RAJASTHAN ELECTRONICS & INSTRUMENTS LIMITED, JAIPUR

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

2, KANAKPURA INDUSTRIAL AREA, SIRSI ROAD,

JAIPUR-302034

Tel No: 0141- 2471083

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NOTICE INVITING TENDER FOR "SUPPLY OF BOS, CONSTRUCTION, INSTALLATION & COMMISSIONING AND 5 YEARS COMPREHENSIVE O&M OF 425 kWp (DC) CUMULATIVE CAPACITY GRID CONNECTED ROOF TOP SOLAR PV POWER PLANTS"

TENDER NO. REIL/RE/2021-22/PP/21144 dated 11.02.2022

Important Dates:

Last Date & Time for submitting e- tender: 24.02.2022 up to 15:00 Hrs

Date & Time for opening of e-tenders: 25.02.2022 at 15:00 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/…….

This is a Notice Inviting Tender (NIT) for **"Supply of BOS, Construction, Installation & Commissioning and 5 Years Comprehensive O&M of 425 kWp (DC) Cumulative Capacity Grid Connected Roof Top Solar PV Power Plants"** as per description and terms & conditions specified hereinafter:

Item Description:

S. No.	Description
1.	Supply of BOS, Construction, Installation & Commissioning and 5 Years Comprehensive O&M Of 425 kWp (DC) Cumulative Capacity Grid Connected Roof Top Solar PV Power Plants

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 bidder shall submit bid security form alongwith technical bid.

The details for Bid are as follows:

S. No.	Item	Description
1	Last date for submission of Online Bid	24.02.2022 (15:00 Hrs)
2	Opening of technical Bid	25.02.2022 (15:00 Hrs)
3	Opening of Commercial Bid	To be informed later to successful bidders in the technical bid
4	Contact Person(s) for Technical Queries	1.Sh. Bheem Singh Meena, Dy. Manager (RE), bs.meena@reil.co.in 2.Sh. Kuldeep Singh Rathore, Sr. Engineer (RE), kuldeep.rathore@reil.co.in , +91-7727007749
5	Contact Person(s) for Tender related Queries	1. Sh. S. R. Nirmal, DGM (MM), Sr.nirmal@reil.co.in 2. Sh. Praveen Kumar, Dy. Manager (MM), praveen.kumar@reil.co.in, +91-7727011738

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

Dy. General Manager (MM)

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Appendix-I

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/21144 dated 11.02.2022.

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:

Appendix - II

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 Design, Supply, and 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 250 kWp Grid Connected SPV Power Plants during last three years i.e. from 01.01.2019 to 31.12.2021 across PAN India. Work order and completion certificate from customer to be submitted by the bidder.

3. Out of above cumulative 250 kWp capacity, at least one solar PV plant should have been of individual capacity not less than 50 kWp connected with grid in a single work order, which have been in satisfactory operation for at least one (01) year after commissioning. Satisfactory O&M certificate from customer to be submitted by the bidder.

4. The bidder, who has received the work order / LoA from REIL in FY 2017-18 or before, but the work is still pending, would be out rightly rejected.

B) FINANCIAL ELIGIBILITY CONDITIONS:-

1. Firm should have a minimum annual average turnover of Rs. 50.00 Lacs in last three financial years i.e. 2018-19, 2019-20 & 2020-21.

2. The bidder should have adequate financial resources or should have sufficient resources audited financial statement to undertake the contract. Below mentioned documents are required:

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

   OR

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

Bidder should submit following documents along with Technical bid:-

1. Company Incorporation Certificate / Company Registration Certificate.
2. Bankers Report.
3. Balance sheet & ITR for last three years i.e. 2018-19, 2019-20 & 2020-21.
4. Turnover and Positive Net worth value duly certified by CA.
5. Past Experience details as per technical eligibility asked in the NIT. (Kindly attach verified documents from customer such as Work Order, Completion Certificate and O&M Certificate)
6. Letter for financial resources
7. Photocopy of GST Registration no. & PAN no.

8. Any other relevant documents
9. Undertaking towards completion of work received upto FY 2017-18.

(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 capacity of SPV Power Plant 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

TECHNICAL SPECIFICATIONS AND SCOPE OF WORK

1 INTRODUCTION

The roof top solar power plants shall be installed on various buildings in the township of NMDC Bacheli Complex, Dist. Dantewada, CG state.

REIL shall provide SPV Modules (min. 330 Wp), String Inverters and Module Mounting Structures at site. Contractor has to ensure safe storage of material at site.

