



RAJASTHAN ELECTRONICS & INSTRUMENTS LIMITED, JAIPUR

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

2, KANAKPURA INDUSTRIAL AREA, SIRSI ROAD,

JAIPUR-302 034

Tel No: 0141- 2471083

E-mail: deepak.gupta@reil.co.in, website: www.reiljp.com

**NOTICE INVITING TENDER FOR “SUPPLY OF BOS, INSTALLATION, TESTING,
NET-METERING AND COMMISSIONING INCLUDING WARRANTY & AMC FOR 5
YEARS OF 88 KWP GRID CONNECTED ROOFTOP SOLAR POWER PLANT”**

TENDER NO. REIL/RE/2021-22/PP/21085 dated 13.08.2021

Important Dates

Last Date & Time for submitting e-tender: 20.08.2021 upto 17:00 Hrs

Date & Time for opening of e-tender: 21.08.2021 at 17:00 Hrs

Kindly note that only online bid will be considered against this tender.

RAJASTHAN ELECTRONICS & INSTRUMENTS LIMITED, JAIPUR

NOTICE INVITING TENDER NO. REIL/RE/2021-22/PP/21085.

This is a Notice Inviting Tender (NIT) for “Supply of BOS, Installation, Testing, Net Metering and Commissioning including Warranty and AMC for 5 years of 88 kWp Grid Connected Roof Top Solar Power Plant” as per description and terms & conditions specified hereinafter:

Item Description:

S. No.	Description
1.	Supply of BOS, Installation, Testing, Net Metering and Commissioning including Warranty and AMC for 5 years of 88 kWp Grid Connected Roof Top Solar Power Plant

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. Bidder 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 (blank or changing format of price sheet will not be accepted by system). **REIL reserve the right to distribute the work.**

The bid shall comprise of technical bid and commercial Bid. The detailed scope of work, terms and conditions etc. are available with the Bid documents.

The bids must also be accompanied with Tender Fee of and Earnest Money of in form of crossed Demand Draft / FDR/ Bank Guarantee/RTGS in favour of “**Rajasthan Electronics & Instruments Limited, Payable at Jaipur**”. The Bank Guarantee should be issued by any scheduled Bank and valid for 180 days.

The details for Bid are as follows.

S. No.	Item	Description
1	Last date for submission of Online Bid	20.08.2021 (17:00 hrs)
2	Opening of technical Bid	21.08.2021 (17:00 hrs)
3	Opening of Commercial Bid	To be informed later to successful bidders in the technical bid
4	Last date for submission of Hard copy of documents	21.08.2021 (17:00 hrs)
5	Address for Submission of Hard Copy of documents	Dy. General Manager (MM), Rajasthan Electronics & Instruments Limited, 2, Kanakpura Industrial Area, Sirsi Road, JAIPUR – 302 034
6	Contact Person(s) for Technical Queries	1. Sh. Amitabh Sharma, DGM (RE), amitabh.sharma@reil.co.in 2. Sh. Kuldeep Singh Rathore, Engineer (RE), kuldeep.rathore@reil.co.in , +91-7727007749
7	Contact Person(s) for Tender related Queries	1. Sh. Deepak Gupta, DGM (MM), deepak.gupta@reil.co.in , 0141- 2471083

REIL reserves the right to reject the whole or part of any or all bids received, without assigning any reason.

Note:

- 1. All MSEs notified as per GFR 2017 clause no. 1.10.4 shall be exempted from payment of Tender Document Fee and Bid Security/ Earnest Money Deposit. For claiming this exemption, MSE must, along with their offer, provide proof of their being registered as MSE (indicating the terminal validity date of their registration) for the item tendered, with any agency mentioned in the notification of Ministry of MSME.**
- 2. Only those contractors who are approved with REIL for Installation and commissioning work can quote against this tender.**

Dy. General Manager (MM)

RAJASTHAN ELECTRONICS & INSTRUMENTS LIMITED, JAIPUR

Process Compliance Form

(Tenders are required to print on their company's letter head and signed, stamp before uploading).

To

**Deputy General Manager (MM)
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/2021-22/PP/21085 dated 13.08.2021.**

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:

ELIGIBILITY CRITERIA:

A) TECHNICAL ELIGIBILITY CONDITIONS:

Bidder must fulfill following criteria:-

1. The Bidder should be a Company / Firm / Corporation, incorporated in India under the Companies Act, 1956 or 2013 and having experience in Installation & Commissioning of Solar Power Plants.

Or

A Limited Liability Partnership Firm (LLP) registered under section 12 of Limited Liability Partnership Act, 2008 and having experience in Installation & Commissioning of Solar Power Plants.
2. Bidder should have experience of Supply of BOS and Installation-Commissioning of cumulative 100 kWp Grid Connected SPV Power Plants during last three financial years.

