for continuous operation and satisfactory performance under the following supply conditions Variation in supply voltage : +/- 10 % Variation in supply frequency : +/- 5 Hz

6. Power Conditioning Unit / Smart Inverters:

As SPV array produce direct current electricity, it is necessary to convert this direct current into alternating current and adjust the voltage levels to match the grid voltage. Conversion shall be achieved

using an electronic Inverter and the associated control and protection devices. All these components of the system are termed the “Power Conditioning Unit (PCU)”. In addition, **the PCU shall also house MPPT (Maximum Power Point Tracker)**, an interface between Solar PV array & the Inverter, to the power conditioning unit/inverter should also be DG set interactive. If necessary, Inverter output should be compatible with the grid frequency.

Typical technical features of the inverter shall be as follows:

- Switching devices : IGBT/MOSFET
- Control : Microprocessor /DSP
- Nominal AC output voltage and frequency: 415V, 3 Phase, 50 Hz **(In case single phase inverters are offered, suitable arrangement for balancing the phases must be made.)**
- Output frequency : 50 Hz
- Grid Frequency Synchronization range : +/-5 Hz
- Ambient temperature considered : -20 Degree Celcius to 50 Degree Celcius
- Humidity : 95 % Non-condensing
- Protection of Enclosure : IP-20(Minimum) for indoor. : IP-65(Minimum) for outdoor.
- Grid Frequency Tolerance range : +/-5 Hz o Grid Voltage tolerance : - 20% & + 15 %
- No-load losses : Less than 1% of rated power
- Inverter efficiency(Min.): >93% (In case of 10kW or above with in-built galvanic isolation) >97% (In case of 10 kW or above without inbuilt galvanic isolation)
- Inverter efficiency (minimum): > 90% (In case of less than 10 kW)
- THD: < 3%
- PF : > 0.9

Three phase PCU/ inverter shall be used with each power plant system (10kW and/or above) but In case of less than 10kW single phase inverter can be used.

- a) PCU/inverter shall be capable of complete automatic operation including wake-up, synchronization & shutdown.
- b) The output of power factor of PCU inverter is suitable for all voltage ranges or sink of reactive power, inverter should have internal protection arrangement against any sustainable fault in feeder line and against the lightning on feeder.
- c) Built-in meter and data logger to monitor plant performance through external computer shall be provided.
- d) Anti-islanding (Protection against Islanding of grid): The PCU shall have anti islanding protection in conformity to IEEE 1547/UL 1741/ IEC 62116 or equivalent BIS standard.
- e) Successful Bidders shall be responsible for limiting dc injection into the grid and load as per the CEA/state regulations.
- f) The PCU/ inverter generated harmonics, flicker, DC injection limits, Voltage Range, Frequency Range and Anti-Islanding measures at the point of connection to the utility should follow the latest CEA (Technical Standards for Connectivity Distribution Generation Resources) Guidelines.
- g) The power conditioning units / inverters should comply with applicable IEC/equivalent BIS standard for efficiency measurements and environmental tests as per standard codes IEC 61683/IS 61683 and IEC 60068-2(1,2,14,30) /Equivalent BIS Std
- h) The charge controller (if any) / MPPT units environmental testing should qualify IEC 60068-2(1, 2, 14, 30)/Equivalent BIS std. The junction boxes/enclosures should be IP 65(for outdoor)/ IP 54 (indoor) and as per IEC 529specifications.

The PCU/ inverters should be tested from the MNRE approved test centers /NABL /BIS /IEC accredited testing- calibration laboratories. In case of imported power conditioning units, these should be approved by international test houses.

INTEGRATION OF PV POWER WITH GRID:

The output power from SPV would be fed to the inverters which converts DC produced by SPV array to AC and feeds it into the main electricity grid after synchronization. In case of grid failure, or low or high voltage, solar PV system shall be out of synchronization and shall be disconnected from the grid. Once the DG set comes into service PV system shall again be synchronized with DG supply and load requirement would be met to the extent of availability of power. 4 pole isolation of inverter output with respect to the grid/ DG power connection need to be provided.

Net metering of Power: Net metering is the concept which records difference between export of generated energy and import of energy from DISCOM grid during billing cycle. The SPV power consumer shall pay for the net energy in a billing period as per applicable retail supply tariff as determined by regulatory commission. The bidder shall bear the entire cost of metering arrangement provided including its accessories. The fee and other charges such as security deposit payable to office of DISCOM & Electrical inspector will be payable by Department separately. The installation of meters including CTs & PTs, wherever applicable, shall be carried out by the bidder as per the procedures in vogue of the Discom(s) with their permission. The bi-directional electronic energy meter of class 0.5 S shall be installed. The bidder must take approval/NOC from the concerned DISCOM for the connectivity, technical feasibility & synchronization of SPV plant with distribution network. Reverse power relay shall be provided by bidder if required as per local DISCOM requirement.

