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

NOTICE INVITING TENDER

TENDER NO. REIL/RE/24-25/001 Dated 05.04.2024

"Survey, Supply of BoS (Except SPV Modules), Installation & Commissioning and CMC of rooftop off Grid / Grid Connected SPV Power Plant (s) at various locations in Rajasthan"

1.	ESTIMATED TENDER VALUE	RS. 906.00 LAKH ONLY PLUS GST
2.	TENDER FEE	RS. 1000/- THROUGH DEMAND DRAFT / RTGS
3.	LAST DATE OF ONLINE TENDER SUBMISSION	26.04.2024 UP TO 17:00 HRS
4.	TENDER OPENING DATE	27.04.2024 UP TO 17:00 HRS
5.	LAST DATE FOR SAMPLE SUBMISSION	26.04.2024
6.	OFFER VALIDITY	90 Days from the last date of tender submission
7.	CONTACT PERSON(S) FOR TECHNICAL QUERIES	Sh. Himanshu Sharma, Sr. Engineer (RE), himanshu.sharma@reil.co.in
8.	CONTACT PERSON(S) FOR TENDER QUERIES	1. Sh. Praveen kumar, DY. Manager (MM), praveen.kumar@reil.co.in 2. Sh Sanjay Gupta, AGM (MM-bos), sanjay.gupta@reil.co.in,
9.	EARNEST MONEY DEPOSIT (EMD)	RS. 18,12,000.00 (2% OF ESTIMATED VALUE IN FORM OF DEMAND DRAFT/BANK GUARANTEE/RTGS)

Note: MSE shall be exempted from payment of Tender Document Fee & EMD.

It is mandatory for MSE bidders to declare their UDHYOG AADHAR NUMBER on CPP Portal, failing which such bidders will not able to enjoy the benefits of procurement policy for MSE and also attach the relevant certificate.

Bidders Details

Information Details	Primary Contract	Secondary Contract
Name		
Designation		
Company Name		
Company Address		
Phone No.		
Mobile No.		
Email		
Website		

RAJASTHAN ELECTRONICS & INSTRUMENTS LIMITED, JAIPUR

NOTICE INVITING TENDER
TENDER NO. REIL/RE/24-25/001 Dated 05.04.2024

This is a Notice Inviting Tender (NIT) for Survey, Supply of BoS (Except SPV Modules), Installation- Commissioning and CMC of SPV Power Plant(s) at various locations in Rajasthan as per description and terms & conditions specified hereinafter:

Item Description:

S.No.	Description	QTY
1.	Survey, Supply of BOS including MMS, 5 KVA Off Grid PCU with Charge Controller, Lithium Battery Bank, ACDB, DCDB, Cables, Protection devices , earthing & accessories etc. with installation and commissioning and 5 year onsite comprehensive maintenance at various Govt. Schools in Rajasthan (as per NIT specification)	270 Nos
2.	Survey, Supply BOS including MMS, 8 KVA Grid Connected string Inverter, ACDB, DCDB, Cables, Protection devices Earthing & accessories etc. of along with Data logger (Wifi/GPRS) with installation and commissioning and 7 year onsite comprehensive maintenance at various Govt. Schools in Rajasthan (as per NIT specification)	21 Nos

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

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

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

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

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

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Annexure-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

Addl. 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/24-25/001 Dated 05.04.2024

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 honour 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:

Annexure-II

RAJASTHAN ELECTRONICS & INSTRUMENTS LIMITED, JAIPUR

INSTRUCTION TO BIDDERS

1. The Bid forms containing the Terms and Conditions, the tender and the Schedule of contract, **should be submitted online** failing which the tender shall be liable for rejection. In the event of the space on the Schedule of contract / specifications of items/proforma being insufficient for the required purpose, additional pages may be added. Each such additional page must be numbered consecutively, bearing the Tender Number and be duly signed and stamped by the bidder. In such cases, reference to the additional pages must be made in the Tender Form. If any modification of the schedule is considered necessary, you should communicate the same by means of separate letter sent along with the Tender.

2. PROCEDURE FOR SUBMISSION OF TENDERS / BIDS:

The tender should be submitted in "TWO BID" **SYSTEM**:

PART -1 TECHNICAL BID:

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

All eligibility documents should be submitted with the technical bid.

PART -2 FINANCIAL BID:

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

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

1. OPENING OF TENDER:

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

technical suitability shall be final and binding.

2. PRICES:

i. Prices/Financial bid are to be BOQ in Indian Rupees and must be meaningful and measurable in the context.
ii. Bidders should clearly specify whether prices quoted are inclusive of GST/duties/ statutory charges or such charges as extra. Where no specific mention GST or other duties quoted shall be **deemed to be inclusive of such taxes** / charges.
iii. Price must be quoted in original sheet of BOQ failing which the same is liable to be rejected.
iv. Separate BOQ shall be quoted for Supply item and I&C and CMC of Power Plant.
v. Evaluation will be done on total price quote by bidders.
vi. REIL has reserve to right for negotiation with L1 bidder.

3. OFFER VALIDITY:

Validity of offer shall be 90 days from tender opening date.

4. EMD:

Interested bidder shall submit Earnest Money (EMD) equal to 2% of estimated tender cost. The EMD amount shall be deposited in forum of Demand Draft/RTGS/Bank Guarantee to REIL .the EMD should be valid for a period of 45 days beyond the bid validity period (i.e 135 days from last date of submission of bid). The bid shall be treated as non responsive in case of non submission of EMD amount. No interest shall paid towards EMD amount.

5. WORK ALLOCATION :-

After opening of financial bid, the lowest quoted price shall be declared as L1 bidder. L1 bidder may invite for further negotiation. The work may distribute between L1 and L2 bidders on L1 rate in 70:30 ratio after acceptance of L1 rate by L2 party. 100% work may awarded to L1 bidder in case of non acceptance by L2 bidder.

6. SECURITY DEPOSIT

Security Deposit amounting to 5% of the total contract value is to be submitted within 7 days from the date of issue of LOI/Work order by successful bidder. Security deposit shall be refunded on completion of Installation – Commissioning/Net Metering and handover the systems to concern authority within completion period mentioned in tender. Security deposit may submit in fourm of Bank Guarantee/RTGS/Demand Draft. Bank Guarantee shall be issued by nationalize bank approved from RBI only. Security deposit may also be considered for PBG after completion of project within stipulated time as per NIT. Balance amount shall be released to successful bidder after completion of project. REIL reserves the right to forfeit the security deposit in case bidder fails to complete the project within stipulated completion period.

If L1 bidder fails to execute the work, the bidder may be blacklisted and debarred by REIL.

7. PERFORMANCE BANK GURANTTEE:-

Successful bidder shall submit PBG equal to 5% of total Supply part (PART A) within 7 days after installation –Commissioning of System in the form of BG/TRGS valid upto 66 months (for Off Grid Systems)/90 months (for Grid Connected System) from date of commissioning. Bank Guarantee shall be issued by nationalize bank approved from RBI only.

ELIGIBILITY CRITERIA

Bidder must fulfill following criteria:-

Following are required for considering responsiveness of the bidders.

Basic Requirement	Specific requirement	Documents requirement
Legal Entity	The bidder should be a Company / Firm / Corporation / LLP in India having experience in Installation, Commissioning & maintenance of SPV Systems.	1. In case bidder is a company: - Certified copy of the Certificates of Incorporation for companies issued by the registrar of Companies and Memorandum & Articles of Association. 2. In case the bidder is a corporation: - Authenticated copy of the parent statute. 3. In case the bidder is a Partnership/ Proprietor ship Firm: - Certified copy of the deed/ Registration Certificate.
Turnover	Minimum Annual Average Turnover (MAAT) of the bidder during three financial years (2021-22 , 2022-23 & 2023-24) should be at least 30% of estimated cost of tender.	4. Audited Balance Sheets, Profit and Loss Account along with CA Certificate with CA's Registration Number and Seal. 5. Turnover and net worth value duly certified by CA. 6. The last Three years Income Tax Return.
Solvency Certificate	The bidder should have adequate financial resources. Bidders shall submit Solvency certificate equal to 40% of estimated tender cost issued by Nationalize bank approved by RBI, Govt. of India.	Solvency certificate equal to 40% of estimated tender cost issued by Nationalize bank approved by RBI, Govt. of India should be submitted by bidder.