2 SCOPE OF SERVICES

Scope of Supply & Work includes all design engineering, manufacture, procurement & supply of equipment and materials, testing at manufacturers works, inspection, packing and forwarding, supply, receipt and unloading at site, associated civil works, services, permits, licenses, installation and incidentals, insurance at all stages, erection, testing and commissioning of 425kWp capacity Roof Top Solar Power Plant (RTSPP) on various buildings. The following are the brief scope of work, but not limited to the same:

- Fasteners, array foundation and module interconnection, Walkways, Lifelines, Safety Railings.
- Array Junction boxes, distribution boxes and Fuse boxes. MCBs, Surge Arrestors with string monitoring capabilities.
- DC & AC Cables
- ACDBs
- Liaisoning and Obtaining necessary approvals from concerned authorities for setting up of RTSPP, like CEIG, DISCOM, PCB etc., including NOC/ Approval from CSPDCL Raipur/ Jagdalpur as required for installation and operation of RTSPP.
- Data logging and Plant monitoring system.
- Earthing and lightning protection system for the plants.
- Required power, control and signal cables etc.,

- Operation and Maintenance (O&M) of all the plants for a period of ten years, wherein the roof top solar power plants shall generate at least equivalent to the Guaranteed Performance provided.
- Metering and protection system.
- Lightning arrestors for entire project area as per applicable standards.
- PVC pipes, cable trays and accessories/trenches.
- Earthing of the entire project as per relevant standards.
- Testing, maintenance and monitoring of equipment.
- Mandatory spares & consumables for 5 years.
- Supply of ferrules, lugs, glands, terminal blocks, galvanized sheet steel junction boxes with powder coating paint for internal fixtures, cable fixing clamps, nuts and bolts etc. of appropriate sizes as required in the project.
- Cable Trays, Conduits Pipes etc.
- Entire GI cable tray with proper support and accessories inside equipment room and control room building and other locations as required.
- O&M Instruction's manuals and its drawings.
- Any other item required for I&C of systems

3 SITE INFORMATION OF BACHELI COMPLEX

Location

Bacheli are located at a distance of about 30 Km south-west of Dantewada, the district headquarters in Chhattisgarh State.

Climate

The region enjoys mild summer and winter is also not severe. The maximum temperature in summer rises up to 40°C between May & June whereas minimum temperature in winter drops to 10°C. The area receives heavy rains during monsoon from June to October. Weather during rainy season is stormy accompanied by gales and the hilltops are covered with thick clouds and dense fog which reduced visibility.

Indicative Locations of Roof Top Solar Power Plants at NMDC Bacheli Complex:

Sl. No.	Indicative Locations	Length in Meter	Breath in Meter	Area in Sq. Meter	Proposed area for RTS in Sq.m (indicative)	Indicative capacity of RTS plants in kWp
1.	Subhash Nagar Sub Station	9	9	81	65	6
2.	Subhash Nagar co-operative Store	11.2	26	291.2	233	23
3.	DAV School	9	13	117	94	30
		9	29	261	209	
4.	Main Sub Station Bacheli	10	10	100	80	30
		28	7	196	157	
		13	7	91	73	
5.	Auto workshop	12	11	132	106	10
6.	CSD	18	10	180	144	14
		20	15	300	240	24
		8	20	160	128	12
7.	Electrical Services office	17	7.6	129.2	103	10
8.	Baila -5 Sub Station	10	10	100	80	8
9.	Apprentice Hostel	13	9	117	94	9
		13	14	182	146	14
10	Admin Building	6	6	36	29	18
		11	11	121	97	9
11	IS Building	30	12	360	288	28
12	Co-operative store Hitech	18	10	180	144	14
		18	10	180	144	14
13	Mangal Bhawan	21	5	105	84	8
		21	5	105	84	8
14	New Type V Quarters (Blockwise)	11	15	165	132	13
		11	15	165	132	13
		11	15	165	132	13
		11	15	165	132	13

15	IE Building	23	5	115	92	11
16	Canteen	13	10	130	104	10
17	IPT	9	9	81	65	12
		9	9	81	65	
18	Library	10	10	100	80	8
19	BRC	13	12	156	125	12
20	New Commandent office	23	8	184	147	14
21	Old Commandent office	30	7	210	168	16
			Total Area	**5357**	**Total Cap**	**425**

The above information is indicative only. Bidder is requested to visit site before submitting the offer. For location wise the RTS plant capacity indicated above can be of single or multiples suiting to the design requirements subject to the approval of Customer.

4 STRING COMBINER BOX OR ARRAY JUNCTION BOXES

The junction/ combiner boxes including the string junction box, arrayjunction box and main junction box/ combiner box shall be dust, vermin, and waterproof and made of Poly Propylene/ FRP/ABS plastic / metallicin compliance with IEC 62208, which should be sunlight/ UV resistive as well as fire retardant, and must have minimum protection to IP65 (Outdoor)/ IP21 (indoor) and Protection Class II. The terminal should be connected to copper bus-bar arrangement of proper size.

- The terminals will be connected to copper bus-bar arrangement of propersizes to be provided. The junction boxes will have suitable cable entry points fitted with cable glands of appropriate sizes for both incoming and outgoing cables. Suitable markings shall be provided on the bus-bars for easy identification and UV resistant cable ferrules will be fitted at the cable termination points for identification.

- The junction boxes shall have suitable arrangement for the following:

  - Strings are required to be connected to the bus-bar through individual fuses.

  - Provide arrangement for disconnection for each of the groups.

- Provide a test point for each sub-group for quick fault location and to provide group array isolation.
- Suitable space for workability and natural cooling.