B) FINANCIAL ELIGIBILITY CONDITIONS:-

1. Firm should have a minimum annual average turnover of Rs. 50.00 Lacs in last three financial years.

Bidder should submit following documents along with Technical bid on website:-

1. Company Incorporation Certificate / Company Registration Certificate.
2. Balance sheet for last three years.
3. Turnover and Net worth value duly certified by CA.
4. Photocopy of the last Three years Income Tax Return.
5. Experience details in Installation, Commissioning and Maintenance of SPV Power Plant Systems. (Kindly attach verified documents from customer such as Work Order and Completion Certificate)
6. Photocopy of GST Registration no. & PAN no.
7. Any other relevant documents

(C) OTHER CONDITIONS:

- a) **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.
- b) The contractor shall not sublet, transfer or assign the contract to any part thereof without the written permission of the Deputy General Manager (MM). In the event of the contractor contravening this condition, Deputy 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 Deputy General Manager (MM), may sustain in consequence or arising out of such replacing of the contract.
- c) **Document:** The bidder should have a valid **PAN / TAN / 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. Check list be

attached.

- d) **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.
- e) The quantity of the SPV Systems shown in the tender can be increased or decreased to any \ extent depending upon the actual requirement.
- f) **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**
- 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 State Government. The same shall be submitted to REIL by successful bidder after placement of work order.
 - 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.
- E) PRICES:**
- a. Prices are to be quoted **in Indian Rupees**.
 - b. Prices quoted in the Price/Financial Bid must be meaningful and measurable in the context.
 - c. Price must be quoted in original sheet of BOQ failing which the same is liable to be rejected.
 - d. Offer shall be valid for 60 days from the date of bid opening.

SCOPE OF WORK:

REIL Scope: The SPV Modules and Inverters for Solar Power Plant shall be supplied by REIL at site.

Scope of work of Contractor shall include:

- A. All works required for proper installation of Solar PV Power Plant including necessary civil works for mounting structures of solar module, shall be done by the contractor. The entire work shall be performed on turnkey basis. All the works related to the proper installation and functioning of the systems shall have to be carried out by the contractor in the prices offered by him.
- B. All necessary electrical wiring up to the point of interconnection (HT side of the transformer within the premises of the registered applicant) shall have to be done by the contractor including supply of all required materials. However the erection of power transmission line required for evacuation of power from point of interconnection up to the grid line /substation of UPCL may be done by the Contractor on the expenses of the registered applicant.
- C. The generated electricity from the Grid Connected Solar Power Plant (with Net metering facility, including Consumer sanction load of UPCL enhancement if applicable) shall be utilized for self consumption of the beneficiary to whom the solar power plant has been allotted and if surplus power is available, it will be fed to grid through net metering. Metering arrangements, related connectivity

components and other charges including supply of meter shall be in the scope of contractor.

- D. After completion of the proposed works, clearances of all temporary works/materials shall be the sole responsibility of the contractor and this shall be removed immediately after the requirement of such temporary work is completed.
- E. General Aesthetics & cleanliness in regard to the installation of various systems shall have to be maintained in accordance with the aesthetics of the site.
- F. Arrangement of proper earthing mechanism and lightning arresters should be done at site as per the requirements of the Solar Power plant.
- G. Supply and Installation of Display board of 4' X 3' size showing all technical information of SPV plant shall be done by the contractor. The matter written on these boards shall be provided to Contractor.
- H. The contractor shall supply/ install the necessary tools/instruments required for proper operation of the plant and to measure PV array Voltage, Current, Power and solar radiation.
- I. During 5 year's Warrantee & maintenance period, the contractor will have to make all necessary arrangements for satisfactory operation, maintenance and performance of the Power Plant.
- J. The complete Grid Connected Solar Power Plant shall be warranted against any manufacturing/ design/ installation defects for a minimum period of 5 years from the date of commissioning.
- K. Warrantee period will include rectification /replacement of all the defective and consumable components/items. However all the non functional parts/ materials/ items replaced during the Warrantee period shall be the property of the contractor.
- L. After commissioning of the plant, the contractor will conduct one on-site training of the purchaser's/user's personnel regarding assembly, start-up, operation, maintenance and repairs of the Solar PV Power Plant.
- M. Rectification of all the defects developed in the Solar PV Power Plant during Warrantee and Maintenance period shall have to be done by the contractor promptly, at the most within 7 days from the date of receipt of complaint.
- N. During Warrantee, operation and Maintenance period, the contractor shall have to submit annual performance & functionality report from the Registered Applicant.
- O. For proper functioning and maintenance of Solar Power Plant, Contractor shall have to establish at least one service station in every district where plants are installed by him.**
- P. During the Warrantee & AMC period REIL / UREDA / users will have all the rights to cross check the performance of the Solar PV Power Plant. REIL / UREDA may randomly pick up its components to get them tested at Govt. / MNRE approved any test center. If during such tests any part is not found as per the specified technical parameters, REIL / UREDA will take the necessary action to recover the losses and to black list the firm and the same may be communicated to MNRE and other nodal agencies. The decision of REIL / UREDA in this regard will

be final and binding on the contractor.

NOTE: The project installation may differ from site to site. The following types of sites may be considered:

- Flat Roof Top
- Inclined Roof Top
- Open Flat Land
- Open hilly and inclined land, etc

Further as the plants may be situated in plain areas as well as remote hilly areas with/without roads in the State; the various requirements for installation of plants may vary according to the location of the plant. The bidder should consider the various factors related to transportation and mounting structures for solar modules with respect to different size/location and type of roof of Solar Power Plants. Further additional separate electric cable/wiring, etc shall be required to energize the proposed load according to the requirement of the beneficiary, shall be under the scope of contractor.