DATA ACQUISITION SYSTEM / PLANT MONITORING

- i. Data Acquisition System shall be provided for each of the solar PV plant.
- ii. Data Logging Provision for plant control and monitoring, time and date stamped system data logs for analysis with the high quality, suitable PC. Metering and Instrumentation for display of systems parameters and status indication to be provided.
- iii. Solar Irradiance: An integrating Pyranometer / Solar cell based irradiation sensor (along with calibration certificate) provided, with the sensor mounted in the plane of the array. Readout integrated with data logging system [This will be provided with SPV Power Plants of PV capacity more than 50kW].
- iv. Temperature: Temperature probes for recording the Solar panel temperature and/or ambient temperature to be provided complete with read out integrated with the data logging system [This will be provided with SPV Power Plants of PV capacity more than 50 kW].
- v. The following parameters are accessible via the operating interface display in real time separately for solar power plant:
 - a. AC Voltage.
 - b. AC Output current.
 - c. Output Power
 - d. Power factor.
 - e. DC Input Voltage.
 - f. DC Input Current.
 - g. Time Active.
 - h. Time disabled.
 - i. Time Idle.
 - j. Power produced
 - k. Protective function limits (Viz-AC Over voltage, AC Under voltage, Over frequency, Under frequency ground fault, PV starting voltage, PV stopping voltage. Microprocessor and should be read on the digital front panel.

- vi. All major parameters available on the digital bus and logging facility for energy auditing through the internal microprocessor and read on the digital front panel at any time) and logging facility (the current values, previous values for up to a month and the average values) should be made available for energy auditing through the internal
- vii. Computerized DC Array monitoring and AC output monitoring shall be provided as part of the inverter and/or string/array combiner box or separately.
- viii. Array DC Voltage, Current and Power, Inverter AC Output Voltage and Current (all three phases and lines), AC Power (Active, Reactive and Apparent), Power Factor and AC Energy (All three Phases and Cumulative) and Frequency shall be monitored.
- ix. Computerized AC energy monitoring shall be in addition to the digital AC Energy Meter.
- x. The data shall be recorded in a common work sheet chronologically date wise. The data file shall be MS Excel compatible. The data shall be represented in both tabular and graphical form. All instantaneous data shall be shown on the computer screen. xi.) Software shall be provided for USB download and analysis of DC and AC parametric data for individual plant. xii.
- xi. Provision for instantaneous Internet monitoring and download of data shall be also incorporated.
- xii. Remote Server and Software for centralized Internet monitoring system shall be also provided for download and analysis of cumulative data of all the plants. The data of the solar radiation and temperature monitoring system should also be available on Remote Monitoring server [This will be provided with SPV Power Plants of PV capacity more than 50kW].
- xiii. Ambient / Solar PV module back surface temperature shall be also monitored on continuous basis [This will be provided with SPV Power Plants of PV capacity more than 50kW].
- xiv. Simultaneous monitoring of DC and AC electrical voltage, current, power, energy and other data of the plant for correlation with solar and environment data shall be provided [This will be provided with SPV Power Plants of PV capacity more than 50kW]. xvi. Remote Monitoring and data acquisition through Remote Monitoring System software at the owner location with latest software/hardware configuration and service connectivity for online / real time data monitoring/control complete to be supplied and operation and maintenance/control to be ensured by the bidder.

7. PROTECTIONS

The system should be provided with all necessary protections like earthing, Lightning, and grid islanding as follows:

LIGHTNING PROTECTION

The SPV power plants shall be provided with lightning & over voltage protection. The main aim in this protection shall be to reduce the overvoltage to a tolerable value before it reaches the PV or other sub system components. The source of over voltage can be lightning, atmosphere disturbances etc The entire space occupying the SPV array shall be suitably protected against Lightning by deploying required number of Lightning Arrestors. Lightning protection should be provided as per NFC17-102:2011 standard. The protection against induced high-voltages shall be provided by the use of metal oxide varistors (MOVs) and suitable earthing such that induced transients find an alternate route to earth.

SURGE PROTECTION

Internal surge protection shall consist of three SPD type-II surge-arrestors connected from +ve and -ve terminals to earth (via Y arrangement)

EARTHINGPROTECTION

- i. Each array structure of the PV yard should be grounded/ earthed properly as per IS:3043-1987. In addition the lighting arrester/masts should also be earthed inside the array field. Earth Resistance shall be tested in presence of the representative of Department/REIL as and when required after earthing by calibrated earth tester. PCU, ACDB and DCDB should also be earthed properly.
- ii. Earth resistance shall not be more than 5 ohms. It shall be ensured that all the earthing points are bonded together to make them at the same potential.

8. CABLES

Cables of appropriate size to be used in the system shall have the following characteristics:

- i. Shall meet IEC 60227/IS 694, IEC 60502/IS1554standards
 - ii. Temp. Range: -10°C to $+80^{\circ}\text{C}$.
 - iii. Voltage rating660/1000V
 - iv. Excellent resistance to heat, cold, water, oil, abrasion, UV radiation
 - v. Flexible
 - vi. Sizes of cables between array interconnections, array to junction boxes, junction boxes to Inverter etc. shall be so selected to keep the voltage drop(power loss) of the entire solar system to the minimum(2%).
 - vii. For the DC cabling, XLPE or, XLPO insulated and sheathed, UV-stabilized single core multi-stranded flexible copper cables shall be used; Multi-core cables shall not be used.
 - viii. For the AC cabling, PVC or, XLPE insulated and PVC sheathed single or, multi- core multi-stranded flexible copper/Aluminium cables shall be used; Outdoor AC cables shall have a UV-stabilized outer sheath.
 - ix. The cables (as per IS) should be insulated with a special grade PVC compound formulated for outdoor use. Outer sheath of cables shall be electron beam cross-linked XLPO type and black in colour.
 - x. The DC cables from the SPV module array shall run through a UV-stabilized PVC conduit pipe of adequate diameter with a minimum wall thickness of 1.5mm.
 - xi. Cables and wires used for the interconnection of solar PV modules shall be provided with solar PV connectors (MC4) and couplers.
-
- xii. All cables and conduit pipes shall be clamped to the rooftop, walls and ceilings with thermo-plastic clamps at intervals not exceeding 50 cm; the minimum DC cable size shall be 4.0 mm² copper; the minimum AC cable size shall be 4.0 mm² copper. In three phase systems, the size of the neutral wire size shall be equal or half to the size of the phase wires.
 - xiii. Cable Routing/ Marking: All cable/wires are to be routed in a GI cable tray and suitably tagged and marked with proper manner by good quality ferule or by other means so that the cable easily identified. In addition, cable drum no. / Batch no. to be embossed/printed at every one meter.
 - xiv. Cable Jacket should also be electron beam cross-linked XLPO, flame retardant, UV resistant and black in colour.
 - xv. All cables and connectors for use for installation of solar field must be of solar grade which can withstand harsh environment conditions including High temperatures, UV radiation, rain, humidity, dirt, salt, burial and attack by moss and microbes for 25 years and voltages as per latest IEC standards. DC cables used from solar modules to array junction box shall be solar grade copper (Cu) with XLPO insulation and rated for 1.1kVas per relevant standards only.
 - xvi. The ratings given are approximate. Bidder to indicate size and length as per system design requirement. All the cables required for the plant shall be provided by the bidder. Any change in cabling sizes if desired by the bidder shall be approved after citing appropriate

reasons. All cable schedules/ layout drawings shall be approved prior to installation.

- xvii. Multi Strand, Annealed high conductivity copper conductor PVC type A pressure extruded insulation or XLPE insulation. Overall PVC/XLPE insulation for UV protection Armoured cable for underground laying. All cable trays including covers to be provided. All cables conform to latest edition of IEC/ equivalent BIS Standards as specified below: BoS item / component Standard Description Standard Number Cables General Test and Measuring Methods, PVC/XLPE insulated cables for working Voltage up to and including 1100 V, UV resistant for outdoor installation IS /IEC69947.
- xviii. The total voltage drop on the cable segments from the solar PV modules to the solar grid inverter shall not exceed 2.0%.
- xix. The total voltage drop on the cable segments from the solar grid inverter to the building distribution board shall not exceed 2.0%.

9. TOOLS & TACKLES AND SPARES:

- i. After completion of installation & commissioning of the power plant, necessary tools & tackles are to be provided free of cost by the bidder for maintenance purpose. List of tools and tackles to be supplied by the bidder for approval of specifications and make from REIL.
- ii. A list of requisite spares in case of Junction Boxes. Fuses, MOVs /arrestors, MCCBs etc, which shall be supplied along with the equipment or can be maintained at Successful bidder end. A minimum set of spares shall be maintained in the plant itself or can be maintained at successful bidder end for the entire period of warranty and Operation & Maintenance which upon its use shall be replenished.

10. DANGER BOARDS AND SIGNAGES

Danger boards should be provided as and where necessary as per IE Act/IE rules as amended up to date. Three signage shall be provided one each at battery –cum- control room, solar array area and main entry from administrative block.

11. FIRE EXTINGUISHERS:

The firefighting system for the proposed power plant for fire protection shall be consisting of:

- a) Portable fire extinguishers in the control room for fire caused by electrical short circuits
- b) Sand buckets in the control room
- c) The installation of Fire Extinguishers should conform to TAC regulations and BIS standards. The fire extinguishers shall be provided in the control room housing PCUs as well as on the Roof or site where the PV arrays have been installed.

12. TRAINING MODULE FACILITY:

A training module facility shall be developed. Necessary training to the staff of the institute shall also be provided.

13. DRAWINGS & MANUALS:

One set of Engineering, electrical drawings and Installation and O&M manuals are to be supplied to beneficiaries. Bidders shall provide complete technical datasheets for each equipment giving details of the specifications along with make/makes in their bid along with basic design of the power plant and power evacuation, synchronization along with protection equipment. Approved ISI and reputed makes for equipment be used.

14. SAFETY MEASURES:

The bidder shall take entire responsibility for electrical safety of the installation(s) including connectivity with the grid and follow all the safety rules & regulations applicable as per Electricity Act, 2003 and CEA guidelines etc.

Note: The Technical Standards for Grid Connected SPV Rooftop Plants are revised/updated time to time by Ministry of New and Renewable Energy, New Delhi, the same will also be applicable on issuance of revised / updated standards by MNRE.