- The rating of all components of the JBs shall be suitable with adequate factor of safety to inter- connect the solar PV array.
- The array junction box will also have suitable surge protection. In addition, over voltage protection shall be provided between positive and negative conductors and earth ground such as Surge Protection Device (SPD). The maintenance-free earthing shall be done as per the relevant standards.
- Each array junction box will have suitable reverse blocking diodes of maximum DC blocking voltage of 1000V with suitable arrangement for connection. The bypass and reverse blocking diodes should work for temperature extremes as per appropriate IEC standards.
- Adequate capacity solar DC fuses and isolating miniature circuit breakers should be provided.
- Details of junction box specifications and data sheet, including all components, shall be provided in the bid document.
- Installer shall provide all the test reports/ test certificates and compliance certificates before installation at site.

5 DC DISTRIBUTION BOARD

- DC Distribution panel to receive the DC output from the array field.
- DC DBs 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.

6 AC DISTRIBUTION BOARD

- AC Distribution Board (DB) 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.

- All switches and the circuit breakers, connectors should conform to IEC 60947, part I, II and III/ IS60947 part I, II and III.

- The changeover switches, cabling work should be undertaken by the bidder as part of the project.

- 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

- The panels shall be designed for minimum expected ambient temperature of 45 degree Celsius, 80 percent humidity and dusty weather.

- All indoor panels will have protection of IP54 or better. All outdoor panels will have protection of IP65 or better. Should conform to Indian Electricity Act and rules (till last amendment).

- All the 415 AC or 230 volt's devices / equipment like bus support insulators, circuit breakers, SPDs, VTs etc., mounted inside theswitchgear shall be suitable for continuous operation and satisfactory performance under the following supply conditions

Variation in supply voltage	+/- 10 %
Variation in supply frequency	+/- 3 Hz

7 PROJECT PERFORMANCE EVALUATION

The successful bidder shall be required to meet minimum guaranteed generation with Performance Ratio (PR) minimum of 75% at the time of commissioning and related Capacity Utilization Factor (CUF) minimum of 15% as per the GHI levels of the location during the O&M period. Minimum CUF of 15% should be maintained for a period of ten (10) years.

8 NET METERING

- The bidirectional electronic energy meter of 0.5S Class shall be installed for the measurement of import / Export of energy as per the guidelines of concerned state Electrical Authority, if required.

- The bidder must take approval / NOC from the Concerned DISCOM for the connectivity and synchronization of SPV power plants installed at various locations.

9 PROTECTIONS

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

LIGHTNING PROTECTION

The SPV power projects 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 IEC 62305standard. 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

- Each array structure of the PV yard should be grounded/ earthed properly as per IS:3043-1987. In addition, the lighting arrester/mastsshould also be earthed inside the array field. PCU, ACDB and DCDB should also be earthed properly.
- 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.

GRID ISLANDING

- 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.
- A manual disconnect 4pole 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

10 CABLES

Solar Cables (only copper) of appropriate size to be used in the systemshall have the following characteristics:

- Shall meet IEC 60228 Class-5, IEC 60332-1, IEC 61034, IEC 60754-1 standards.
- Temp. Range: -10^{o}C to $+80^{o}$C.

- Voltage Rating: 1800V DC, 1000V AC
- Excellent resistance to weather, heat, cold, water, oil, abrasion, UV radiation.
- 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. The DC solar cables shall be of copper conductor only and shall be XLPO / EBXLP insulated and XLPO (Cross Linked Poly-Olefin)/ EBXLP (Electronic Beam Cross Linked Polyolefin) sheathed formulated.
- Cable Routing/ Marking: All cable/wires are to be routed in a GI cable tray as required and suitably tagged and marked with proper manner by good quality ferule or by other means so that the cable easily identified.
- The Cable should be so selected that it should be compatible up to the life of the solar PV panels i.e. 25 years. All cables used for installation of Solar field must be of Solar grade to withstand harsh environmental conditions including high temperature, UV radiation, rain, humidity etc., as per latest IEC standards.
- Bidder to indicate size and length of the cables as per system design requirement. All the cables required for the project shall be provided by the bidder. All cable schedules/layout drawings, data sheets shall got approved by Customer prior to installation.
- DC cable shall be of Multi Strand, flexible Annealed Tinned high conductivity copper conductor of XLPO insulation and XLPO sheathwith UV protection. Armoured cable for underground laying shall be considered. All cables shall conform to latest edition of IEC/ equivalent BIS Standards.
- The size of each type of DC cable selected shall be based on minimum voltage drop. However, the maximum voltage drop from PV modules to the Inverter shall be limited to 1.5%.
- The size of each type of AC cable selected shall be based on minimum voltage drop. However, the maximum voltage drop in power cables shallbe limited to

2%. The AC power cable shall be of XLPE insulated and PVC sheathed of 1100V grade only. The AC cable can be of Copper / Aluminium conductor as per the design requirement.

11 CONNECTIVITY

The maximum capacity for interconnection with the grid at a specific voltage level shall be as specified in the Distribution Code/Supply Code of the State and amended from time to time. Following criteria have been suggested for selection of voltage level in the distribution system for ready reference of the solar suppliers.

Project Capacity	Connecting Voltage
Up to 50 kW	240V-single phase or 415V-three phase at the option of the consumer
Above 50 kW and up to 150 kW	415V-three phase

12 DANGER BOARDS

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

13 FIRE EXTINGUISHER

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

- The installation of Fire Extinguishers should confirm to TAC regulations and BIS standards. The fire extinguishers as required shall be provided in the control room housing PCUs as well as on the Roof or site where the PV arrays have been installed.
- Sand buckets as required

14 PLANNING AND DESIGN

- The bidder should carry out Shadow Analysis at the site and accordingly design strings & arrays layout considering optimal usage of space, material and labor. The bidder should submit the array layout drawings along with Shadow Analysis

Report to Customer for approval.