GENERAL TECHNICAL SPECIFICATIONS

A Grid Tied Solar Rooftop Photo Voltaic (SPV) power plant consists of SPV array, Module Mounting Structure, Power Conditioning Unit (PCU) consisting of Maximum Power Point Tracker (MPPT), Inverter, and Controls & Protections, interconnect cables, Junction boxes, Distribution boxes and switches. PV Array is mounted on a suitable structure. Grid tied SPV system is without battery and should be designed with necessary features to supplement the grid power during day time. Components and parts used in the SPV power plants including the PV modules, metallic structures, cables, junction box, switches, PCUs 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 equipment's/components.

1. Brief Description of the System

The main components of the SPV plant are

- SPV Modules
- Civil Work.
- Module Mounting Structure.
- Array Junction Boxes.
- String Monitoring Boxes
- Grid Tie Inverters
- Step- up Transformer – LT
- Step- up Transformer – HT
- SCADA / Monitoring System as per predefined parameters
- Earth System
- Lightning & Surge Protection
- DCCables.
- AC Cables.
- Illumination System
- AC Metering and Grid Interconnection System.

This list is of general nature and some of the components may not be required or may be combined as per the system finally designed.

2. Typical Power Generation Scheme

The system consists mainly of the following:

- Solar PV array – which produces DC electricity when solar rays are incident on it
- Power Conditioning Units (PCU) or Inverters – which convert DC (Direct Current) electricity into AC (Alternating Current) electricity and facilitate synchronization with the grid power
- Transformers – which transform the AC output of the Power Conditioning Units to the level required at the grid

The SPV array (constituting solar PV modules of selected rating connected in series and parallel combinations to build up the Voltage and Current parameters as per desired design modalities) produces DC electricity when Solar insolation is incident on it. The DC power thus produced is taken through various junction boxes and isolators and connected to the Inverter.

The Inverter houses the inverter circuitry which converts DC power supply into AC power supply, the synchronization circuitry which actualizes the tie-up of solar PV source to the grid source and control circuitry. A number of Inverters are connected in parallel as per the desired AC Power required.

Depending on the grid voltage level to which the solar PV power is being synchronized, different levels of step-up transformers may have to be deployed.

The protection and metering circuits play a very significant role in the Inverter operation. Appropriate current transformers and potential transformers are used to tap required feed back signals to initiate action on metering and protection.

3. Typical System Components

ARRAY STRUCTURE:

- a) Hot dip galvanized/Suitable Pre Galvanized MS mounting structures may be used for mounting the modules/ panels/arrays.
- b) Structure should have angle of inclination as per the site conditions to take maximum Solar Irradiation. However to accommodate more capacity the angle inclination may be reduced until the plant meets the specified performance ratio requirements.
- c) The Mounting structure shall be so designed to withstand the wind speed applicable to project site per IS Standard (like Delhi-wind speed of 150km/hour). Bidder must submit Wind Load Calculation and STAAD Analysis for structure components, fasteners and foundation duly certified by MNRE empanelled Chartered Engineer. Suitable fastening arrangement such as grouting and clamping should be provided to secure the installation against the specific wind speed.
- d) 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.
- e) Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, nuts and bolts. Aluminium structures also can be used which can withstand the wind speed of respective wind zone. Protection towards rusting need to be provided either by coating or an odization.

- f) Aluminum frames should be avoided for installations in coastal areas.
- g) 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
- h) 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.
- i) The total load of the structure (when installed with PV modules) on the terrace should be less than 30kg/m².
- j) The minimum clearance of the structure from the roof level should be 300 mm.

AC DISTRIBUTION PANEL BOARD:

- a) AC Distribution Panel Board (ACDB) 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 IEC 60947, 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, 50Hz
- 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

PCU/ARRAY SIZE RATIO:

- a) The combined wattage of all inverters should not be less than rated capacity of power plant under STC.
- b) Maximum power point tracker shall be integrated in the PCU/inverter to maximize energy drawn from the array.

Power Conditioning Unit / Inverter:

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 ^o C to 50 ^o C
Humidity	95% Non-condensing
Protection of Enclosure	IP-20 (Minimum) for indoor. IP-65 (Minimum) for outdoor.
Grid Frequency Tolerance range	+/- 5 Hz
Grid Voltage tolerance	-0.20.15
No-load losses	Less than 1% of rated power
Inverter efficiency(minimum)	>93% (In case of 10 kW or above with in-built galvanic isolation) >97% (In case of 10 KW or above without in- built galvanic isolation)
Inverter efficiency (minimum)	> 90% (In case of less than 10 kW)
THD	< 3%
PF	> 0.9

- a) 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.
- b) PCU/inverter shall be capable of complete automatic operation including wake- up, synchronization & shutdown.
- c) 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.
- d) Built-in meter and data logger to monitor plant performance through external computer shall be provided.
- e) Anti-islanding (Protection against Islanding of grid): The PCU shall have anti islanding protection in conformity to IEEE1547/UL1741/IEC62116 or equivalent BIS standard.
- f) Successful Bidders shall be responsible for galvanic isolation of solar roof top power plant (>100kW) with electrical grid or LT panel.
- g) In PCU/Inverter, there shall be a direct current isolation provided at the output by means of a suitable isolating transformer. If Isolation Transformer is not incorporated with PCU/Inverter, there shall be a separate Isolation Transformer of suitable rating provided at the output side of PCU/PCU units for capacity more than 100kW.
- h) 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 services should follow the latest CEA (Technical Standards for Connectivity Distribution Generation Resources) Guidelines.