QUALITY CERTIFICATION, STANDARDS AND TESTING FOR GRID-CONNECTED ROOFTOP SOLAR PV SYSTEMS/ POWER PLANTS

Quality certification and standards for Grid-Connected Rooftop Solar PV Systems are essential for the successful mass-scale implementation of this technology. It is also imperative to put in place an efficient and rigorous monitoring mechanism, adherence to these standards. Hence, all components of Grid-Connected Rooftop Solar PV System/ Plant must conform to the relevant standards and certifications given below:

Surge Arrestors	
BFC 17-102:2011	Lightening Protection Standard
IEC 60364-5-53/ IS 15086-5 (SPD)	Electrical installations of buildings - Part 5-53: Selection and erection of electrical equipment - Isolation, switching and Control
IEC 61643-11:2011	Low-voltage surge protective devices - Part 11: Surge protective devices connected to low-voltage power systems - Requirements and test methods

Cables	
IEC 60227/IS 694, IEC 60502/IS 1554 (Part 1 & 2)/IEC69947 (as applicable)	General test and measuring method for PVC (Polyvinyl chloride)insulated cables (for working voltages up to and including 1100 V, and UV resistant for outdoor installation)
BS EN 50618	Electric cables for photovoltaic systems (BT(DE/NOT)258), mainly for DC Cables

Earthing/ Lightning	
IEC 62561 Series (Chemical earthing) (as applicable)	IEC 62561-1 Lightning protection system components (LPSC) - Part 1: Requirements for connection components IEC 62561-2 Lightning protection system components (LPSC) - Part 2: Requirements for conductors and earth electrodes IEC 62561-7 Lightning protection system components (LPSC) - Part 7: Requirements for earthing enhancing compounds

Junction Boxes	

IEC 60529	Junction boxes and solar panel terminal boxes shall be of the thermoplastic type with IP 65 protection for outdoor use, and IP 54 protection for indoor use
Energy Meter	
IS 16444 or as specified by the DISCOMs	A.C. Static direct connected watt-hour Smart Meter Class 1 and 2 - Specification (with Import & Export/Net energy measurements)
Solar PV Roof Mounting Structure	
IS 2062/IS 4759	Material for the structure mounting

Note- Equivalent standards may be used for different system components of the plants.

SECTION – 7

GENRAL TERMS & CONDITIONS

THE WORK OF SUPPLY & INSTALLATION COMMISSIONING & COMPREHENSIVE MAINTENANCE FOR FIVE YEARS OF GRID CONNECTED SPV SYSTEMS

PROJECT INSPECTION:

The project progress will be monitored by REIL Project In charge / concern authority and the projects will be inspected for quality at any time during manufacturing, supply, commissioning or after the completion of the project either by officer(s) from REIL Project In charge / concern authority or any authorized agency / experts. All the expenses for inspection in this regard shall be borne by the Bidder only. Prior to supply of material, the same shall be offered for QA with details & drawings.

REIL reserve the right to do sample inspection checks for the projects commissioned by the Bidder.

REIL Project In charge / REIL QA department / concern authority may also depute a technical person(s) from its list of empanelled experts for inspection, Third party verification, monitoring of system installed to oversee, the implementation as per required standards and also to visit the manufactures facilities to check the quality of products as well as to visit the system integrators to assess their technical capabilities as and when required.

The PDI will be completed by REIL within 5 days of receiving the request in writing from the bidder at bidder's manufacturing place. All test reports & certificates will be provided alongwith PDI request. The time taken for PDI is inclusive in the delivery period.

COMPLETION PERIOD:

Supply of material at Site within 15 days after release of work order/LOA and Installation & commissioning should be completed within one and a half months from the date of LOI / Work order & may be extended depending upon the field situation or the timeline set for net metering, whichever is less.

The contractor will submit a detailed BAR/PERT chart indicating all the activities, mobilization of

Material and man power and other resources required to complete the work in stipulated time. Non Completion of work within stipulated time period will attract the penalty as per the contract.

HSN Code: Bidder shall clearly mention in the HSN Code in the technical bid and shall be submitted HSN code with items wise details bid the bid.

CAPACITY OF PLANT:-

The capacity of Grid Connected SPV Power plant shall be from 10 kWp to 100 kWp and is subject to vary as per sites. 10% sites may be below 10kWp and above 100 kWp capacities.

MAINTENANCE:-

The contractors shall carry out the 5 years maintenance of systems and shall visit the site whenever required to ensure the plant effective performance. The certificate for the same, shall be submitted once in 6 months.

PAYMENT TERMS:

1. 10% payment may be released as mobilization advance after award of work order against submission of BG of equivalent value. The BG will be released after supply of complete material.
2. 70% payment shall be released on pro rata basis (site wise) after supply of complete material at designated Site, submission of Receipt of materials dully verified by REIL Engineer In Charge & beneficiary and release of REIL payment from beneficiary against Supply of materials.
3. 15% payment shall be released on pro rata basis (site wise) after completion of Installation-Commissioning (with Metering Arrangement) of Plant and submission of completion certificate dully verified by REIL Engineer In Charge & beneficiary and submission of PBG valid for 5 years for 10% of contract value towards warranty obligations.
4. 5% payment shall be released on pro rata basis (site wise) @ 1% per year after successful maintenance of system and submission of maintenance certificate dully signed and stamped beneficiary.

The above payments shall be released after receipt of REIL payment from the customer for the milestones mentioned above.

Warranty Clause:-

The systems offered shall be warranted (including consumables) by the Successful bidder for use and services for a period of five years from the date of commissioning.

SIGNATURE OF AUTHORISED SIGNATORY WITH SEAL

RAJASTHAN ELECTRONICS & INSTRUMENTS LIMITED, JAIPUR

OTHER GENERAL TERMS AND CONDITIONS

1) AMENDMENT

Except as otherwise provided herein, no addition, amendment to or modification of the Contract shall be effective unless it is in writing and signed by and on behalf of both parties.