- Customer / REIL reserves the right to modify the landscaping design, Layout and specification of sub-systems and components at any stage as per local site conditions/requirements.

- The bidder shall submit preliminary drawing for approval & based on any modification or recommendation, if any. The bidder submits three sets and soft copy in CD of final drawing for formal approval to proceed with construction work.

15 OPERATION AND MAINTENANCE

REIL shall provide enough support for SPV Modules, Structures and Inverters maintenance during O&M period.

Customer / REIL wishes to entrust the total O&M activities of the 425KW capacity Rooftop Solar Power Project to the contractor for five (5) years comprehensive operation & maintenance after completion of one year successful operation of the project from the date of commissioning.

- The Turnkey contractor shall be responsible for all the required activities for the successful running, committed energy generation & maintenance of the Solar Photovoltaic Power Project covering:

- Deputation of qualified and experienced engineers and technicians

- Successful running of Solar Power Project for committed energy generation.
- Monitoring, controlling, troubleshooting maintaining of logs & records, registers.
- Supply of all spares, consumables and fixing / application as required.
- Supply & use of consumables such as grease, oil etc. throughout the maintenance period as per recommendations of the equipment manufacturers.

- Conducting periodical checking, testing, overhauling and preventive action.
- General up keeping of all equipment, building, roads, PV modules, inverter etc.
- Submission of periodical reports to REIL / Customer on the energy generation &

operating conditions of the power project.

- Furnishing generation data monthly to Employer by 1st week of every month for the previous month to enable Employer raise commercial bills on consumers.
- Replacement of Modules, Invertors/PCU's and other equipment as and when required
- Corrective and preventive O&M of the Solar Photovoltaic Power Project including supply of spares, consumables, wear and tear, overhauling, replacement of damaged modules, invertors, PCU's for a period of 10 (ten) years from the date of start of O&M of the project shall be carried out at fixed annual cost.
- The period of Operation and Maintenance will be deemed to commence from the date of completion of performance demonstration/final acceptance and successively handing over the project for the O&M of the same. O&M contract shall further be extended on the mutually agreed terms and conditions for further period of 5 years.
- All the equipment required for Testing, Commissioning, O&M and for the healthy operation of the Project must be calibrated, time to time, from the NABL accredited labs and the certificate of calibration must be provided prior to its deployment.

MAINTENANCE

The contractor shall carry out the periodical/project maintenance asgiven in the manufacturer's service manual and perform operations to achieve committed generation.

- Regular periodic checks of the Modules, PCU's and other switchgears shall be carried out as a part of routine corrective & preventive maintenance. In order to meet the maintenance requirements stock of consumables are to be maintained as well as various spare as recommended by the manufacturer at least for 5 years to be kept for usage.
- Particular care shall be taken for outdoor equipment to prevent corrosion. Cleaning of the insulators and applying Vaseline on insulators shall also be carried

out at regular intervals. Earth resistivity of Project as well as individual earth pit is to be measured and recorded every month.If the earth resistance is high suitable action is to be taken to bring down the same.

- According to the recommendations stock of special tools and tackles shall be maintained for Modules, PCU's and other major electrical equipment.
- A maintenance record is to be maintained by the operator/engineer-in- charge to record the regular maintenance work carried out as well as any breakdown maintenance along with the date of maintenance reasons for the breakdowns steps have taken to attend the breakdown duration of the breakdown etc.

- The Schedules will be drawn such that some of the jobs other than breakdown, which may require comparatively long stoppage of the PowerProject, shall be carried out preferably during the non-sunny days. Information shall be provided to Engineer-in-charge for such operation prior to start.
- The Contractor shall deploy enough manpower at Solar Power Project site to carryout work instructions and preventive maintenance schedules as specified. The contractor shall keep at least one skilled and experienced supervisor at site on permanent basis to supervise the jobs that are being carried out at site.

- The Contractor will attend to any breakdown jobs immediately for repair/replacement /adjustments and complete at the earliest working round the clock. During breakdowns (not attributable to normal wear and tear) at O&M period, the Contractor shall immediately report the accidents, if any, to the Engineer In-charge showing the circumstances under which it happened and the extent of damage and or injury caused.

- The Contractor shall comply with the provision of all relevant acts of Central or State Governments including payment of Wages Act 1936, Minimum Wages Act 1948, Employer's Liability Act 1938, Workmen's Compensation Act 1923, Industrial Dispute Act 1947, Maturity Benefit Act 1961, Mines Act 1952, Employees State Insurance Act 1948, Contract Labour (Regulations &

Abolishment) Act 1970, Electricity Act 2003, Grid Code, Metering Code, MNRE guidelines or any modification thereof or any other law relating whereto and rules made there under from time to time.