- i) 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.
- j) The MPPT units environmental testing should qualify IEC60068-2 (1,2,14,30) / Equivalent BIS std. The junction boxes/ enclosures should be IP 65 (for outdoor)/ IP 54 (indoor) and as per IEC 529 specifications.
- k) The PCU/ inverters should be tested from the MNRE approved test centres / 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.

TRANSFORMER “IF REQUIRED” & METERING:

- a) Dry/oil type relevant kVA, 11kV/415V, 50 Hz Step up along with all protections, switch gears, Vacuum circuit breakers, cables etc. along with required civil work.
- b) The bidirectional electronic energy meter (As per latest applicable Net Metering Regulation Hon’ble UERC guidelines/ CEA guidelines/ UPCL guideline) shall be installed for the measurement of import/Export of energy.
- c) The contactor must take approval/NOC from the Concerned DISCOM for the connectivity, technical feasibility, and synchronization of SPV plant with distribution network before commissioning of SPV plant.

POWER CONSUMPTION:

Regarding the generated power consumption, priority need to give for internal consumption first and thereafter any excess power can be exported to grid.

PROTECTIONS

LIGHTNING PROTECTION

- a) The SPV power plants shall be provided with lightning & overvoltage protection. The main aim in this protection shall be to reduce the over voltage 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 NFC 17-102:2011 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 MOV type surge-arrestors connected from +ve and –ve terminals to earth (via Y arrangement).

EARTHING PROTECTION

- a) 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 as and when required after earthing by calibrated earth tester. PCU, ACDB and DCDB should also be earthed properly.
- b) Earth resistance shall not be more than 3 ohms. It shall be ensured that all the earthing points are bonded together to make them at the same potential.

GRID ISLANDING:

- a) In the event of a power failure on the electric grid, it is required that any independent power- producing inverters attached to the grid turn off in a short period of time. This prevents the DC- to-AC inverters from continuing to feed power into small sections of the grid, known as “Islands.” Powered Islands present a risk to workers who may expect the area to be unpowered, and they may also damage grid-tied equipment. The Rooftop PV system shall be equipped with islanding protection. In addition to disconnection from the grid (due to islanding protection) disconnection due to under and over voltage conditions shall also be provided.
- b) A manual disconnect 4-pole isolation switch beside automatic disconnection to grid would have to be provided at utility end to isolate the grid connection by the utility personnel to carry out any maintenance. This switch shall be locked by the utility personnel.

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/IS1554 standards
- ii. Temp. Range: -10°C to $+80^{\circ}\text{C}$
- iii. Voltage rating 660/1000V
- iv. Excellent resistance to heat, cold, water, oil, abrasion, UV radiation
- v. 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%)
- vi. 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.
- vii. For the AC cabling, PVC or, XLPE insulated and PVC sheathed single or, multi-core multi- stranded flexible copper cables shall be used; Outdoor AC cables shall have a UV- stabilized outer sheath.
- viii. 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 color.
- ix. 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.
- x. Cables and wires used for the interconnection of solar PV modules shall be provided with solar PV connectors (MC4) and couplers
- xi. 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 mm^2 copper; the minimum AC cable size shall be 4.0 mm^2 copper. In three phase systems, the size of the neutral wire size shall be equal to the size of the phase wires.
- xii. 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.

- xiii. Cable Jacket should also be electron beam cross-linked XLPO, flame retardant, UV resistant and black in color.
- xiv. 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 1.1kV as per relevant standards only.
- xv. 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.
- xvi. 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.
- xvii. The total voltage drop on the cable segments from the solar PV modules to the solar grid inverter shall not exceed 2.0%.
- xviii. The total voltage drop on the cable segments from the solar grid inverter to the building distribution board shall not exceed 2.0%.

CONNECTIVITY

The maximum capacity for interconnection with the grid at a specific voltage level shall be as specified in the UERC RE REGULATION 2018 and amended from time to time.

SOLAR PV SYSTEM ON THE ROOFTOP FOR MEETING THE ANNUAL ENERGY REQUIREMENT

The Solar PV system on the rooftop of the selected buildings will be installed for meeting upto 90% of the annual energy requirements depending upon the area of rooftop available and the remaining energy requirement of the office buildings will be met by drawing power from grid at commercial tariff of DISCOMs.

SAFETY MEASURES:

The contractor 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.