Technical Experience	Experience of having successfully completed similar work during last 7 Financial years ending last day of month previous to the one in which applications are invited should be either of the following:- Three similar completed works costing not less than the amount equal to 40% of the estimated cost. Or Two similar completed works costing not less than the amount equal to 50% of the estimated cost. Or One similar completed work costing not less than the amount equal to 80% of the estimated cost. (Similar nature of work means Supply of PCU and Battery alongwith Installation-Commissioning with maintenance of Off Grid Solar system in any central/state govt. department/PSUs. Copy of work order and Commissioning certificate should be attached with bid) AND Having experience of successfully completed cumulative 40KWp Grid Connected SPV Power Plant having minimum one project of minimum 8kWp Grid Connected SPV Power Plant during last 7 Financial years ending last day of month previous to the one in which applications are invited in any central/state govt. department/PSUs.	1. Copy of work order along with Commissioning certificate issued by any central/state govt. department/PSUs/ should be attached with bid

Sample Submission	The sample submission of off grid PCU and Battery is mandatory condition. bidder shall have to submit the sample of PCU and Battery as per specification mentioned in Tender with all required Test certificates and data sheet before the due date of tender submission.	Sample of PCU and Battery shall be submitted to REIL with all required Test certificates and data sheet as per specification mentioned in NIT
Original Equipment Manufacturer (OEM) Details	The bidder should be OEM or must submit Manufacturer Authorization (MAF) issued by Original Equipment Manufacturer (OEM) of PCU and Lithium Battery with BMS.	MAF issued by OEM in the name of bidder should be submit with bid
Tax Registration Certificates	i. The bidder should have a valid registration number of : 1. GST where his business is located. 2. PAN Number The bidder should have cleared his GST dues, if any to the State Government/Central Government."	1. Copies of relevant registration certificates of GST and PAN. 2. Certified copy of the last GST return filed reflecting that no GST is due to the State Government / Central Govt.

Others	**A.** The Business Associate shall not be under a declaration of ineligibility for corrupt or fraudulent practices or blacklisted with any of the Government agencies as on the due date for submission of bid. **B.** Bidder shall give an undertaking as per Annexure-VIII regarding satisfactory completion of work and shall also furnish undertaking as per Annexure-XI regarding certificate towards Legal / Contractual Disputes. **C.** Integrity pact shall be signed and submit along with bid. Successful bidder shall submit the Integrity pact as per Annexure-XVII on appropriate value non judicial stamp paper with dully signed and sealed. **D.** Declaration that firm is not blacklisted by any government department/ PSU as per Annexure-IX	1. Submit undertaking on bidder's Letter Head 2. Undertaking as per Annexure-VIII should submit by bidder 3. Integrity pact as per Annexure-XVII should submit with seal and sign of bidder 4. Declaration as per Annexure-IX should submit by bidder

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. However looking to nature of project, MSME/Start Up bidder has to abide with the experience and submit their sole required experience certificates.

SCOPE OF WORK

Annexure-IV

Scope of work covers Survey, Supply of BoS (Except SPV Modules), Installation-Commissioning and CMC of SPV Power Plant(s) at various Govt. Schools in Rajasthan conforming to technical specification of tender documents.

Detailed scope of work is given here under:-

(i) Establish district level service center in Rajasthan.
(ii) Survey and preparation of DPR of identified sites.
(iii) Supply of materials to Sites after inspection done by REIL/authorized agency.
(iv) Safety and storage of materials at site.
(v) Collect material receipt by concern principals and submit to REIL.
(vi) Installation & Commissioning of System at proposed sites.
(vii) Internal Load segregation work in schools.
(viii) Collect handing over certificate from customers.
(ix) O&M of SPV system during O&M period.
(x) Giving training to Nominated person at each school for routine maintenance and monitoring of SPV Systems.
(xi) Obtaining No objection certificate from concerned DISCOM for grid connectivity.
(xii) Entering in to supply, installation, commissioning and comprehensive maintenance (CMC) agreement with beneficiary. CMC shall be for five years for free replacement warranty on spare parts (including consumable items) against manufacturing defects for five years.
(xiii) Establishing after “sales service centre” in concerned area for cater maintenance needs of beneficiary.
(xiv) Providing Maintenance services to customer for O&M period (i.e 5/7 years).

PROJECT COST

The Project cost shall include all the costs related to above Scope of work. Bidder shall quote for the entire facilities on a “single responsibility” basis such that the total Bid Price shall cover the obligations mentioned in the Bidding Documents in respect of Survey, Supply of BoS (Except SPV Modules), Installation- Commissioning and CMC of SPV Power Plant(s) at various Govt. Schools in Rajasthan. The Bidder has to take all permits, approvals and licenses, insurance etc., provide training and such other items and services required to complete the scope of work mentioned above.

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

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

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

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

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

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

Net metering of Power :

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

Rajasthan Electricity Regulatory Commission (RERC) has issued **"Regulation for Net Metering and Grid Connectivity"** 2021. **The SPV Power generators/ beneficiaries going for installation of SPV Power Plants under this scheme will also be governed by the rules & regulations of Net Metering scheme as notified by RERC and amended time to time.**

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

PLANT PERFORMANCE EVALUATION:

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

The successful bidders shall be require to meet minimum guaranteed generation with **Performance Ratio (PR)** at the time of commissioning and related **Capacity Utilization Factor (CUF)** as per the DNI level for the location during the O&M period. PR should be shown minimum of 75% at the time of inspection for initial commissioning acceptance to qualify for release of subsidy. Minimum CUF of **15% should be maintained for a period of 5 years for release of performance related security**

deposit. **For CUF less than 15%, the penalty may be imposed as per conditions.** The Successful bidder should send the periodic plant output details to REIL for ensuring the CUF. The PR will be measured at Inverter output level during peak radiation conditions. The PR and CUF will be evaluated considering 100% grid availability.

A. OFF GRID SOLAR PV POWER PLANT

The following material will be supplied for Roof Top 5 kWp Off Grid SPV Power Plant **by REIL, Jaipur:**

S. No.	Description
1.	≥ 320 Wp SPV Modules

The above materials will be supplied by REIL at proposed sites. Vendor shall ensure about safety of materials. None type of charges shall be paid by REIL towards storage of materials. Safety & security of materials shall be in scope of vendors only. Necessary Insurance must be taken by vendor.

Scope of Work (Bidder):

The following material is required for Supply of BoS , installation- commissioning and Maintenance of each Power Plant:

S. No.	Description of item	Specification	Quantity
1.	Off Grid Power Conditioning Unit (PCU)	5 KVA (Single Phase AC Output) With inbuilt IGBT based MPPT Solar Charger Controller with priority Solar – Grid - Battery ,220V±2% voltage range & 50 Hz ± 0.5 Hz efficiency >80% IEC 60068, IEC 61683	1 Set
2.	Battery bank with accessories	LiFePO4 Battery Bank To providing backup for 2-3 Hrs 48V/200 Ah Nominal	1 Set
3.	Module mounting Structures	MS Hot dipped Galvanized IS 4759 Ground clearance shall be min. 300 mm Design for 150 km/hr Wind Speed ,	1 Set
4.	DC Cables	Min. 4 Sq. mm copper cables for interconnection of modules, Workable at 1100V , Min. 6 sq. mm copper cable for interconnection between DCDB and PCU. IEC 60227/IS 694, IEC 60502/IS1554 standards Temp. Range: –10°C to +80°C. XLPE	As per site requirement

		insulated and sheathed, UV-stabilized single/two core multi-stranded flexible copper cables	
5.	AC Cables	Min. 6 sq. mm X 2 Core Copper cable for 5 KVA off grid System and minimum 10 sq.mm X 4 core Copper cable for 8kWp Grid Connect system Workable at 1100V IEC 60227/IS 694, IEC 60502/IS1554 standards Temp. Range: –10^{o}C to +80^{o}C. XLPE insulated and sheathed	As per site requirement
6.	Earthing	Copper bounded Earhing road With MFC chemical bag	1 Set
7.	Lightning arrester (LA)	Copper bounded As per the system design	1 Set
8.	Danger Board	As per IE act/IE rules	1 Set
9.	Portable fire Extinguishers	4 KG capacity using “BC” or “ABC” type chemical Powder	1 Set
10.	ACDB	32 Amp MCB with SPD protection	1 Set
11.	DCDB	4 in 1 out with SPD protection (nos. of SPD shall be equal to no. of MPPT in PCU/String Inverter)	1 Set
12.	Balance of system	As per system design	1 Set
13.	Ring/Pin type Copper/Alu. lug crimping type	Dowelles or any reputed ISI make	Lumpsum quantity required for combiner box connections
14.	Ferrule (Alphabetic & Numeric)	ISI mark UV Resistance	Lumpsum quantity required for nomenclature of connections for each end
15.	PVC/Flexible conduit pipe HDPE Type	Modi/Jindal/Jain/finlex or HDPE ISI mark with	Lumpsum quantity required for series/ Parallel connections
16.	GI Cable tray	Reputed make	As per site requirement
17.	Cable ties	Reputed make	As per requirement
18.	Cable Glands Single compression heavy duty (Make: Comet)	Comet	As per requirement
19.	Sign boards for arrays, PCU, control room, Caution sticker (format attached) etc	--	as per site

B. 8 KWp GRID CONNECTED SOLAR PV POWER PLANT

The following material will be supplied for Roof Top 8 kWp Grid Connected SPV Power Plant **by REIL, Jaipur:**

S. No.	Description
1.	≥ 320 Wp SPV Modules

The above materials will be supplied by REIL at proposed sites. Vendor shall ensure about safety of materials. None type of charges shall be paid by REIL towards storage of materials. Safety & security of materials shall be in scope of vendors only. Necessary Insurance must be taken by vendor.