2) SEVERABILITY

In the event that any or any part of the terms conditions or provisions contained in the Contract shall be determined invalid, unlawful or unenforceable to any extent such term, condition or provision shall be served from the remaining terms, conditions and provisions that shall continue to be valid and enforceable to the fullest extent permitted by law.

3) CONFIDENTIAL TREATMENT

It is understood and agreed that data, know-how and other such proprietary information that was provided or will be provided by either party, will remain confidential.

4) RELATIONSHIP OF THE PARTIES

REIL relationship with Supplier will be that of a Business Associate, and nothing in this Contract shall be construed to create a relationship, joint venture, partnership.

5) CONSTITUTION OF THE FIRM

(5.1) The bidder should be registered under any of the following categories as on date of floating of tender.

- A. Company**
- B. Sole Proprietor firm**
- C. Partnership firm**

(5.2)

- A. In case of company, tender document must be signed and sealed by Chief Executive of Company or any person authorized by CEO or by any person authorized by resolution of board of directors. Memorandum of Association and notarized Power of Attorney should be uploaded with tender.
- B. In case of Sole Proprietor firm, the bidder must submit (Original/Notarised) affidavit certifying the Sole Proprietorship of firm before date of opening of bid. The bid document must be signed and sealed by authorised person.
- C. In case of Partnership firm this firm should be registered with registrar of firms. The bid document must be sealed and signed by any authorized person. The authorization given in partnership deed or other notarized document must be uploaded.
- D. In case of Joint Ventures, Signed and Sealed bid document by any authorized person duly authorized by all JV members must be uploaded. Original copy or duly notarized copy of JV agreement must be uploaded.
- E. In case of society signed and sealed bid document must be uploaded before tender opening date. Power of Attorney (Original / Notarised) in favour of tender signatory must be submitted.

6) INDEMNITY

REIL and the Supplier will indemnify, defend, and hold harmless each other and its divisions, successors, subsidiaries and affiliates, the assigned of each and their directors, officers, agents and employees from and against all liabilities, claims, losses, and damages of any nature, including, without limitation, all expenses (including attorney's fees), cost, and judgments incident there to REIL and REIL's obligations under this indemnity will survive the expiration, termination, completion or cancellation of this Contract or an order hereunder.

7) FORCE MAJURE

REIL and the Supplier shall not be under any liability to each other or to any other party in any way whatsoever for the destruction, damage, delay or any other matters of the nature arising out of reasons beyond the control of either party, including but not limited to a war, rebellion, civil commotion, strikes, lock-outs and industrial disputes; fire, explosion, earthquake, Act of God, flood, drought, bad weather, requisitioning or other act or order by any government department, council or other constituted body, and similar other reasons.

8) RESTRICTION ON EMPLOYMENT

Both the parties have agreed that they will not recruit any members of staff of other party directly or indirectly.

9) ARBITRATION

All disputes arising out of this contract and questions relating to its interpretation etc. shall be referred to the contract committee headed by ED/GM and if not resolved shall be referred to the sole arbitration of Managing Director, Rajasthan Electronics & Instruments Ltd., for his decision, which shall be final and binding on both parties. The Venue of Arbitration proceedings shall be at Jaipur.

10) RISK AND COST

In the event of failure on the part of the contractor in the supply, installation and commissioning of goods and services, which is required in view of the pending orders, REIL shall be entitled to cancel the remaining order and procure the outstanding quantity through other sources at risk and costs of the contractor.

11) TERMINATION OF CONTRACT:

REIL shall be entitled to terminate this Contract, in the event of any or all or any of the following events, with a written notice of 15 days:-

- i. has abandoned the Contract
- ii. has without valid reason failed to supply the goods in respect of the contract or has suspended the progress of supply of equipment
- iii. persistently fails to execute the Contract in accordance with the Contract or persistently neglects to carry out its obligations under the Contract without just and proper cause

12) DURATION OF CONTRACT

This contract shall take effect on the day of execution of this contract and shall endure upto completion of 5 year AMC period.

13) GOVERNING LAW

This contract and its validity, interpretation and performance will take effect and be governed under the laws of India. Venue in any action in law or equity arising from the terms and conditions of this

contract shall be the court of appropriate jurisdiction in Jaipur, Rajasthan (India)

14) SPLITTING OF TENDER QUANTITY BETWEEN BIDDERS

REIL reserve the right to split the quantity and award on two or more vendors as per the production/ project requirement. The following norms would be adopted in case of split of quantity:

100% of the tender quantity would be split amongst the approved vendors only in the ratio of 60:40 at the rate and terms applicable in the tender, keeping in view the objective that the per unit landed cost to REIL in case of purchase from L1 or L2 approved vendor remains same. REIL reserves the right to split the work between L1, L2 and L3 as so on in the ratio as per the requirement on case to case basis. REIL reserves the right to distribute the work as per availability of site.

15) PREFERENCE TO MSE

1. 25% of the tendered quantity is earmarked for MSE suppliers in this tender
2. Out of the 25% tendered quantity reserved for MSE suppliers, 20% shall be earmarked for procurement from MSE owned by SC/ST entrepreneurs.
3. In case MSE vendor participating in the tender quotes within the price band of L1+15%, they will be allowed to supply the portion of the requirement subject to acceptance of L1 price by MSE vendor. In case of more than one such MSE, the supply shall be shared proportionately.