- Contractor shall at his own expense provide all amenities to his workmen as per applicable laws and rules.
- The Contractor shall ensure that all safety measures are taken at the site to avoid accidents to his or his sub-contractor or any other staff.
- If negligence / mal operation of the contractor's operator results in failure of equipment such equipment should be repaired replaced by contractor at free of cost.
- If any jobs covered in O&M Scope as per O&M Plan are not carried out by the contractor during the O&M period, the Engineer-In-Charge can issue a notice to the Contractor. Repetition of such instances may lead tothe Termination of the O&M Contract by the Employer.

Quality Spares & Consumables

In order to ensure longevity and safety of the core equipment and optimum performance of the system the contractor should use only genuine spares of high quality standards for guaranteed energy generation.

Testing Equipment, Tools and Tackles

The Contractor shall arrange for all the necessary testing equipment, tools and tackles for carrying out all the construction, operation and maintenance work covered under this contract.

16 DRAWINGS TO BE SUBMITTED BY THE BIDDER AFTER AWARD OF CONTRACT

The Contractor shall furnish the following drawings Award/Intent andobtain approval

- General arrangement and dimensioned layout
- Schematic drawing showing the requirement of SV panel, Power conditioning Unit(s)/ inverter, Junction Boxes, AC and DC Distribution Boards, meters etc.

- Structural drawing along with foundation details for the structure.
- Itemized bill of material for complete SV project covering all the components and associated accessories.
- Layout of solar Power Array
- Shadow analysis of the roof top

17 SAFETY MEASURES

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

18 BILL OF MATERIAL (Indicative)

The equipment and material for Roof Top Grid Interactive Solar power project with associate system shall include, but not limited to the following:

Item Details	Unit
PV Modules (Scope – REIL)	Nos.
Module Mounting Structure (Scope – REIL)	Set
Power Conditioning Units/ Inverters (Scope – REIL)	Nos.
Main Junction Boxes	Lot
Interconnection Cable from PV Module to Array Junction Box (Copper)	RM
Interconnection Cable from Array Junction Box to Inverter	RM
Connection Accessories- Lugs, Ferrules, Glands etc	Lot
DC Cables of appropriate size	RM
AC Cables of appropriate size	RM
ACDB	Lot
Surge Protection Devices	Set
Earthing Pits, Earthing Flats & Earthing Cables	Lot
Weather sensors, Monitoring system	Set
Net Meters	Set
Module Cleaning System (all required items)	Lot

Note: This is tentative list. The contractor should supply any other material required to complete the project.

19 LIST OF PREFFERRED MAKES

Item Description	Makes
PV Modules	Vikram Solar/ Canadian Solar/ Suntech/ Waaree/ EMMVEE/ BHEL/ Tata Solar/ Loom Solar/ HHV Solar/ RenewSys/ Photon Energy Systems/AdaniSolar/REIL
Combiner Box/Array Junction Box	Hensel/ Schneider/ Cooper Busman/ Eaton/ Cape Electric/ Trinity Touch/ Statcon
Power Conditioning Unit/ Inverter	Gamesa/ ABB/ Schneider/ Delta/ Vacon/ Hitachi/ Fronius/ Microtek/ Su-Kam/ Siemens
Surge Protector Device	Transector/ OBO Betterman/ Poliphaser/ ENNOV/ Phoenix
MCCB /MCB	Hager/ C&S/ Merlin Gerin/ ABB/ Siemens/ Legrand/ Standard/ Schneider/ Havells/ GE/ L&T
Cable Glands(Double Compression)	Comet/ HMI/ Lapp/ Pheonix/ Precision/ CCI
Cable Lugs	Dowells/ Jainson/ Connect well/ Pheonix
Indicating Meters	IMP/ AE/ Meco/ L&T/ Motwane/ Conzerve/ Rishab/ Secure/ ABB/ Siemens/ Emerson/ RAIL/Toshiwal/ Enercon/ Kappa/ Schneider/ Fluke
PVC Pipes	KG/ BEC/ B Plast/ Modi/ Universal/ Polycab/ Precision/ Astral
MCB Distribution Boards	Hager/ C&S/Merlin Gerin/ ABB/ Siemens/ Legrand /Standard/ Schneider/ Havells/ GE/ L&T
Cables	APAR/ Polycab/ Siechem/ Havells/ KEI/ RR Kabel

Annexure-1

Procedure for Performance Testing

Part A: Solar PV power plant Net power generation

1. The Contractor shall quote the 'Net Electrical Energy Generation Guarantee" for annual basis considering the Reference Global Average Radiation indicated in this Tender.

2. The Contractor shall demonstrate "Actual Delivered Energy" at metering point as compared to the '*Base NEEGG'* for every year from the date of starting of O&M Period.

3. The quoted NEEGG as in Table in Annexure- 1 for any year shall be permitted with maximum 1 % degradation factor in previous year generation.

4. The quoted NEEGG will be used for the calculating CUF.

5. The Bidder shall clearly mention the technology used as per Table given in Annexure-2A.

Part B: Operational Acceptance Test Procedure

Performance Ratio (PR) - Test Procedure

1. Performance Ratio as determined through the PR Test Procedure specified here should not be less than 0.78 for Operational Acceptance Test.