Scope of Work (Bidder):

The following material is required for Supply String Inverter, BoS , installation- commissioning and Maintenance of each Power Plant

S. No.	Description of item	Specification	Quantity
1.	Sting Inverter	8 KVA String Inverter as per latest MNRE specification	01 no.
2.	Module Mounting Structures	MS Hot dipped Galvanized IS 4759 Ground clearance shall be min. 300 mm Design for 150 km/hr Wind Speed ,	1 Set
3.	Cable 1Cx 4sq. mm unarm cable interconnectio Modules	Polycab/RR or any other reputed mak	As per site requirement
4.	Cable 2Cx4sq mm CU unarm cable from Array to String Inverter	Polycab/RR or any other reputed make	As per site requirement
5.	AC cable of suitable size	Polycab/RR/KEI or any other reputed make	As per site requirement
6.	Earth electrode	3E/JV any other reputed make	Min. 04 nos.
7.	Lightning arrester	Reputed approved make	As per site requirement
8.	Fire Fighting Equipments (Fire extinguisher, Fire bucket etc.)	Reputed approved make	As per site requirement

9.	ACDB with suitable MCB and SPD protection with enclose & with locking facility	Schneider/ABB/Legrand/ Havells/HPL any reputed ISI mark	As per site design/Site Requirement (between Solar Meter Box and LT panel)
10.	DCDB with SPD Protection	Reputed make(nos. of SPD shall be equal to no. of MPPT in PCU/String Inverter)	As per requirement (the nos. of SPD in DCDB should be equal to MPPT in Inverter)
11.	Isolator switch	Schneider/ABB/Legrand/H avells/HPL any reputed ISI mark	As per site design/Site Requirement (Near String Inverter)
12.	AC Combiner Box	L&T/HPL or any reputed ISI mark	As per site Requirement (if required)
13.	Ring/Pin type Copper/Alu. lug crimping type	Dowelles or any reputed ISI make	Lumpsum quantity required for combiner box connections
14.	Ferrule (Alphabetic & Numeric)	ISI mark UV Resistance	Lumpsum quantity required for nomenclature of connections for each end
15.	PVC/Flexible conduit pipe HDPE Type	Modi/Jindal/Jain/finlex or HDPE ISI mark with	Lumpsum quantity required for series/ Parallel connections
16.	GI Cable tray	Reputed make	As per site requirement
17.	Cable ties	Reputed make	As per requirement
18.	Cable Glands Single compression heavy duty (Make: Comet)	Comet	As per requirement
19.	Sign boards for arrays, PCU, control room, Caution sticker (format attached) etc	--	as per site
20.	Hot dipped GI strip	--	As per requirement
21.	Solar Meter Box	As per Discom approved or Reputed make	As per requirement
22.	Rubber Pipe flexible	Reputed Make ISI marked	If required For cleaning the Modules.

23.	Installation accessories ladders, safety belts/ shoes etc required for safe I&C of Power plants	Required for installation of Power Plant	
24.	Any other item/ material/ services for completion of the particular job as well as commissioning of Power Plant	Meeting to IS standards	
25.	Energy Meters (Solar & Net), for Net metering with testing fee as per Discom norms	As per concern Discom Norms	

The scope of work of bidder for the project is as under:

- Shifting of materials from ground floor to rooftop. REIL shall handover the material at ground floor.
- Safety and security of the Materials at Site.
- Insurance shall be in bidder‟s scope till handover the system.
- Additional Material required such as cables glands, tags, cable trays, GI Strip for Earthing material & item mention in above list etc. to complete job.
- Installation & commissioning of PCU, String Inverter, Battery Bank, Energy meters, Accessories etc.
- Installation of earthing material and lightning system, testing and commissioning of complete earthing and lightning system as per specification requirement.
- Laying, Termination, Glanding, Ferruling of all interconnecting cables among sub array, String Inverter, Coduting, Cable Trays and load panel etc .
- Wiring of complete solar system as per requirement.
- Testing of DC/AC wiring as per requirement.
- The scope of work of the bidder is to complete the I &C of SPV Power Plant.
- REIL shall handover/deliver all material at Site on ground floor only.
- Any other work tools & takels required for completion of the project shall be arranged by the bidder.
- Supply of Energy Meters, CT‟s , accessories etc. and Meter testing, CT testing in Discom Lab and liasioning with Discoms in the scope of bidder.
- All necessary items/manpower/arrangements required for Proper and Safe Installation & Commissioning of Power Plant will be arranged by the agency/Bidder. Any material/item other then mentioned in Scope of work (REIL) which is required for I&C of Power Plants is in scope of the agency.
- Bidder shall take all necessary steps, follow up & liasoning towards the Net Metering arrangements
- Bidder will take necessary statutory approvals/ clearances from all concern departments , Electrical Clearance from department etc. for installation & commissioning of Power Plant.
- Bidder shall re-arrange the existing AC wiring if required.
- All arrangements for their deployed workman/manpower at site will be take care by the agency.
- Bidder/agency shall give declaration that site has been visited and all information towards timely completion of project has been collected and taken care before quoting for the above enquiry.
- Prices quoted must be firm and fixed. No price variation/escalation shall be allowed.

- Bidder shall arrange all the manpower and material required for inter-connection of the SPV Power Plant to the load.
- After successful installation – commissioning of the Power Plant Bidder shall get a certificate of installation, commissioning and satisfactory operation from beneficiary as per requirement of work order. The scope of work also includes verification of documents from the customer.

- After installation – commissioning of the Power Plant Bidder shall arrange the inspection of Power Plant from customer/ designated agency/ REIL as per work order requirement and expanses, if any, shall be borne by bidder.
- Bidder shall install and commission the Power Plant in the stipulated time given by the agency.
- Bidder will submit weekly Project Execution Plan (PEP) along with offer. In which bidder gives the details that how will project accomplished. Bidder shall be also submit the PERT CPM for project scheduling & Management (if required).

PRICE SCHEDULE

The bidder shall quote their rates / costs for Survey, Supply of BoS (Except SPV Modules), Installation- Commissioning and CMC of SPV Power Plant(s) at various Govt. Schools in Rajasthan including all taxes etc. in format as per **online only.** It will be mandatory for Bidders to quote their prices.

S No.	Item Description	Capacity	Units	Qty.	Basic rate per system (in Rs.)	GST amount per system equal to 18% of basic rate (in Rs.)	Total Cost per per system
	SUPPLY PART (Part-A)						
1.	Survey, Supply of BOS including MMS, 5 KVA Off Grid PCU with Charge Controller, Lithium Battery Bank, ACDB, DCDB, Cables, Protection devices , earthing & accessories etc. with 5 year onsite Warranty maintenance (as per NIT specification)	5	KVA	270			
2.	Survey, Supply BOS including MMS, 8 KVA Grid Connected string Inverter, ACDB, DCDB, Cables, Protection devices Earthing & accessories etc. of along with Data logger (Wifi/GPRS) with 7 year onsite Warranty maintenance (as per NIT specification)	8	KVA	21			
	Total Cost of Supply of materials (A)						
	I&C WITH CMC PART (Part-B)						
3.	Installation- Commissioning and 5 years CMC of 5 kWp Off-Grid SPV Power Plant(s) at various Govt. Schools	5	KWp	270			
4.	Installation- Commissioning and 7 years CMC of 8 kWp Grid Connected SPV Power Plant(s) at various Govt. Schools	8	KWp	21			

	Total Cost of I&C with CMC of System (B)						
	Total (A+B):-						

***Charges toward I&C with CMC (Part B) shall be minimum 20% of Total quoted Cost, failing which remaining equal amount shall be deduct from Supply portion (part A).**

The above quantity may decrease/increase as per field situation/customer requirement .

The defect liability period shall be 5/7 years from date of commissioning of project including consumables. If the prices are quoted anywhere in Cover-I and/or Cover-II (Technical Bid) by any bidder, their offer will be summarily rejected.