4. DOCUMENTATION

The Contractor shall provide various documents as per following:

A. Documents to applicant

- Routing diagram of cables and wires.
- User manual for solar power plant including details for operation and maintenance
- Contact details of service centre

B. Documents to REIL / UREDA

- i) Site specific documents to be submitted (with bill for payment against clause no. 30.2/30.3 of payment terms).
1. Photograph of beneficiary with power plant in background (hard & soft copy)
 2. Photographs of all equipment's of Power Plant (hard copy & soft copy))
 3. Joint inspection report from district level officer of UREDA (annexure-II), certificate for Handing over the system to beneficiary (annexure-III) and Letter towards Warranty of the system (annexure-IV).
 4. Meter Sealing certificate issued by UPCL.
 5. Certificate from electrical safety department
 6. Contact details of various service centers
- ii) Documents to be submitted for one time for every make of component (with bill for payment against clause no. 30.2/30.3 of payment terms).
1. IEC certificate module- IEC 61215/ IS 14286, IEC 61701, IEC 61853- Part 1/ IS 16170: Part 1, IEC 62716 (shall be provided by REIL),
 2. IEC certificate for module safety qualification- IEC 61730-1,2 (shall be provided by REIL)
 3. Test certificate for Inverter/PCU-IEC 61683, IEC 62109-1, IEC 62109-2, IEC 62116/ UL 1741/ IEEE 1547, IEC 60255-27, IEC 60068-2 / IEC 62093 (shall be provided by REIL).
 4. IS 2062 certificate for Module Mounting- frames and leg assemblies.
 5. IS 4759 certificate for Galvanization of Structure Material.
 6. BS EN 50618 electric cables for photovoltaic systems (BT (DE/NOT) 258), mainly for DC Cables.
 7. Cable certificate –IEC 60227/ IEC60502
 8. Switches, Circuit breakers, connectors certificate –IEC 60947 part I, II, III/IS 60947 part I, II, III/EN 50521.
 9. Junction boxes certificate confirming to IEC 60529 for IP 65 protection for outdoor use, and IP 54 protection for indoor use.
 10. Lightning/Earthing certificate IEC 62561 Series (Chemical Earthing).
 11. Surge protection certificate - IEC 60364-5-53/ IS 15086-5 (SPD).
 12. Layout of solar modules.

5. AUTHORIZED TESTING LABORATORIES/ CENTERS

Test certificates / reports can be from any of the NABL/ IEC Accredited Testing Laboratories or MNRE approved test centers.

6. WARRANTY

PV modules used in solar power plant must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years.

The mechanical structures, electrical works including Power conditioners/ inverters/ charge controllers/ maximum power point tracker units/ distribution boards/ digital meters/ switchgear/ storage batteries, etc. and overall workmanship of the SPV power plants/ systems must be warranted against any manufacturing/ design/ installation defects for a minimum period of 5 years.

The Warrantee Card to be supplied with the Solar PV Power Plant must contain the details of the system supplied, as given in the Annexure- IV. The tenderer can provide additional information about the system.

7. OPERATION MANUAL

An Operation, Instruction and Maintenance Manual, in English and the local language, should be provided with the Solar PV Power Plant. The detailed diagram of wiring and connection diagrams should also be provided with the manual

8. QUALITY AND WORKMANSHIP

Solar PV modules are designed to last 25 years or more. It is therefore essential that all system components and parts, including the mounting structures, cables, junction boxes, distribution boxes and other parts also have a life cycle of at least 25 years. Therefore all works shall be undertaken with the highest levels of quality and workmanship. During inspection UREDA and its representatives will pay special attention to neatness of work execution and conformity with quality and safety norms. Non-compliant works will have to be redone at the cost of the Installer.

9. OTHER REQUIREMENTS

Any supplies which have not been specifically mentioned in this Contract but which are necessary for the design, engineering, manufacture, supply & performance or completeness of the project shall be provided by the Bidder without any extra cost and within the time schedule for efficient and smooth operation and maintenance of the SPV plant.

GENERAL TERMS & CONDITIONS OF THE CONTRACT

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

5) INDEMNITY

REIL and the Vendor 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.

6) RESTRICTION ON EMPLOYMENT

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

7) 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**.

8) 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.

9) 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 with due consent of the Vendor:-

- i. has abandoned the Contract
- ii. has without valid reason failed to complete the projects in respect of the contract.
- 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.

10) DURATION OF CONTRACT

This contract shall take effect on the day of execution of this contract and shall endure until commissioning and hand over the Power Plant(s) to beneficiary and renewable as per mutual agreement.

11) 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)

12) PREFERENCE TO MSE

Preference to MSE will be given and procurement from SC/ST and Women Entrepreneurs shall be done as per the government guidelines. Start Ups are exempted from condition of prior turnover and prior experience subject to meeting of quality and technical specifications.

13) CONTRACT:

Before execution of the work, security deposit be submitted and a contract agreement for execution of the work shall be signed by the Vendor with REIL within 7 days of LOI from REIL. In case agreement is not executed within the stipulated time, earnest money will be forfeited.

14) 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).

15) PAYMENT SCHEDULE:

Milestone	Description	Payment	Remarks
1	After Installation – Commissioning work	80%	Payment of contractor shall be released after installation – commissioning of Grid Connected Solar Power Plant at site and injection of surplus power (in any) into the UPCL grid conforming to technical specification as specified in the tender, Submission of installation – commissioning certificate duly signed and sealed by beneficiary & customer. REIL payment from customer is also mandatory.