2. The Performance Ratio Test to prove the guaranteed performance parameters of the power plant shall be conducted at site by the Contractor in presence of the Company. The Contractor's Engineer shall make the plant ready to conduct such tests. The Operational Acceptance Test shall be commenced, within a period of one (1) month after successful Commissioning and there will be continuous monitoring of the performance for 30 days. Any extension of time beyond the above one (1) month shall be mutually agreed upon. These tests shall be binding on both the parties to the contract to determine compliance of the equipment with the guaranteed performance parameters. This monitoring will be performed on the site under the supervision of the REIL / Customer.

3. The test will consist of guaranteeing the correct operation of the plant over 30 days, by the way of the efficiency rate (performance ratio) based on the reading of the energy produced and delivered to the grid and the average incident solar radiation.

4. PR shall be demonstrated against the installed DC Capacity.

5. The Efficiency or performance ratio (PR) of the PV Plant is calculated as follows (according to IEC 61724)

Performance Ratio (PR) = Y_A / Y_R

Where;
Y_A = Final (actual measured) PV system yield in kilo-watt hours at the point of measurement during the testing period, and

Y_R = Reference yield calculated as the product of the insolation on the plane of the collector (i.e. PV modules) in kWh/ m^2 during the testing period and the installed DC capacity of the plant in kW.

Monitoring System for PR Verification

The following instrumentation will be used to determine the Solar Plant Performance:

- Power Meter for each inverter at the ac output for reference only.
- One nos. calibrated pyranometer to determine irradiance on the plane of array (with a target measurement uncertainty of ±2).
- Two nos. thermocouples to measure module temperature with a measurement uncertainty of ±1 °C.
- An anemometer mounted on a suitable height to measure wind speed (without additional shadowing on modules).
- Data measurement shall be witnessed in the format mutually agreed before the start of PR test by the employer and the contractor jointly for the said period.
- The Contractor shall show the specified PR for Operational Acceptance.

Part C: The procedure for Performance Guarantee Test (PGT) - cum- Final Acceptance Test- shall be as follows:

1. A weather station with a calibrated pyranometer shall be installed by the Contractor at the location mutually agreed by the Contractor and REIL / Customer. The test report for the calibration shall be submitted by the Contractor for approval by REIL / Customer. The calibration should be traceable to a national/international laboratory. The output of this pyranometer for shall be logged in the SCADA system.
2. In case the pyranometer is found to be working erratically then immediately the Contractor shall take necessary steps to rectify and/or recalibrate the instrument to the satisfaction of REIL / Customer. However, for the dispute period for which such error has occurred and until the instrument is recalibrated to the satisfaction of REIL / Customer, data from any one of the following list of sources as decided by REIL / Customer will be used:

i. A separate pyranometer installed by the Company near the site, if available
ii. Average of two closest solar power plants, as identified by REIL / Customer
iii. Nearest MNRE weather station

3. "Actual Delivered Energy" from the plant supplied by the Contractor shall be noted for every month and summed up for entire year. For this purpose, the net delivered energy at the metering point shall be taken into account.

4. The measured value of energy at step (3) shall be compared with '*Base NEEGG'* and hence with 'B*ase CUF'* value. *"Base NEEGG/ CUF"* for a month is calculated by using the NEEGG quoted in the offer by the Contractor adjusted with a correction factor to take into account the actual average global solar radiation measured by the calibrated pyranometer for that year.

5. Further, if the plant is not able to achieve the calculated *Base NEEGG/CUF* during PGT and O&M period and there is a shortfall in energy generation, then the Contractor shall be penalized as per relevant Clause of the Tender.

6. The Contractor shall share with REIL / Customer all the radiation, generation, etc. parameters details and all other factors necessary for REIL / Customer to corroborate the estimate. REIL / Customer has the right to cross verify data submitted by the Contractor by all possible means/sources.

Following factors may be noted for computing the Base NEEGG/ CUF:

7. Effect due to variation in annual insolation shall only be considered for computing the Base NEEGG/CUF.

8. Effect due to variation of meteorological parameters e.g. ambient temperature, wind speed, humidity etc. shall not be considered.

9. **Generation loss due to grid outage (or power evacuation system whichis not in the scope of the Contractor**): The measured global solar radiation of the period of the outage of the power evacuation system shallbe excluded to calculate average global solar radiation for the period of PGT and O&M.

Annexure-2

Penalty for Loss of Generation during O&M Contract

Penalty for Loss of Generation during O&M

For each Contract Year, the Contractor shall demonstrate "Actual Delivered Energy" at the Metering Point as compared to the '*Base NEEGG'* for the particular year (calculated as per performance test procedure given in Annexure-2).

If for any Contract Year, it is found that the "Actual Delivered Energy" is less than 'Base NEEGG' for the particular year, the Contractor shall pay the compensation to REIL / Customer equivalent to Rs**. [As per Tariff paid by REIL / Customer*1.05] per kWh** of under- generation.

In case of any defect in the system after Commissioning, the Contractor shall repair it within forty eight (48) hours. After 48 hours, penalty shall be charged and the same shall be deducted from the Bank Guarantee submitted. A penalty at the rate of Rs. [**As per Tariff paid by REIL / Customer*1.05**] per kWh shall be charged by the company for the loss of generation. The loss of generation shall be calculated with respect to the NEEGG of that particular year based on the actual radiation.