SITE DETAIL :- the total sites are 291 located in various villages/ULB level in Rajasthan.

COMPLETION PERIOD

REIL proposes to take up work of Survey, Supply of BoS (Except SPV Modules), Installation- Commissioning and CMC of SPV Power Plant(s) at various Govt. Schools in Rajasthan under this programme as detailed at section-1 . Successful bidder shall supply the material within **2 Months** after issuing of Work Order/Site Clearance. Installation-Commissioning with handing over of Off Grid/Grid Connected Solar PV System shall be carried out and completed within **6 months** from the date of issue of Work Order/Site Clearance. The extension of time period for implementation of the programme is solely on the discretion of the tendering authority.

TECHNICAL SPECIFICATIONS FOR ROOFTOP OFF GRID/GRID CONNECTED SPV SYSTEMS

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

1. FOR OFF GRID SPV POWER PLANT

DEFINITION

A Off Grid Solar Power Plant consists of PCU, Battery bank with BMS , Module Mounting Structure, Controls &Protections, interconnect cables, earthing and switches. PV Array is mounted on a suitable structure. Components and parts used in the SPV power plants including the metallic structures, cables, junction box, switches, Battery Bank etc., should conform to the BIS or IEC or international specifications, wherever such specifications are available and applicable.
Solar PV system shall consist of following equipments/components.

1. Solar Photo Voltaic (SPV) modules consisting of required number of Crystalline PV modules
2. PCU
3. Battery Bank
4. Module Mounting structures
5. Array Junction Boxes
6. DC Distribution Box
7. AC Distribution Box
8. Earthing, Lightning, Surge Protections
9. IR/UV protected PVC Cables, pipes and accessories

1.1. BATTERY BANK WITH ACCESSORIES

Successful vendor shall provide LiFePO4 battery bank with BMS and compatible with 5 KVA PCU. The battery bank shall be 48V ,200Ah. The battery bank shall provide backup to dedicated load (upto 70% plant capacity) for 2-3 Hrs. The Contractor shall provide **onsite maintenance of PCU with Battery Bank**. The specification of Battery Bank shall be as under:-

S.No	Description	Battery Detail
1.	Battery Type	LiFePO4 battery with Metal encloser
2.	Type of Battery/Cell	Prismatic cell 3.2V,100Ah
3.	Applicable Standard	BIS approved Cell, IEC 62133-2:2017 (NABAL/ MNRE/IEC authorized test center report for (Clause3.) relevant IEC 62133)
4.	Nominal Voltage	48 V
5.	Ah Capacity	200Ah
6.	Charging Current	0.2C
7.	Discharging current	0.5C

8.	Battery DoD	>90%
9.	Cell balancing	Yes
10.	Operating temperature	-10 degree to 50 degree Celsius
11.	Humidity	15%-85%
12.	Cycle Life	>2000 cycles
13.	BMS feature	Protection:- against deep discharged & overcharge, Cell balancing, Short Circuit Temperature Compensation
14.	Charging Method	CC/CV
15.	Container/Cover Box/Rack/ Enclose	Suitable container/ Cover Box/ Rack for safe handling of Battery Bank

Successful bidder shall provide onsite warranty for 5 years.

1.2. OFF GRID PCU WITH CHARGE CONTROLLER

5 KVA (Single Phase) PCU with inbuilt IGBT based MPPT Charge Controller with priority Solar-Grid- Battery.
Off Grid PCU should have following feature and option:-

i. Full automatic operation with no break to ther supply during transition inverter+ Grid to Inverter only mode.
ii. Solar Power should be fed directly to site load via inverter as much as possible to minimize losses due to battery inefficiency.
iii. LCD with keypad for system control and monitoring instantaneous system data.
iv. Time and date stamped system data logs and fault logs available for importation into a spreadsheet for analysis via a local RS232/RS485 connection.
v. Arrangement of local communication for data monitoring remotely.
vi. PCU must having testing certificate from IEC/BIS/MNRE accredic lab as per IEC 60068,
IEC61683,
IEC 62116 & IEC 61727
vii. IGBT protection circuit
viii. Over charging protection circuit
ix. Transformer isolation at output
x. Zero change over time

System Specification:-

Operating Parameter	**Information**
System Rating (VA/W)	5000
Input Parameter	
Nominal Input Battery Voltage	48V
Main Input Voltage Range (UPS Mode)	180 VAC- 265 VAC $\pm$ 5VAC

Main Input Voltage Range (Normal Mode)	100 VAC- 280VAC ± 15VAC
Battery Charging	
Max. Grid Charging Current	15 A
Max. Solar Charging Current	100 A
Modes	
Energy Saver Mode	Via switch
UPS/Normal	Via switch
Output Parameter	
Wave from Type	Pure Sine Wave
Output Voltage Regulation	220 VAC +/- 2%
Output Frequency	50 Hz ± 0.5 Hz
Peak efficiency (with linear load)	> 80%
THD	<3%
Overload protection	Provided at >100%
Low Battery Protection	Provided at 45.2V ± 0.8V
Short circuit Protection	Provided
Change Over Time	
In UPS mode	< 12 millisecond
In normal mode	< 50 millisecond
Battery Parameter	
Boost Voltage	54 VDC± 0.8V
Float Voltage	53 VDC± 0.8V
Low Battery Cut	45.2 VDC± 0.8V
Solar Charger Controller	
Type	MPPT
Solar Input Voltage Range (VOC)	80-205V
Max. Solar DC input Range (Voc)	205V
Maximum Solar Array	5000 W
MPPT tracking Efficiency	>97%
Charger efficiency	Upto 95%
Environment	
Forced Cooling	Through Cooling FAN
Humidity	0-90% Non Condensing
Operating & Storage Temperature	0-45deg. C
Display Parameters	
Display Type	Graphical LCD with LED

Parameters	Solar ON/OFF, Switch On/Off, Main On/Off, Main MCB Trip, Load %, PV Current & Voltage, Battery volt, Charging and Discharging current, Mains Voltage & Output Voltage Warnings & Protections, System Capacity, Energy Saver Mode On/Off, UPS/Normal Mode Status Etc
Connectivity	Wifi

Successful bidder shall provide onsite warranty for 5 years.

1.3. Module Mounting Structure (MMS):

Bidder should submit the drawing of the MMS which they shall supply MMS should be Installed along with the hot dipped galvanized minimum 80 microns array support structure for mounting of SPV modules at site. The panel frame structure should be capable of withstanding a minimum wind Speed of 150 Km per hour, after grouting and installation. MMS should be sturdy & designed to assist SPV Modules to render maximum output. The hardware (fasteners) used for installation of SPV Modules & MMS should be of suitable Stainless Steel (SS 304). Prior approval of drawing & specification of module mounting structures is required to be taken from REIL. Each MMS should be with minimum four legs grouted on pedestals of minimum 300x300x300 mm in M25 Grade. Foundation bolts of stainless/GI steel should be at least 150 mm long. Made of MS in Hot rolled or Cold Formed members & ERW pipes& should be hot dipped galvanized as per IS- 4759.The structure design should be validated for wind speed of 150 Km/Hr and must be certified by Charted Engineer. Module Mounting structures should have theft proof arrangements along with the array support structure for locking arrangement of SPV modules for protecting them from theft. Its size should be with reference to the specifications of their own make SPV modules such that modules can comfortably slide in the channel while installation. It should not hide any portion of the photovoltaic circuit encapsulated in the lamination of the SPV module, there by unaffecting the efficiency & rating of the SPV modules. Anti Theft Nut Bolts of SS (with washers) should also be used. The minimum floor clearance shall be 300 mm.

Specification shall be as under:-

a) MMS Steel shall be as per latest IS 2062:2011 and galvanization of the mounting structure shall be in compliance of latest IS 4759..
b) The Mounting structure shall be so designed to withstand the speed for the wind zone of the location where a PV system is proposed to be installed. The PV array structure design shall be appropriate with a factor of safety of minimum 1.5.
c) The structures shall be designed to allow easy replacement, repairing and cleaning of any module. The array structure shall be so designed that it will occupy minimum space without sacrificing the output from the SPV panels. Necessary testing provision for MMS to be made available at site.
d) Adequate spacing shall be provided between two panel frames and rows of panels to facilitate personnel protection, ease of installation, replacement, cleaning of panels and electrical maintenance.
e) The structure shall be designed to withstand operating environmental conditions for a period of minimum 25 years.