2	AMC Payment	20%	4% Payment shall be released after successful completion of each year for a period of 5 years. The year shall be started from the date mentioned in commissioning certificate from beneficiary / customer. In support for release of AMC payment, certificate from beneficiary and customer is required. Release of REIL payment is also mandatory.
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NOTE: The Works related to SPV Power Plant shall be carried out by contractor during Defect liability period. REIL shall have rights to carry out the work during Defect liability at contractor's Risk and Cost in case of not performing the work by contractor within stipulated time period.

16) FORCE MAJEURE:

- i. Notwithstanding the provisions contained in the Bidding Documents; the Contractor shall not be liable to forfeit (a) Bid Security for delay and (b) termination of contract; if it is unable to fulfill its obligation under this Contract due to force majeure conditions.
- ii. For purpose of this clause, "Force majeure" means an event beyond the control of the Contractor and not involving the Contractor's fault or negligence and not foreseeable, either in its sovereign or contractual capacity. Such events may include but are not limited to Acts of God, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes etc. Whether a "Force majeure" situation exists or not, shall be decided by REIL and its decision shall be final and binding on the Contractor. REIL may extend the date of completion for a further period corresponding to the period of force majeure.
- iii. If a force majeure situation arises, the Contractor shall notify REIL in writing promptly, not later than 7 (seven) days from the date such situation arises. The Contractor shall notify REIL not later than 3 days of cessation of force majeure conditions. After examining the cases, REIL shall decide and grant suitable additional time for the completion of the work, if required.

17) 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
- ii Watch & Ward:-

The Vendor shall supply material (including REIL SPV Modules) 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 beneficiary 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 All disputes arising out of this contract and questions relating to its interpretation etc. shall be referred to the sole arbitration of General Manager (RE), Rajasthan Electronics & Instruments Ltd., for his decision, which shall be final and binding on both parties.
- xii The contract agreement shall be executed at Jaipur and shall be subject to Jaipur court jurisdiction alone.
- xiii The company shall deduct the TDS as per the Income Tax Act.
- xiv The Vendor shall be fully responsible for all repairs of the defects in maintenance during the period under contract.

18.) Site Details :-

Tentative list of proposed Solar Power Plants size shall be as under:

S. No.	Name of Site	Tentative Proposed Capacity (kWp)
1	Uttarkhand Judicial and Legal Academy, Nainital	88

NOTE: If Bidder/ Contractor is found deficient/non-adherent to the provisions of the above work, then they may not be awarded any assignment in future.

LD Clause: 1% per week subject to max of 10% shall be charged against delay of completion of the project.

Security Deposit: 5% of contract value shall be deposited by successful bidder within 7 days after placement of work order. The SD shall be released after completion of I&C Work and submission of completion report alongwith photographs and required certificates.

19). PRE DISPATCH INSPECTION:

The contractor shall offer the material for pre-dispatch inspection by REIL QA Department & customer. Any expenses regarding inspection shall be borne by the contractor.

20). COMPLETION PERIOD

Installation and commissioning of the SPV system should commence immediately after release of work order and Installation & commissioning should be completed within 3 months from the date of work order & may be extended depending upon the field situation with prior permission from REIL.

General terms: Contractor shall follow all the provisions as per labour law (including piece rate and petty contractors) shall comply fully with all laws and statutory regulations pertaining to engagement, payment and upkeep of labour in India.

21.) QUALITY, WARRANTY AND ANNUAL MAINTENANCE

- i) The contractor shall warrant the Solar PV Power Plant as per applicable standards of quality. Anything to be furnished shall be new, free from all defects and faults in material and workmanship. The manufacture shall be in accordance with the specified technical parameters and should be of the highest grade and consistent with established and generally accepted standards for material. It shall be in full conformity with the drawing or samples if any and shall operate properly if operable.
- ii) After erection of the Solar PV Power Plant at site, the contractor shall ensure satisfactory performance of the equipments for a period of time as specified in the scope of work.
- iii) The contractor shall rectify defects developed in the Systems within Warranty & AMC period promptly. In case the contractor does not rectify the defects within 7 days of the receipt of complaint, REIL / UREDA may restore the System in working condition on contractor's expenses.
- iv) Frequent and unjustified delays in rectifying defects may lead to cancellation of the contract, recovery of losses and imposing of additional penalty. In such circumstance REIL / UREDA shall have the full liberty to recover the losses/penalty from the contractor pending claims, EMD/ performance security deposit or in other law full manner. The amount of losses/penalty shall be decided by REIL / UREDA and will be binding on the contractor.