The Company reserves the right to perform random audits of weather monitoring system of the plant anytime during the entire O&M period. If any discrepancy is found between the measured parameters, the difference between the measured parameters by REIL / Customer from secondary sources and the weather monitoring system installed by the Contractor at the site will be factored in calculating the adjusted NEEGG during the entire year. However, REIL / Customer will have the final authority to decide on this matter.

Annexure-3
(Specific Provisions on Warranty/ Guarantee)

Warranty / Guarantee

- **Contractor shall provide warranty / guarantee certificates of the supplied items to REIL as per warranty / guarantee provided by OEM.**

SPECIAL CONDITIONS OF THE CONTRACT (SCC)

- The Contractor shall provide all temporary ladders, scaffolding materials, platforms, supports, Lighting, Fencing and other necessary facilities required for handling, erection, testing and visual inspection of supplies at the point of installation and shall also provide necessary packing plates, wedges, shims, levelling screws etc., required for erection of equipment and structures.

- The Contractor shall provide erection consumables like oxygen and acetylene gas, welding rods, solder lugs, oil, grease, kerosene, cotton waste, etc., required for erection of plant equipment and steel structures.

- The Contractor shall construct and maintain its own site offices and stores as required for the work and arrange for maintaining in neat manner of the area placed at the Contractor's disposal. The temporary allotment of land for the purpose of site office, stores and temporary works for execution of Contract, shall be on the following terms:

- Land will be allotted free of charge for the purpose of site office & stores.

- Contractor has to ensure and follow all safety rules (including gates passes, work at height rules & dealing with accidents rules etc.) and other legal rules of Customer Premises.

- All safety items i.e. helmets, gloves etc. should be provided to all manpower at site during I&C work by Contractor.

- Customer shall charge penalty amount in case of any minor & major violations during Installation & Commissioning work.

- Contactor shall ensure timely of good housekeeping, work display board, barriaction, removal of muck in his working area.

- Contractor shall place one supervisor for execution of the project and safety supervisor for ensuring safety during execution of work.

- Contractor has to take insurance of all work i.e. Supply, Transit of Material, I&C of systems etc. and the same shall be submitted with claiming of payments.

- The project completion timeline is 7 months from the date of issue of work order. The delay in completion of project shall be subjected to LD @ 0.5% of the contract price plus escalation and upto maximum of 10% of total contract price (excluding 5 years O&M).

- All material shall be inspected by REIL QA & Customer before dispatch. Third party Inspection may also be asked by REIL / Customer as per requirements. The same shall be arranged by Contractor.

- Contractor shall follow all labour law & rules, PF, Wages etc.

- Contractor shall submit detailed design and drawings for the project and shall also submit as built drawings.

- Contractor shall provide required walkways and lifelines, safety railings in case of Shed Roof.

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) SEVERABREILITY

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 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) RESTRICTIN 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.

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 Appendix . 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:

Payments shall be released against each component of Price Bid in the following manner after submission of bill by the Contractor and acceptance of Security cum Performance Bank Guarantee by REIL and signing of Agreement as per provisions of bidding document.

The Employer shall pay the Bidder in the manner as following:

A. Payment against Plant Construction Works on turnkey basis:

a. Supply: Payment terms:

70% of the *Supply price (Basic Price)* as per approved billing schedule and 100% Goods and Services Tax (GST) will be paid against following dispatch documents and receipt at site / project stores and certification by Owner:

a) Clear lorry receipt / Delivery Challan
b) Invoice (GST Compliant)

c) Packing list
d) Test certificate
e) Pre-dispatch inspection certificate / waiver of Inspection, by CUSTOMER.
f) Warranty certificate
g) Dispatch clearance certificate issued by CUSTOMER.

Contractor agrees that any retention money withheld from any invoice towards security against the obligation due from the contractor i.e., final completion certificate, commissioning certificate etc., and payment for such invoice be regarded as fully discharged for the purpose of GST.

20% of the supply price will be released after successful commissioning of the entire system. This Payment will be released against submission of following documents:

a) Signed commercial Invoice -3 copies
b) Successful Commissioning certificate from owner at site regarding successful erection and commissioning
c) Release of REIL Payment

10% of the supply price *(final payment)* shall be paid on successful completion of PG Tests and final acceptance of the system by CUSTOMER and all completed documentation including as built drawings as certified by Owner and release of REIL Payment.

Erection and Commissioning, Civil Work and Liasoning Charges –Payment Terms

80 % of the **Erection and Commissioning, Civil Work and Liasoning Charges** ***(Basic price)*** of the equipment **and 100% Goods and Services Tax (GST)**will be paid as per approved billing schedule on prorata basis after issue of commissioning certificate by the owner and release of REIL Payment.

Contractor agrees that any retention money withheld from any invoice towards security against the obligation due from the contractor i.e., final completion certificate, commissioning certificate etc., and payment for such invoice be regarded as fully discharged for the purpose of GST.

20 % of the **Erection and Commissioning, Civil Work and Liasoning Charges shall be paid on successful completion of PG Tests and final acceptance of the system by CUSTOMER and all completed documentation including as built drawings as certified by Owner and release of REIL Payment..**

B. Payment against O & M Works – (Price Schedule -B-COMC):

100% of the O&M price including Goods and Services Tax (GST) on pro-rata basis for every quarter against Quarterly running bills, subject to guarantee performance and availability as per relevant clauses.