1.4. Array Junction Boxes:

a) The junction boxes are to be provided in the PV array for termination of connecting cables.
b) The Junction Boxes (JBs) shall be made of GRP/FRP/Powder Coated aluminum /cast aluminum alloy with full dust, water & vermin proof arrangement. All wires/cables must be terminated through cable lugs. The JBs shall be such that input & output termination can be made through suitable cable glands. Suitable markings shall be provided on the bus-bars for easy identification and cable ferrules will be fitted at the cable termination points for identification.
c) Copper bus bars/terminal blocks housed in the junction box with suitable termination threads Conforming to IP 65 or better standard and IEC 62208 Hinged door with EPDM rubber gasket to prevent water entry, Single /double compression cable glands should be provided.
d) Polyamide glands and MC4 Connectors may also be provided. The rating of the junction box shall be suitable with adequate safety factor to interconnect the Solar PV array.
e) Suitable markings shall be provided on the bus bar for easy identification and the cable
f) ferrules must be fitted at the cable termination points for identification.
g) Junction boxes shall be mounted on the MMS such that they are easily accessible and are protected from direct sunlight and harsh weather.

1.5. DC Distribution Box (DCDB):

a) DC Distribution Box are to be provided to receive the DC output from the PV array field.
b) DCDBs shall be dust & vermin proof conform having IP 65 or better protection, as per site conditions.
c) The bus bars are made of EC grade copper of required size. Suitable capacity MCBs/MCCB shall be provided for controlling the DC power output to the inverter along with necessary surge arrestors. MCB shall be used for currents up to 63 Amperes, and MCCB shall be used for currents greater than 63 Amperes.

1.6. AC Distribution Box (ACDB):

1. AC Distribution Panel Board (DPB) shall control the AC power from inverter, and should have necessary surge arrestors, if required. There is interconnection from ACDB to mains at LT Bus bar while in grid tied mode.
2. All switches and the circuit breakers, connectors should conform to IEC 60947:2019, part I, II and III/ IS 60947 part I, II and III.
3. The isolators, cabling work should be undertaken as part of the project.
4. All the Panel"s shall be metal clad, totally enclosed, rigid, floor mounted, air -insulated,
5. cubical type suitable for operation on 1-ϕ/3-ϕ, 415 or 230 volts, 50 Hz (or voltage levels as per CEA/State regulations).
6. The panels shall be designed for minimum expected ambient temperature of 45 degree Celsius, 80 percent humidity and dusty weather.
7. All indoor panels will have protection of IP 54 or better, as per site conditions. All outdoor panels will have protection of IP 65 or better, as per site conditions.
8. Should conform to Indian Electricity Act and CEA safety regulations (till last amendment).
9. All the 415 or 230 volts (or voltage levels as per CEA/State regulations) AC devices / equipment like bus support insulators, circuit breakers, SPDs, Voltage Transformers (VTs) etc., mounted inside the switchgear shall be suitable for continuous operation and satisfactory performance under the following supply conditions.
10. Variation in supply voltage: as per CEA/State regulations
11. Variation in supply frequency: as per CEA/State regulations
12. The inverter output shall have the necessary rated AC surge arrestors, if required and MCB/ MCCB. RCCB shall be used for successful operation of the PV system, if inverter does not have required earth fault/residual current protection.

1.7. Protections

The system should be provided with all necessary protections like earthing, Lightning, and Surge Protection, as described below:

1.7.1. Earthing Protection

a. The earthing shall be done in accordance with latest Standards.
b. Each array structure of the PV yard, Low Tension (LT) power system, earthing grid for switchyard, all electrical equipment, inverter, all junction boxes, etc. shall be grounded properly as per IS 3043-2018.
c. All metal casing/ shielding of the plant shall be thoroughly grounded in accordance with CEA Safety Regulation 2010. In addition, the lightning arrester/masts should also be earthed inside the array field.
d. Earth resistance should be as low as possible and shall never be higher than 5 ohms.
e. For 10 KW and above systems, separate three earth pits shall be provided for individual three earthing viz.: DC side earthing, AC side earthing and lightning arrestor earthing.

1.7.2. Lightning Protection

f. The SPV power plants shall be provided with lightning & over voltage protection, if required. The main aim in this protection shall be to reduce the overvoltage to a tolerable value before it reaches the PV or other sub system components. The source of over voltage can be lightning, atmosphere disturbances etc. Lightning arrestor shall not be installed on the mounting structure.
g. The entire space occupying the SPV array shall be suitably protected against Lightning by deploying required number of Lightning Arrestors (LAs). Lightning protection should be provided as per NFC17- 102:2011/IEC 62305 standard.
h. The protection against induced high-voltages shall be provided by the use of Metal Oxide Varistors (MOVs)/Franklin Rod type LA/Early streamer type LA.
i. The current carrying cable from lightning arrestor to the earth pit should have sufficient current carrying capacity according to IEC 62305. According to standard, the minimum requirement for a lightning protection system designed for class of LPS III is a 6 mm2 copper/ 16 mm2 aluminum or GI strip bearing size 25*3 mm thick). Separate pipe for running earth wires of Lightning Arrestor shall be used.

1.7.3. Surge Protection

j. Internal surge protection, wherever required, shall be provided.
k. It will consist of three SPD type-II/MOV type surge arrestors connected from +ve and –ve terminals to earth.

1.8. CABLES

i. Min. 4 sq. mm copper cable shall be used for interconnection of SPV modules and min. 6 sq. mm copper cable shall be used for DCDB to PCU (DC connection)
ii. All AC cable shall be copper type. Min. 6 sq. mm copper cable shall be used for AC side.
iii. All cables should conform to latest edition of IEC/equivalent BIS Standards alongwith IEC 60227/IS 694, IEC 60502/IS 1554 standards.
iv. Cables should be flexible and should have good resistance to heat, cold, water, oil, abrasion etc.
v. Cables should have Multi Strand, annealed high conductivity copper conductor on DC side and copper/FRLS type on AC side. For DC cabling, multicore cables shall not be used.
vi. Cables should have operating temperature range of -10°C to +80°C and voltage rating of 660/1000 V.
vii. Sizes of cables between array interconnections, array to junction boxes, junction boxes to Inverter etc. shall be so selected to keep the voltage drop less than 2% (DC Cable losses).

viii. The size of each type of AC cable selected shall be based on minimum voltage drop. However; the maximum drop shall be limited to 2%.
ix. The electric cables for DC systems for rated voltage of 1500 V shall conform to BIS 17293:2020.
x. All cable/wires are to be routed in a RPVC pipe/ GI cable tray and suitably tagged and marked with proper manner by good quality ferule or by other means so that the cable is easily identified.
xi. All cable trays including covers to be provided.
xii. Thermo-plastic clamps to be used to clamp the cables and conduits, at intervals not exceeding 50 cm.
xiii. Size of neutral wire shall be equal to the size of phase wires, in a three phase system.
xiv. The Cable should be so selected that it should be compatible up to the life of the solar PV panels i.e. 25 years.

1.9. DRAWINGS & MANUALS:

Operation & Maintenance manual/user manual, Engineering and Electrical Drawings shall be supplied along with the power plant.

The manual shall include complete system details such as array lay out, schematic of the system, inverter details, working principle etc.

The Manual should also include all the Dos & Don‟ts of Power Plant along with Graphical Representation with indication of proper methodology for cleaning, Operation and Maintenance etc.

Step by step maintenance and troubleshooting procedures shall also be given in the manuals.

Vendors should also educate the consumers during their AMC period.

1.10. Miscellaneous:

Connectivity: The maximum capacity for interconnection with the grid at a specific voltage level shall be as specified in the SERC regulation for Grid connectivity and norms of DISCOM and amended from time to time.

Safety measures: Electrical safety of the installation(s) including connectivity with the grid must be taken into account and all the safety rules & regulations applicable as per Electricity Act, 2003 and CEA Safety Regulation 2010 etc. must be followed.

Shadow analysis: The shadow analysis report with the instrument such as Solar Pathfinder or professional shadow analysis software of each site should be provided and the consumer should be educated to install the system only in shadow free space. Lower performance of the system due to shadow effect shall be liable for penalty for lower performance.

2. FOR GRID CONNECTED POWER PLANT

DEFINITION

A Grid Connected Solar Power Plant consists of string Inverter, Module Mounting Structure, Controls &Protections, interconnect cables, earthing, Energy Meters and switches. PV Array is mounted on a suitable structure. Components and parts used in the SPV power plants including the metallic structures, cables, junction box, switches, etc., should conform to the BIS or IEC or international specifications, wherever such specifications are available and applicable.
Solar PV system shall consist of following equipments/components.