16) INDIGENOUS MANUFACTURER

Indigenous manufacturer shall be given preference for promotion of indigenous products to maximum subject to meeting quality standards and specifications.

17) NO NEAR RELATIVE CLAUSE

The bidder should give a certificate that none of his/her near relative is working in REIL as defined below along with their technical bid as per the attached Annexure . In case of proprietorship firm certificate will be given by the proprietor. For partnership firm certificate will be given by all the partners and in case of limited company by all the Directors of the company excluding Government of India/Financial institution nominees and independent non-Official part time Directors appointed by Govt. of India or the Governor of the state and full time Directors of PSUs both state and central. Due to any breach of these conditions by the company or firm or any other person the tender will be cancelled and Bid Security

will be forfeited at any stage whenever it is noticed and REIL will not pay any damage to the company or firm or the concerned person. The company or firm or the person will also be debarred for further participation in REIL's Tender. The near relatives for this purpose are defined as:- (a) Members of a Hindu undivided family. (b) They are husband and wife. (c) The one is related to the other in the manner as father, mother, son(s) & Son's wife (daughter in law), Daughter(s) and daughter's husband (son in law), brother(s) and brother's wife, sister(s) and sister's husband (brother in law).

18) OTHER TERMS & CONDITIONS:

- i Compliance with Regulations and Indian Standard:- All works shall be carried out in accordance with relevant regulations, both statutory & those specified by the Indian standard related to the works covered by this specification. In particular the equipment and installation will comply with the following:-
 - a. Work man's compensation act.

- b. Minimum wages Act.
- c. Payment wages Act.
- d. Contact Labour regulation & abolition Act.
- e. ESI, PF & Bonus Act.
- f. Regulation under Indian Electricity Rules,
- g. Safety & electrical Standard as applicable
- i Watch & Ward:-

The Vendor shall supply material (including SPV Modules provided by REIL) from his godown for installation work at site, shall continue to be responsible for their safe custody till they are installed in position, tested, commissioned and handed over to beneficiaries as per format provided by REIL.

- iii Vendor shall arrange for compliance with statutory provision of safety regulation and departmental requirements of safety codes in respect of labour employed on the work by the Vendor. Failure to provide such safety requirements would make the Vendor liable for penalty. The department will make arrangement for the safety requirements at the cost of the Vendor & recover the cost thereof from him.
- iv Company shall not be held liable or responsible for any illness and for physical harm sustained by the Vendor authorized representative during the execution of this agreement as they will not be deemed in any manner as employee of the company.
- v The Vendor authorized representative shall take due care in handling the SPV system under this contract. Unwarranted activities, if found any, the company shall be authorized to recover the same from the Vendor.
- vi Correction, over-writing and alteration should be initialed and dated by the Vendor otherwise the bid is liable to be rejected. The bid shall be typed or written in ink. Unit rates should be mentioned in the specified format failing which the bids are not likely to be considered.
- vii All Vendors shall therefore, furnish declaration that their firm is not involved in any litigation that may have an impact of affecting or compromising the delivery if services as required under this assignment. It is also to be declared that their firm has not been black listed by any Central/State/ Public Sector Under takings in India. The declaration should be verified by the Notary Public.
- viii The Vendor shall sign these conditions on each page at the end in token of acceptance of all the terms and it would be attached with the bid along with the declaration mentioned in above. He should also sign at the bottom of each of the pages of his bid to be submitted.
- ix The company reserves the right to visit and inspect any site under this contract at any time and if defects are noted, payments may be stopped / recovered from Vendor. The company reserves the right to terminate this contract without giving any notice, if in the opinion of the company, the performance of the Vendor is not found satisfactory and according to terms stipulated by this contract.
- x The company shall be fully absolved from the third party claims and damages during the execution of the contract.
- xi The contract agreement shall be executed at Jaipur and shall be subject to Jaipur court jurisdiction alone.
- xii The company shall deduct the TDS as per the Income Tax Act.
- xiii The Vendor shall be fully responsible for all repairs of the defects in maintenance during the period under contract.

SECTION -8

FORMATS & ANNEXURES

(On bidder's letter head and signed, stamp before uploading)

COVERING LETTER

No.

Date:

Dy. General Manager (MM),
Rajasthan Electronics & Instruments Limited,
2, Kanakpura Industrial Area,
Jaipur-302034
Rajasthan

Sub: Work for “Survey, Design, Supply of BOS, Installation – Commissioning and 5 years maintenance of various capacity Grid Connected SPV Power Plant(s) (upto total 8 MWp capacity) at various Training Institutions / Educational Institutions in various districts in the state of Rajasthan”.

Dear Sir,

We hereby submit our offer in full compliance with terms & conditions of the above e-tender.

We confirm that, we have the capability for work for “Survey, Design, Supply of BOS, Installation – Commissioning and 5 years maintenance of various capacity Grid Connected SPV Power Plant(s) (upto total 8 MWp capacity) at various Training Institutions / Educational Institutions in various districts in the state of Rajasthan”. (Supporting document in proof of capacity should be attached). We are also submitting bid security declaration form.