22.) INSPECTION AND TESTS

- i) REIL / UREDA shall have the right to inspect and /or to test the goods to confirm their quality according to the contract and shall have access to the contractor's works premises and the power to inspect and examine the materials and workmanship of the various components of Solar PV Power Plant at all reasonable times during their manufacture.
- ii) The contractor shall inform REIL / UREDA through a written notice regarding any material being ready for testing at least 7 days in advance. The conditions of contract and/or the technical specifications shall specify what inspections and tests shall be conducted by REIL / UREDA. All the arrangements of necessary equipments and expenses for such tests shall be on the contractor's account excluding the expenses of the inspector.
- iii) REIL / UREDA, unless the witnessing of the tests is virtually waived off, will inspect and attend such test within 7 days from the date on which the equipments are notified as being ready for test /inspection.
- iv) REIL / UREDA shall within 7 days, give written notice to the contractor, about any objection regarding the quality of the system. The contractor shall either make the necessary modifications to remove the cause of such objection or shall clarify the objections in writing if modifications are not necessary to comply with the contract.
- v) After satisfactory testing of the systems during inspection, REIL / UREDA shall issue of dispatch clearance for the supply of material at site.
- vi) The inspection by REIL / UREDA and issue of dispatch instruction there on shall in no way limit the liabilities and responsibilities of the contractor in respect of the agreed and specified quality. Nothing in this clause shall in any way relieve the contractor from any Warrantee or other obligations under this contract.
- vii) In case any time the system is not found in accordance with the required technical specifications, the work order(s) shall be canceled and all the payments made by REIL to the contractor shall be recovered. Such contractor shall also be blacklisted from participating in any tender in REIL in future. MNRE and other State Nodal Agencies of MNRE shall also be informed for the necessary action against such contractor.

23.) SPARE PARTS

The contractor shall make arrangement to maintain a sufficient stock of essential spares and consumable spare parts to ensure proper maintenance of the system promptly.

24.) INSURANCE

- i) The contractor 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.
- ii) The Contactor shall also take insurance for Third Party Liability covering loss of

human life, engineers and workmen 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 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 bidder.

25.) SERVICE TEAM

For proper functioning and maintenance of Solar Power Plant, with in the allocated time frame, Contractor shall provide at least one dedicated service personal for each district where plants will be installed by him. The contact details of service personals shall have to be furnished within one week of placement of work order.

ANNEXURE -III**RAJASTHAN ELECTRONICS & INSTRUMENTS LIMITED, JAIPUR**

S. No.	Term	Description	Complied / Not Complied	Deviation if any
1.	GST / Taxes	Extra as applicable.		
2.	Technical & Financial Eligibility Criteria	As per given in tender document		
3.	Terms of payment	As per given in tender document		
4.	Contract period	As per given in tender document/LOI /Work order		
5.	Security Deposit	5% of the contract value		
6.	AMC	As per tender requirement		
7.	LD Clause	1% per week subject to max of 10% shall be charged against delay of completion of the project		
8.	Defect liability period (DLP)	5 year from date of commissioning and hand over the Power Plant(s) to beneficiary		
9.	Completion Period	As per given in tender document/LOI /Work order		
10.	Udhyam Registration	As per recent Government guide line, manufacturer / Service provider has to take Udhyam registration to avail benefit of MSME. Attach your copy of Udhyam Registration with tender.		

**SIGNATURE WITH
STAMP**

(To be submitted on Bidder's Letter Head)

Tender ref.: REIL/RE/2021-22/PP/21085 dated 13.08.2021

Authorization Certificate

To

Date

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

Dear Sir,

Mris hereby authorized to sign and submit tender document in reference to your tender no **REIL/RE/2021-22/PP/21085 dated 13.08.2021 on behalf of M/s for "Supply of BOS, Installation, Testing, Net Metering and Commissioning including Warranty and AMC for 5 years of 88 kWp Grid Connected Roof Top Solar Power Plant in the state of Uttarakhand".**

On behalf of company

Name and Designation

Signed and sealed (who has signed the tender)

(To be submitted on Bidder's Letter Head)

Tender ref.: REIL/RE/2021-22/PP/21085 dated 13.08.2021

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

Signed and sealed (who has signed the tender)

Tender ref.: REIL/RE/2021-22/PP/21085 dated 13.08.2021

CERTIFICATE FOR NON BLACK LISTING

Date

To

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

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

Signed and sealed (who has signed the tender)

Bank details of e- payment

- 1. Name & Address** : Rajasthan Electronics & Instruments Ltd., Jaipur
2, Kanakpura Industrial Area Sirsi Road, Jaipur
- 2. Contact No.** : Tel.: (0141) 2470908,
Fax No. 0141-2470531
- 3. Name of the bankers** : Punjab National Bank, Mid Corporate Branch, M. I. Road, Jaipur (Raj.)
(Branch Code 0221)
- 4. MICR Code No.** 302024003
- 5. Bank Account No.** : 0221008700000152 (Cash-Credit account)
- 6. RTGS/IFSC Code No.** : PUNB0022100
- 7. PAN No.** : AABCR1528G
- 8. Service Tax No.** : AABCR1528GST001
- 9. TIN No./VAT No.** 08202102675
- 10. G.S.T. No.** : 08AABCR1528G1ZL

Annexure -VIII

Tender ref.: REIL/RE/2021-22/PP/21085 dated 13.08.2021

CA CERTIFICATE

Date

To

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

Dear Sir,

It is certified that M/s..... is falling 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 having Udhog Adhar no.

We also certify that the investment in plant and machinery (Imported and indigenous) as on date is Rs.....