1. Solar Photo Voltaic (SPV) modules consisting of required number of Crystalline PV modules
2. String Inverter
3. Module Mounting structures
4. Array Junction Boxes
5. DC Distribution Box
6. AC Distribution Box
7. Energy Meters
8. Earthing, Lightning, Surge Protections
9. IR/UV protected PVC Cables, pipes and accessories

2.1 STRING 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. String 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:

- Capacity of String Inverter : 8 KVA
- Switching devices : IGBT/MOSFET
- Control : Microprocessor /DSP
- Nominal AC output voltage and frequency: 415V, 3 Phase, 50 Hz
- Output frequency : 50 Hz
- Grid Frequency Synchronization range : +/-5 Hz
- Ambient temperature considered : -20 Degree Celcius to 50 Degree Celcius
- Humidity : 95 % Non-condensing
- Protection of Enclosure : IP-65(Minimum) for outdoor.
- Grid Frequency Tolerance range : +/-5 Hz o Grid Voltage tolerance : - 20% & + 15 %
- No-load losses : Less than 1% of rated power
- Inverter efficiency(Min.): >97% (In case of 10 kW or above without inbuilt galvanic isolation)
- THD: < 3%

a) String Inverter shall be capable of complete automatic operation including wake-up, synchronization & shutdown.
b) The output of power factor of String Inverter is suitable for all voltage ranges or sink of reactive power, inverter should have internal protection arrangement against any sustainable fault in feeder line and against the lightning on feeder.
c) Built-in meter and data logger to monitor plant performance through external computer shall be provided.
d) Anti-islanding (Protection against Islanding of grid): The PCU shall have anti islanding protection in conformity to IEEE 1547/UL 1741/ IEC 62116 or equivalent BIS standard.
e) The String Inverter generated harmonics, flicker, DC injection limits, Voltage Range, Frequency Range and Anti-Islanding measures at the point of connection to the utility should follow the latest CEA (Technical Standards for Connectivity Distribution Generation Resources) Guidelines.
f) The String Inverter 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

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

2.2 Module Mounting Structure (MMS):

Bidder should submit the drawing of the MMS which they shall supply MMS should be Installed along with the hot dipped galvanized minimum 80 microns array support structure for mounting of SPV modules at site. The panel frame structure should be capable of withstanding a minimum wind Speed of 150 Km per hour, after grouting and installation. MMS should be sturdy & designed to assist SPV Modules to render maximum output. The hardware (fasteners) used for installation of SPV Modules & MMS should be of suitable Stainless Steel (SS 304). Prior approval of drawing & specification of module mounting structures is required to be taken from REIL. Each MMS should be with minimum four legs grouted on pedestals of minimum 300x300x300 mm in M25 Grade. Foundation bolts of stainless/Gl steel should be at least 150 mm long. Made of MS in Hot rolled or Cold Formed members & ERW pipes& should be hot dipped galvanized as per IS- 4759.The structure design should be validated for wind speed of 150 Km/Hr and must be certified by Charted Engineer. Module Mounting structures should have theft proof arrangements along with the array support structure for locking arrangement of SPV modules for protecting them from theft. Its size should be with reference to the specifications of their own make SPV modules such that modules can comfortably slide in the channel while installation. It should not hide any portion of the photovoltaic circuit encapsulated in the lamination of the SPV module, there by unaffecting the efficiency & rating of the SPV modules. Anti Theft Nut Bolts of SS (with washers) should also be used. The minimum floor clearance shall be 300 mm.

Specification shall be as under:-

a) MMS Steel shall be as per latest IS 2062:2011 and galvanization of the mounting structure shall be in compliance of latest IS 4759..
b) The Mounting structure shall be so designed to withstand the speed for the wind zone of the location where a PV system is proposed to be installed. The PV array structure design shall be appropriate with a factor of safety of minimum 1.5.
c) The structures shall be designed to allow easy replacement, repairing and cleaning of any module. The array structure shall be so designed that it will occupy minimum space

without sacrificing the output from the SPV panels. Necessary testing provision for MMS to be made available at site.

d) Adequate spacing shall be provided between two panel frames and rows of panels to facilitate personnel protection, ease of installation, replacement, cleaning of panels and electrical maintenance.

e) The structure shall be designed to withstand operating environmental conditions for a period of minimum 25 years.

2.3 Metering

a. A Roof Top Solar (RTS) Photo Voltaic (PV) system shall consist of following energy meters:
   i. Net meter: To record import and export units
   ii. Generation meter: To keep record for total generation of the plant.
b. The installation of meters including CTs & PTs, wherever applicable, shall be carried out by the respective DisComs as per the terms, conditions and procedures laid down by the concerned SERCs/DISCOMs.

2.4 Array Junction Boxes:

a. The junction boxes are to be provided in the PV array for termination of connecting cables.
b. The Junction Boxes (JBs) shall be made of GRP/FRP/Powder Coated aluminum /cast aluminum alloy with full dust, water & vermin proof arrangement. All wires/cables must be terminated through cable lugs. The JBs shall be such that input & output termination can be made through suitable cable glands. Suitable markings shall be provided on the bus-bars for easy identification and cable ferrules will be fitted at the cable termination points for identification.
c. Copper bus bars/terminal blocks housed in the junction box with suitable termination threads Conforming to IP 65 or better standard and IEC 62208 Hinged door with EPDM rubber gasket to prevent water entry, Single /double compression cable glands should be provided.
d. Polyamide glands and MC4 Connectors may also be provided. The rating of the junction box shall be suitable with adequate safety factor to interconnect the Solar PV array.
e. Suitable markings shall be provided on the bus bar for easy identification and the cable
f. ferrules must be fitted at the cable termination points for identification.
g. Junction boxes shall be mounted on the MMS such that they are easily accessible and are protected from direct sunlight and harsh weather.

2.5 DC Distribution Box (DCDB):

a. DC Distribution Box are to be provided to receive the DC output from the PV array field.
b. DCDBs shall be dust & vermin proof conform having IP 65 or better protection, as per site conditions.
c. The bus bars are made of EC grade copper of required size. Suitable capacity MCBs/MCCB shall be provided for controlling the DC power output to the inverter along with necessary surge arrestors. MCB shall be used for currents up to 63 Amperes, and MCCB shall be used for currents greater than 63 Amperes.

2.6 AC Distribution Box (ACDB):

a. AC Distribution Panel Board (DPB) shall control the AC power from inverter, and should have necessary surge arrestors, if required. There is 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 60947:2019, part I, II and III/ IS 60947 part I, II and III.

c. The isolators, cabling work should be undertaken as part of the project.
d. All the Panel‟s shall be metal clad, totally enclosed, rigid, floor mounted, air -insulated,
e. cubical type suitable for operation on 1-ϕ/3-ϕ, 415 or 230 volts, 50 Hz (or voltage levels as per CEA/State regulations).
f. The panels shall be designed for minimum expected ambient temperature of 45 degree Celsius, 80 percent humidity and dusty weather.
g. All indoor panels will have protection of IP 54 or better, as per site conditions. All outdoor panels will have protection of IP 65 or better, as per site conditions.
h. Should conform to Indian Electricity Act and CEA safety regulations (till last amendment).
i. All the 415 or 230 volts (or voltage levels as per CEA/State regulations) AC devices / equipment like bus support insulators, circuit breakers, SPDs, Voltage Transformers (VTs) etc., mounted inside the switchgear shall be suitable for continuous operation and satisfactory performance under the following supply conditions.
j. Variation in supply voltage: as per CEA/State regulations
k. Variation in supply frequency: as per CEA/State regulations
l. The inverter output shall have the necessary rated AC surge arrestors, if required and MCB/ MCCB. RCCB shall be used for successful operation of the PV system, if inverter does not have required earth fault/residual current protection.

2.7 Protections

The system should be provided with all necessary protections like earthing, Lightning, and Surge Protection, as described below:

2.7.1 Earthing Protection

i. The earthing shall be done in accordance with latest Standards.
ii. Each array structure of the PV yard, Low Tension (LT) power system, earthing grid for switchyard, all electrical equipment, inverter, all junction boxes, etc. shall be grounded properly as per IS 3043-2018.
iii. All metal casing/ shielding of the plant shall be thoroughly grounded in accordance with CEA Safety Regulation 2010. In addition, the lightning arrester/masts should also be earthed inside the array field.
iv. Earth resistance should be as low as possible and shall never be higher than 5 ohms.
v. For 10 KW and above systems, separate three earth pits shall be provided for individual three earthing viz.: DC side earthing, AC side earthing and lightning arrestor earthing.