Regards,

Signature with company seal

Name-

Designation

RAJASTHAN ELECTRONICS & INSTRUMENTS LIMITED, JAIPUR

COMMERCIAL TERMS AND CONDITIONS

S. No.	Term	Description	Complied / Not Complied	Deviation if any
1	GST	Inclusive as applicable. Please specify the current Rate.		
2	Terms of payment	As per tender document		
3	Contract period	From issue of work order and up to 5 years from commissioning of SPV Power Plant.		
4	Rate	Firm rate for contract period.		
5	Offer validity	60 day from the date of bid opening.		
6	Quantity Variation	Quantity may increase or decrease depending upon the requirement.		
7	Completion Period	As per tender document		
8	GST No:	GST No. is essential for participating in this Tender. Kindly provide your GST No.		
9	MSME Clause	It is mandatory for MSE bidders to declare their Udhyog Aadhar number/Udhyam Registration on CPPP portal, failing which such bidders will not be able to enjoy the benefits of procurement policy for MSE and also attach the certificate along with annexure.		
10	Note	Corrigendum and extension if any will be hosted on website (www.eprocure.gov.in) only. Please check regularly for further information update.		
11	Other	Part-I (Technical and Commercial Offer) to be opened by the REIL committee. Part-II (Price Offer): Only those bidders whose offers are technically and commercially acceptable after evaluation of the technical and commercial offer will be opened & evaluated by the committee.		

SIGNATURE WITH STAMP

RAJASTHAN ELECTRONICS & INSTRUMENTS LIMITED, JAIPUR

PROCESS COMPLIANCE FORM

(On bidder's letter head and signed, stamp before uploading)

To

**M/s. Rajasthan Electronics & Instruments Limited
2, Kanakpura Industrial Area, Sirsi Road,
Jaipur-302034**

Sub:-Acceptance to the process related Terms and Conditions for the e-Tendering

Dear Sir,

**This has reference to the Terms & Conditions for e-Tendering mentioned in the tender No.:-
REIL/RE/21-22/PP/01**

We hereby confirm the following:-

- 1) The undersigned is authorized representative of the company.
- 2) We have carefully gone through the NIT, Tender Documents and the Rules governing the e-tendering as well as this document.
- 3) We will honor the Bid submitted by us during the e-tendering.
- 4) We undertake that if any mistake occurs while submitting the bid from our side, we will honor the same.
- 5) We are aware that if REIL has to carry out e-tender again due to our mistake, REIL has the right to disqualify us for this tender.
- 6) We confirm that REIL shall not be liable & responsible in any manner whatsoever for my/our failure to access & submit offer on the e-tendering site due to loss of internet connectivity, electricity failure, virus attack, problem with the PC, digital signature certificate or any other unforeseen circumstances etc.

With regards

Signature with company seal

Name-

Designation

E-mail Id:

(On bidder's letter head and signed, stamp before uploading)

RAJASTHAN ELECTRONICS & INSTRUMENTS LIMITED, JAIPUR

AUTHORIZATION CERTIFICATE

Date

To

Dy. General Manager (MM),
Rajasthan Electronics & Instruments Limited,
2, Kanakpura Industrial Area,
Jaipur-302034
Rajasthan

Dear Sir,

We M/s.are authorizing Mr. to submit tender document in reference to your tender no **REIL/RE/21-22/PP/01 Dated 29.04.2021** for work for "Survey, Design, Supply of BOS, Installation – Commissioning and 5 years maintenance of various capacity Grid Connected SPV Power Plant(s) (upto total 8 MWp capacity) at various Training Institutions / Educational Institutions in various districts in the state of Rajasthan" on our behalf. He is authorized to carry out communication and negotiations on our behalf.

On behalf of company

Name and Designation

Signed and sealed (who has signed the tender)

Tender ref.: REIL/RE/21-22/PP/01

Date

CERTIFICATE FOR NON BLACK LISTING
(Bidder must submit it on Letter Head of the firm)

To

Dy. General Manager (MM),
Rajasthan Electronics & Instruments Limited,
2, Kanakpura Industrial Area,
Jaipur-302034(Rajasthan).

Ref: NIB No.

Dear Sir,

We M/s.confirm that we are not blacklisted in any PSUs / Government /
Semi Government / Quasi Government department in India, as on date of submission of bid. This
undertaking is submitted to the best of my knowledge. If at any stage it is found wrong, then REIL
may take necessary action against us.

On behalf of company

Name and Designation

Tender ref.: REIL/RE/21-22/PP/01

UNDERTAKING OF NO NEAR RELATIVE

Date

To

Deputy General Manager (MM),
Rajasthan Electronics & Instruments Limited,
2, Kanakpura Industrial Area,
Jaipur-302034
Rajasthan

Dear Sir,

I.....S/o..... R/o.....
hereby certify that none of my relatives) as defined in the tender document is/are employed in REIL unit as per details given in tender document. In case at any stage, it is found that the information given by me is false / incorrect, REIL shall have the absolute right to take any action as deemed fit/without any prior intimation to me.