Chartered

Accountant Firm

name:-

Signature with seal

UDIN

Annexure –IX

Tender ref.: REIL/RE/2021-22/PP/21085 dated 13.08.2021

Undertaking of No Near Relative

To

Date

DGM (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 m 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

Annexure -X

RAJASTHAN ELECTRONICS & INSTRUMENTS LIMITED, JAIPUR

Check List

Sr. No.	Required Documents	Remark
1.	Sealed and signed process compliance form. (Annexure-I)	
2.	Sealed and signed scope of work (Annexure-II)	
3.	Sealed and signed General terms & conditions of tender (Annexure-III)	
4.	Authorization certificate (Annexure-IV)	
5.	Sealed & signed Undertaking of No Near Relative (Annexure-V)	
6.	Sealed & signed Certificate for Non Black listing (Annexure-VI)	
7.	Bank Details E-Payment (Annexure-VII)	
8.	CA Certificate (Annexure-VIII)	
9	No Near Relative (Annexure -IX)	
10.	Check list (Annexure -X)	

Certificate of Commissioning for Solar PV Power Plant

S.	Particulars	Details
1	Name of Beneficiary	
2	Project Site/Location Address (with pin)	
3	Contact no of beneficiary	
4	Capacity of Solar Power Plant in KW	
5	Specification of solar modules	
	a) Type of modules (Mono/Poly/other)	
	b) Make of Modules and year of manufacturing	
	c) Wattage and number of modules	
	d) Indigenous modules or imported modules	
6	Specification of the PCU/Inverter	
	a) Make	
	b) Rating (KVA)	
7	Lightening arrester installed (Yes/No)	
8	Date of Commissioning of Solar Power Plant(as per meter sealing certificate of UPCL)	
9	PR Ratio Test	
	A=Instant Power as per Inverter Display (KW)	
	B =Total capacity of the Solar modules	
	C =Measured radiation during test period (Watt/m ²)	
	Performance Ratio (%) = $\frac{A \times 1000}{B \times C}$	(should not be less than 0.75)

Beneficiary	UREDA official	Authorized Signatory of Firm
(Signature) Name Date:-	(Signature) Name Designation:- Date:-	(Signature) Name Designation:- Date:-

Joint inspection report by UREDA Official and installation Firm:-

Certified that the above mentioned Solar PV Power Plant installed by M/shas been checked and found to be in accordance with the agreement and is working satisfactorily.

Sign of UREDA official with Seal

Name & Designation:-

Date:-

Signature of authorized

Signatory of Firm with Seal

Name & Designation:-

Date:-

Recommendation of UREDA Officer:-

On the basis of above inspection report it is recommended to release the payment of the firm as per the payment terms in the agreement of UREDA with firm.

Signature of UREDA official (SPO/PO) with seal

Name & Designation:-

Date:-

Handing over Certificate

Name of Site: - _____

Capacity of system installed (KWp) _____

S.N	Component	Observation
1	Modules	
	Make of Modules and year of manufacturing	
	Wattage and no of modules (Annex list of Module serial no.)	
2	PCU	
	Make	
	Nos and Capacity of inverter And year of manufacturing	
3	Display board of 4' X 3' size installed (Yes/No)	
4	Other Items	
	a.	
	b.	
	c.	
	d.	
5	Name of Technical Person Trained to maintain system-	
	Mobile no.-	

It is certified that above solar power plant has been handed over/taken over on dated _____ in the running condition. Responsibility for security and safety of the equipments of the solar power plant shall be of user/beneficiary from now onwards.

The responsibility for 5 Years Warrantee & Maintenance of solar power plant shall be of M/s.....

Handed-over by

Signature (Firm)-

Name-

Designation-

Official Seal:-

Date-

Taken Over by

Signature (Beneficiary)-

Name-

Designation-

Official Seal:-

Date-

(On the letter head of the firm)

WARRANTY OF THE SYSTEM INSTALLED

Date of issue:-.....

To,

**The Director
Uttarakhand Renewable Energy Development Agency,
Urja Park Campus, Industrial Area, Patel Nagar, Dehradun-248001**

Ref:-.....work order.....

Dear Sir/Madam,

I hereby warrantee the Grid connected rooftop and small Solar Power Plant of
.....KWp capacity as per following:-

S. I	Particulars	Details
1	Name of Beneficiary (to whom plant has been allotted)	
2	Project Site/Location Address (with pin)	
3	Contact no of beneficiary	
4	Specification of solar modules a) Type of modules (Mono/Poly/other) b) Make of Modules & year of manufacturing c) Wattage and no of modules	
5	Serial nos. of solar modules (enclose list)	
7	Specification of the PCU/Inverter a) Make b) Rating (KVA)	
8	Date of meter sealing of the system	

The mechanical structures, electrical works including power conditioners/ inverters/charge controllers/ maximum power point tracker units/ distribution boards/digital meters/switch gear/net meter etc. and over all workmanship of the SPV power plants/ systems are warranted against any manufacturing/ design/ installation defects for a minimum period of 5 years.

Solar PV modules used in solar power plants /system are warranted for their output peak watt capacity, which shall not be less than 90% at the end of 12 years and 80% at the end of 25 years.

Authorized Signature of Firm with Seal

Name & Designation:-

Date:-

GRID CONNECTED ROOFTOP SOLAR POWER PLANT

1	Name of the Site-
2	Installed Capacity-KWp
3	Installed by-

**UTTARAKHAND RENEWABLE ENERGY
DEVELOPMENT AGENCY (UREDA)**