Note :

1. **Minimum 30% of the total project cost shall be considered as I&C and 5 years O&M price. If it is not like that, the same shall be bifurcated while placing order.**
2. **Out of 30% price, 15% shall be considered as I&C and remaining 15% shall be considered as O&M price.**
3. **O&M period can be extended later as per mutual terms.**

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 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.

NOTE:

1. **REIL can split the work among Contractors as per Project Requirement and approval of committee.**

2. **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.**

3. **All payments (against delivery of material) shall be released to the Contractor after submission of Inspection report duly approved (signed and stamped) by REIL QA.**

Performance Security: Bank Guarantee of 3% of total EPC (Supply and I&C) contract value shall be submitted by successful bidder within 15 days after placement of work order. The same shall be returned after completion of the project and upon receipt of 3% BG of O&M Value, valid for 5 years.

Appendix -III

RAJASTHAN ELECTRONICS & INSTRUMENTS LIMITED, JAIPUR

S. No.	Term	Description	Complied / Not Complied	Deviation if any
1.	GST / Taxes	Extra as applicable		
2.	Bid Security Declaration Form	As per given in tender document		
3.	Technical & Financial Eligibility Criteria	As per given in tender document		
4.	Terms of payment	As per given in tender document		
5.	Contract period	As per given in tender document/LOI /Work order		
6.	Performance Security	3% BG of the contract value		
7.	Comprehensive O&M	As per tender documents		
8.	LD Clause	As per tender documents		
9.	Warranty of equipment supplied	As per tender documents		
10.	Completion Period	As per given in tender document/LOI /Work order		
11.	Special Terms & Conditions	As per given in tender document		
12.	General Terms & Conditions	As per given in tender document		
13.	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				

Appendix -IV

(To be submitted on Bidder's Letter Head)

Tender ref.: REIL/RE/2021-22/PP/21144 dated 11.02.2022

Authorization Certificate

To

Date

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

Dear Sir,

Mr. …….. is hereby authorized to sign and submit tender document in reference to your tender no. **REIL/RE/2021-22/PP/21144 dated 11.02.2022 on behalf of M/s …….** for **"**Supply of BOS, Construction, Installation & Commissioning and 5 years Comprehensive O&M Of 425 kWp (DC) Cumulative Capacity Grid Connected Roof Top Solar PV Power Plants".

On behalf of company ……

Name and Designation

Signed and sealed (who has signed the tender)

Appendix - V

(To be submitted on Bidder's Letter Head)

Tender ref.: REIL/RE/2021-22/PP/21144 dated 11.02.2022

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)

Appendix -VI

Tender ref.: REIL/RE/2021-22/PP/21144 dated 11.02.2022

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)

Appendix -VII

BID SECURITY DECLARATION FORM

To,

Rajasthan Electronics & Instruments Limited, (REIL)
2, Kanakpura Industrial Area Sirsi Road,
Jaipur-302034 (Rajasthan)

Dear Sir,

In accordance with REIL NIT No. REIL/RE/2021-22/PP/21144 Dated 11.02.2022, We, M/s. _____, wish to participate in the said tender for - Supply of BOS, Construction, Installation & Commissioning and 5 years Comprehensive O&M Of 425 kWp (DC) Cumulative Capacity Grid Connected Roof Top Solar PV Power Plants.

We confirm that we have read the provisions of the bidding document no.: REIL/RE/2021-22/PP/21144 Dated 11.02.2022 and we hereby declare the following:

We confirm that, in case we withdraw or modify our bid during the period of validity, or if we are awarded the contract and we fail to sign the contract, or to submit a performance security before the deadline defined in the NIT, we will be suspended for a period of two years.

Date:

Place:

Signature:

Name of the Authorized person

Appendix -VIII

Tender ref.: REIL/RE/2021-22/PP/21144 dated 11.02.2022

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 UdhyogAdhar 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 ……

Appendix -IX

Tender ref.: REIL/RE/2021-22/PP/21144 dated 11.02.2022

UNDERTAKING TOWARDS COMPLETION OF WORK

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 have not any pending REIL project, against work order received upto FY 2017-18.

On behalf of company ……

Name and Designation

Signed and sealed (who has signed the tender)

Appendix -X

RAJASTHAN ELECTRONICS & INSTRUMENTS LIMITED, JAIPUR

Check List

Sr. No.	Required Documents	Remark
1.	Sealed and signed process compliance form. (Appendix-I)	
2.	Sealed and signed Special Terms & Conditions, Scope of work and Technical Specifications (Appendix-II)	
3.	Sealed and signed General terms & conditions of tender (Appendix-III)	
4.	Authorization certificate (Appendix-IV)	
5.	Sealed & signed Undertaking of No Near Relative (Appendix-V)	
6.	Sealed & signed Certificate for Non Black listing (Appendix-VI)	
7.	Bid Security Declaration Form (Appendix-VII)	
8.	Sealed & signed CA Certificate for MSME firms(Appendix -VIII)	
9.	Undertaking towards completion of REIL work received upto FY 2017-18(Appendix -IX)	
10.	Check list (Appendix -X)	