On behalf of company

Name and Designation

RAJASTHAN ELECTRONICS & INSTRUMENTS LIMITED, JAIPUR**CHECK LIST**

Sr. No.	Required Documents		Remark
1.	SECTION-1	INSTRUCTION TO BIDDERS	
2.	SECTION-2	ELIGIBILITY AND CRITERIA	
3.	SECTION-3	SCOPE OF WORK	
4.	SECTION-4	PRICE SCHEDULE	
5.	SECTION-5	COMPLETION PERIOD	
	SECTION-6	TECHNICAL SPECIFICATIONS FOR GRID CONNECTED SPV SYSTEMS	
	SECTION-7	GENRAL TERMS & CONDITIONS	
6	Annexure –I	Covering Letter	
6	Annexure –II	Format of Commercial Terms and Conditions	
7	Annexure- III	Process Compliance Form	
8	Annexure- IV	Authorization Certificate	
9	Annexure- V	NON Blacking Listing	
10	Annexure- VI	No near Relative	
11	Annexure- VII	Check list	
12	Annexure- VIII	Proforma for Bid Security Declaration Form	
13	Annexure- IX	Maintenance Certificate	
14	Annexure- X	CA Certificate	
15	Annexure- XI	Certificate towards satisfactory completion of works	
16	Annexure- XII	Certificate towards Legal / Contractual Disputes	

[Duly Notarised on Rs. 100/- Stamp Paper]

Bid Security Declaration

In reference to “REIL” Tender for “ _____ [Subject of Tender] “ published vide NIT/Bid Document No : _____ dated: _____, We, _____ [Name of the bidder]” hereunder referred to as Bidder”.

- (a) understand that, according to tender conditions, bids must be supported by a Bid Security Declaration.
- (b) hereby submit a declaration that the bid submitted by the undersigned, on behalf of the Bidder, shall not be withdrawn or modified during the period of bid validity as mentioned in the tender document.

We, _____ [Name of the bidder], also accept the fact that in case the bid is withdrawn or modified during the period of its validity or if _____ [Name of the bidder] fail to sign the contract in case the work is awarded to us or fail to submit a performance security before the deadline defined in the tender document/letter of award, then _____ [Name of the bidder] shall be suspended for participating in all government Tenders, for a period of 5 year from bid due date of above referred tender.

We _____ [Name of the bidder] also understand that this Bid Securing Declaration shall cease to be valid if We are not the successful Bidder, upon the earlier of:

- (a) the receipt of your notification of the name of the successful Bidder; or
- (b) thirty days after the expiration of the validity of our Bid

Signed: (insert signature of person whose name and capacity are shown)
in the capacity of: (insert legal capacity of person signing the Bid Securing Declaration)
Name: (insert complete name of person signing the Bid Securing Declaration)

Duly authorized to sign the bid for an on behalf of _____ [Name of the bidder]

Dated on _____ day of _____, 2021 (insert date of signing)

Company Seal (where appropriate)

Maintenance Certificate

Date-

Name of Site:-

Location of Site:-

Capacity of SPV Power Plant:-

Type of SPV Power Plant :-

Grid Connected

Contact Person:-

S. NO	DESCRIPTION	STATUS			REMARK
1.	Nos. of SPV Modules & Capacity				
2.	Cleaning of Modules on Date.....				
3.	Nos. of String Inverter & Capacity				
4.	Sr. No. of String Inverter				
5.	Nos. of Strings				
6.	Nos. of Modules in each String				
7.	Vmp & Imp of Strings	Nos.	Vmp	Imp	
8.	Reading of String Inverters	Power (kW)	E-Today (kWh)	Cumulative (kWh)	
9.	Solar Meter Details Sr. No. MakekWh			
10.	Net Meter Details Sr.No. Make	Import kWh	Export kWh	Net kWh	
11.	If/Any				

It is certified that the Grid Connected SPV Power Plant Capacity ofkWp at
(Location) is working satisfactory.

Signature of REIL

Signature of Beneficiary

CA CERTIFICATE

Date

To

Deputy General Manager (MM),
Rajasthan Electronics & Instruments Limited,
2, Kanakpura Industrial Area,
Jaipur-302034
Rajasthan

Ref : NIB No.

Dear Sir,

It is certified that M/s is failing under MSE category as per guidelines contained in the provisions of the MSMED Act,2006 and notification No. S. P 1722 (E) dated 05.10.2006 and recent Government guidelines having Udhyog Adhar No.

We also certify that the investment in plant and machinery (Imported and indigenous) as on date is Rs. And Turnover for FY 2019-20 is Rs.

Tendered items are being manufactured by Tenderer (M/s)

Chartered Accountant

Firm Name :-

Signature with Seal

UDIN.....

Tender ref.: REIL/RE/21-22/PP/01

CERTIFICATE TOWARDS COMPLETION OF WORKS

Date

To

Deputy General Manager (MM),
Rajasthan Electronics & Instruments Limited,
2, Kanakpura Industrial Area,
Jaipur-302034
Rajasthan

Dear Sir,

We M/s do hereby confirm that we have completed all the works awarded by REIL in last 5 financial years. No work in pending as on date, which was awarded by REIL.

On behalf of company

Name and Designation

Tender ref.: REIL/RE/21-22/PP/01

CERTIFICATE TOWARDS LEGAL / CONTRACTUAL DISPUTES

Date

To

Deputy General Manager (MM),
Rajasthan Electronics & Instruments Limited,
2, Kanakpura Industrial Area,
Jaipur-302034
Rajasthan

Dear Sir,

We M/s do hereby confirm that we do not have any legal / contractual disputes with REIL or any other PSU.

On behalf of company

Name and Designation