2.7.2 Lightning Protection

vi. The SPV power plants shall be provided with lightning & over voltage protection, if required. The main aim in this protection shall be to reduce the overvoltage to a tolerable value before it reaches the PV or other sub system components. The source of over voltage can be lightning, atmosphere disturbances etc. Lightning arrestor shall not be installed on the mounting structure.
vii. The entire space occupying the SPV array shall be suitably protected against Lightning by deploying required number of Lightning Arrestors (LAs). Lightning protection should be provided as per NFC17- 102:2011/IEC 62305 standard.
viii. The protection against induced high-voltages shall be provided by the use of Metal Oxide Varistors (MOVs)/Franklin Rod type LA/Early streamer type LA.
ix. The current carrying cable from lightning arrestor to the earth pit should have sufficient current carrying capacity according to IEC 62305. According to standard, the minimum requirement for a lightning protection system designed for class of LPS III is a 6 mm2 copper/ 16 mm2 aluminum or GI strip bearing size 25*3 mm thick). Separate pipe for running earth wires of Lightning Arrestor shall be used.

2.7.3 Surge Protection

i. Internal surge protection, wherever required, shall be provided.
ii. It will consist of three SPD type-II/MOV type surge arrestors connected from +ve and –ve terminals to earth.

2.8 CABLES

i. Min. 4 sq. mm copper cable shall be used for interconnection of SPV modules and min. 6 sq. mm copper cable shall be used for DCDB to PCU (DC connection)
ii. All AC cable shall be copper type. Min. 6 sq. mm copper cable shall be used for AC side.
iii. All cables should conform to latest edition of IEC/equivalent BIS Standards alongwith IEC 60227/IS 694, IEC 60502/IS 1554 standards.
iv. Cables should be flexible and should have good resistance to heat, cold, water, oil, abrasion etc.
v. Cables should have Multi Strand, annealed high conductivity copper conductor on DC side and copper/FRLS type on AC side. For DC cabling, multicore cables shall not be used.
vi. Cables should have operating temperature range of -10°C to +80°C and voltage rating of 660/1000 V.
vii. Sizes of cables between array interconnections, array to junction boxes, junction boxes to Inverter etc. shall be so selected to keep the voltage drop less than 2% (DC Cable losses).
viii. The size of each type of AC cable selected shall be based on minimum voltage drop. However; the maximum drop shall be limited to 2%.
ix. The electric cables for DC systems for rated voltage of 1500 V shall conform to BIS 17293:2020.
x. All cable/wires are to be routed in a RPVC pipe/ GI cable tray and suitably tagged and marked with proper manner by good quality ferule or by other means so that the cable is easily identified.
xi. All cable trays including covers to be provided.
xii. Thermo-plastic clamps to be used to clamp the cables and conduits, at intervals not exceeding 50 cm.
xiii. Size of neutral wire shall be equal to the size of phase wires, in a three phase system.
xiv. The Cable should be so selected that it should be compatible up to the life of the solar PV panels i.e. 25 years.

2.9 DRAWINGS & MANUALS:

i. Operation & Maintenance manual/user manual, Engineering and Electrical Drawings shall be supplied along with the power plant.
ii. The manual shall include complete system details such as array lay out, schematic of the system, inverter details, working principle etc.
iii. The Manual should also include all the Dos & Don‟ts of Power Plant along with Graphical Representation with indication of proper methodology for cleaning, Operation and Maintenance etc.
iv. Step by step maintenance and troubleshooting procedures shall also be given in the manuals.
v. Vendors should also educate the consumers during their AMC period.

2.10 Miscellaneous:

i. Connectivity: The maximum capacity for interconnection with the grid at a specific voltage level shall be as specified in the SERC regulation for Grid connectivity and norms of DISCOM and amended from time to time.
ii. Safety measures: Electrical safety of the installation(s) including connectivity with the grid must be taken into account and all the safety rules & regulations applicable as per Electricity Act, 2003 and CEA Safety Regulation 2010 etc. must be followed.

iii. Shadow analysis: The shadow analysis report with the instrument such as Solar Pathfinder or professional shadow analysis software of each site should be provided and the consumer should be educated to install the system only in shadow free space. Lower performance of the system due to shadow effect shall be liable for penalty for lower performance.

2.11 COMPREHENSIVE MAINTENANCE CONTRACT (CMC)

Successful Bidder shall provide comprehensive maintenance upto 5 years for off Grid Solar System and 7 years for Grid Connected Solar System from date of Commissioning of system. Successful Bidder shall establish Service center support at district level and keep spares part of items. Successful bidder shall carry out routine quarterly maintenance of Solar System and submit the maintenance certificate to REIL dully signed by beneficiary. Routine maintenance includes cleaning of modules, checking of AC/DC connection, general testing of system, Solar generation data report etc.

Successful bidder shall also provide breakdown maintenance and attend the complaint within 3 working days after receipt of Complaint from customer/REIL and rectify the problem within 7 days. Successful bidder shall also submit the Annual Generation report to REIL duly signed by beneficiary. All type of expenditures towards maintenance shall be borne by Contractor only. No extra charges shall be paid to Contractor towards maintenance. Contractor shall also provide training to authorized person of beneficiary for regular cleaning of modules and general maintenance.

QUALITY CERTIFICATION, STANDARDS AND TESTING FOR OFF GRID/GRID-CONNECTED ROOFTOPSOLAR PV SYSTEMS/ POWER PLANTS

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

PCU	
IEC 60068,	Environmental testing - Part 2: Tests - ALL PARTS.
IEC61683,	Photovoltaic Systems – Power conditioners: Procedure for Measuring Efficiency (10%, 25%, 50%, 75% & 90-100% Loading Conditions)
IEC 62116 & IEC 61727	Utility-interconnected Photovoltaic Inverters - Test Procedure of Islanding Prevention Measures
LiFePO4 Battery	
Certification	BIS approved Cell, IEC 62133-2:2017
String Inverter	
IEC 62109-1, IEC 62109-2	Safety of power converters for use in photovoltaic power systems – Part 1: General requirements, and Safety of power converters for use in photovoltaic power systems Part 2: Particular requirements for inverters. Safety compliance (Protection degree IP 65 for outdoor mounting, IP 54 for indoor mounting)
IEC/IS 61683 (as applicable)	Photovoltaic Systems – Power conditioners: Procedure for Measuring Efficiency (10%, 25%, 50%, 75% & 90-100% Loading Conditions)
IEC 62116/ UL 1741/ IEEE 1547 (as applicable)	Utility-interconnected Photovoltaic Inverters - Test Procedure of Islanding Prevention Measures
IEC 60255-27	Measuring relays and protection equipment – Part 27: Product safety requirements
IEC 60068-2 (1, 2, 14 & 30)	Environmental Testing of PV System – Power Conditioners and Inverters a) IEC 60068-2-1: Environmental testing - Part 2-1: Tests - Test A: Cold b) IEC 60068-2-2: Environmental testing - Part 2-2: Tests - Test B: Dry heat c) IEC 60068-2-14: Environmental testing - Part 2-14: Tests - Test N: Change of temperature e) IEC 60068-2-30: Environmental testing - Part 2-30: Tests - Test Db: Damp heat, cyclic (12 h + 12 h cycle)
IEC 61000 – 2,3,5 (as applicable)	Electromagnetic Interference (EMI) and Electromagnetic Compatibility (EMC) testing of PV Inverters

IS/IEC 60947 (Part 1, 2 & 3), EN 50521	General safety requirements for connectors, switches, circuit breakers (AC/DC): a) Low-voltage Switchgear and Control-gear, Part 1: General rules b) Low-Voltage Switchgear and Control-gear, Part 2: Circuit Breakers c) Low-voltage switchgear and Control-gear, Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units d) EN 50521: Connectors for photovoltaic systems – Safety requirements and tests
IEC 60269-6	Low-voltage fuses - Part 6: Supplementary requirements for fuse-links for the protection of solar photovoltaic energy systems
Surge Arrestors	
BFC 17-102:2011	Lightening Protection Standard
IEC 60364-5-53/ IS 15086-5 (SPD)	Electrical installations of buildings - Part 5-53: Selection and erection of electrical equipment - Isolation, switching and Control
IEC 61643-11:2011	Low-voltage surge protective devices - Part 11: Surge protective devices connected to low-voltage power systems - Requirements and test methods
Cables	
IEC 60227/IS 694, IEC 60502 /IS 1554 (Part 1 & 2)/IEC69947 (as applicable)	General test and measuring method for PVC (Polyvinyl chloride)insulated cables (for working voltages up to and including 1100 V, and UV resistant for outdoor installation)
BS EN 50618	Electric cables for photovoltaic systems (BT(DE/NOT)258), mainly for DC Cables
Earthing/ Lightning	
IEC 62561 Series (Chemical earthing) (as applicable)	IEC 62561-1 Lightning protection system components (LPSC) - Part 1: Requirements for connection components IEC 62561-2 Lightning protection system components (LPSC) - Part 2: Requirements for conductors and earth electrodes IEC 62561-7 Lightning protection system components (LPSC) - Part 7: Requirements for earthing enhancing compounds
Junction Boxes	
IEC 60529	Junction boxes and solar panel terminal boxes shall be of the thermoplastic type with IP 65 protection for outdoor use, and IP 54 protection for indoor use
Energy Meter	
IS 16444 or as specified by the DISCOMs	A.C. Static direct connected watt-hour Smart Meter Class 1 and 2 - Specification (with Import & Export/Net energy measurements)
Solar PV Roof Mounting Structure	
IS 2062/IS 4759	Material for the structure mounting
Fuses & Control Gears	

IS/IEC 60947 (Part 1, 2 & 3), EN 50521	General safety requirements for connectors, switches, circuit breakers (AC/DC): 1) Low-voltage Switchgear and Control-gear, Part 1: General rules, Part 2: Circuit Breakers, Part 3: Switches, disconnectors switch- disconnectors and fuse-combination units 2) EN 50521: Connectors for photovoltaic system-Safety requirements and tests
IEC 60269-6:2010	Low-voltage fuses - Part 6: Supplementary requirements for fuselinks for the protection of solar photovoltaic energy systems

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

TERMS & CONDITIONS

THE WORK OF SURVEY, SUPPLY OF BOS (EXCEPT SPV MODULES), INSTALLATION-COMMISSIONING AND CMC OF SPV POWER PLANT(S) AT VARIOUS GOVT. SCHOOLS IN RAJASTHAN

i. At any time or at the end of agreement cost of damaged items not got repaired as per norms and laps of services during warranty period reported as default will be deducted from performance security on risk and cost basis.

ii. The time specified for delivery and completion of work in the contract tender shall be deemed to be the essence of the contract and the successful Bidder/Empanelled Vendor (s) shall arrange to complete work within the period on receipt of order from REIL.

iii. If bidder does not comply to his proposed schedule, REIL may reallocate the remaining work to any/all other interested firm, so as to achieve the targets .

iv. If the successful bidder(s) fail to complete the work in the period specified in the authorization letter / contract, the REIL may at its discretion to allow an extension in time of completion, subject to recovery from the Vendor an agreed liquidated damages a sum equal to the following percentage from the amount payable by REIL

- **(a) Delay up to 1/4 period of the prescribed completion period -2.5%.**
- **(b) Delay exceeding 1/4 period but not exceeding 1/2 period of the completion period – 5%**
- **(c) Delay exceeding 1/2 period but not exceeding 3/4 period of the prescribed completion period – 7.5%**
- **(d) Delay exceeding 3/4 period to the prescribed completion period – 10%**

v. Fraction of a day in reckoning the period of delay in supply shall be treated one full day.

vi. If the Successful bidder requires an extension of time in completion of contractual supply on account of occurrence of any hindrance, he shall apply in writing to the purchasing authority for the same immediately on occurrence of the hindrance but not after the stipulated date of completion of supply.

vii. Delivery period may be extended with or without liquidated damages if the delay in supply of goods is on account of hindrances beyond the control of the bidder.

a. No price escalation on account of any statutory increase in or fresh imposition of customs duty, excise duty, sales tax or duty liveable in respect of the systems authorized to be installed, shall be applicable.
b. The benefit on account of decrease in taxes etc. shall be availed by the REIL if accrued during the stipulated / extended delivery period.

The bidders are required to study carefully the conditions of the tender document, the enclosed specifications and the relevant provision of the relevant BIS/ISS/MNRE

specifications wherever necessary before submitting the proposal. Technical particulars of the material offered must comply with the enclosed specifications and the relevant provisions of the BIS/ISS/MNRE as far as possible. In case tenders are called for „ISI marked stores, the material „ISI marked only shall be accepted.

Any changes in the constitution of the firm/company shall be notified forth with by the Successful bidder in writing to the Corporation and such change shall not relieve the tenderer from any liability under the contract.

Bidder will have to submit GST registration certificate number and GST clearance certificate from the competent authority concerned along with the proposal without which proposals may not be considered provided that the

purchasing authority has reason to believe (to be recorded in writing) that the bidder has not been able to submit clearance certificate of GST on bona-fide grounds, the authority may consider the tender asking the bidder to furnish the certificate later on but in any case before the execution of the agreement by the successful bidder.
The bidder shall sign on each page at the end in token of acceptance of all the terms and it would be attached
/uploaded with the proposal along with the declaration. He should also sign at the bottom of each of the pages of his tender.

The authorization for installing SPV system can be repudiated at any time by the REIL if the systems are not supplied and installed to its satisfaction. The reasons for repudiation shall be recorded by REIL. In case of non- performance in any form and shape of the terms & conditions of the agreement the REIL has power to cancel the authorization pertaining to the supply and installation of systems.

If a bidder imposes conditions, which are in addition to/or in contravention with the conditions mentioned herein, his tender is liable to be summarily rejected. In any case none of such conditions will be deemed to have been accepted unless specifically mentioned in the letter of authorization issued by REIL.

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

(ii) Comprehensive Maintenance Services for 5/7 years should be provided by the Successful bidder. Quarterly Report for maintenance and Servicing as per Annexure should be prepared and submitted to REIL after providing necessary services.

To ensure the quality of the system, Pre-Dispatch Inspection of the PCU, Battery and String Inverter proposed to be used by Successful bidder, is mandatory condition. Pre-Dispatch inspection of material will be conducted by a Technical Officer of REIL or any other person authorized by REIL. The Successful bidder will offer the material for inspection along with routine test certificates. Detailed instructions of Pre-dispatch inspection of material done at point of source of material (i.e at works of the manufacturer) shall be made available to the Successful bidder.

After qualifying and deciding L-1 offer, if the successful bidder did not take up the work as per work order issued to the firm. REIL will forfeit the deposited amount of the successful bidder with REIL as per Clause No. 7.12 and take action for debarring and blacklisting of the firm.

Quality Test:- The material should be offered for inspection to REIL for QA.

PAYMENT TERMS

Portion	Payment Schedule	Milestone
Supply Portion **(Part A)**	70% payment of Supply Portion (PART A) on pro rata basis (site wise)	Payment shall be released after 1. Successful delivery of materials at respective sites 2. along with submission of materials receipt dully signed by Principal and REIL in charge , 3. submission of LR copy of material, 4. submission of PDI report along with Invoice.
	20% payment of Supply Portion (PART A) on pro rata basis (site wise)	Payment shall be released after 1. receipt of REIL's payment against supply of materials from Beneficiary
	10% payment of Supply Portion (PART A) on pro rata basis (site wise)	Payment shall be released after 1. successful installation-Commissioning of System along with 2. submission of Installation certificate dully verified by Principal and REIL in charge , 3. submission of GPS Photographs of plant with beneficiary, 4. submission of handing over certificate and submission 5% PBG amount of Part A (supply portion) valid upto 66 months from date of commissioning of System . 5. and release of REIL's payment against I&C.
I&C with CMC **(Part B)**	80% payment of I&C and Maintenance part (PART B) on pro rata basis (site wise)	
	20% payment of I&C and Maintenance part (PART B) on pro rata basis (site wise)	1. **For Off Grid plant** Payment shall be released in equal amount (@4%

		every year upto 5 years) after successful completion of O&M period and submission of quarterly maintenance report duly verified by Principal and REIL in charge. 2. **For Grid Connected plant** Payment shall be released in equal amount (@3% every year upto 5 years and @ 5% after completion of 7th year) after successful completion of O&M period and submission of quarterly maintenance report duly verified by Principal and REIL in charge.

Warranty Clause:-

a. Contractor shall provide warranty certificate issued by original OEM of PCU/Battery/Inverter.OEM shall bound to provide warranty of items upto O&M period mentioned in tender.

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

c. Comprehensive Maintenance Services for 5 years/ 7years should be provided by the Successful bidder. Quarterly Report for maintenance and Servicing as per Annexure-7 should be prepared and submitted to REIL after providing necessary services.

d. The time specified for delivery and completion of work in the contract tender shall be deemed to be the essence of the contract and the successful Bidders shall arrange to complete work within the period on receipt of order from REIL.

OTHER CONDITIONS:

1. **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.

   The contractor shall not sublet transfer or assign the contract to any part thereof without the written permission of the Addl. General Manager (MM-BoS). In the event of the contractor contravening this condition, Addl. General Manager (MM-BoS) 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 Addl. General Manager (MM-BoS), may sustain in consequence or arising out of such replacing of the contract.

2. **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.
3. **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.
   The quantity of the SPV Systems shown in the tender can be increased or decreased to any extent depending upon the actual requirement.
4. **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.

5. **Required document/format**:- REIL shall provide the required documents/format/certificate/agreement draft at the time of issue of allocation of work.

6. **Site Survey** :-It is informed to bidders to carry out sample Site Survey before Submission of bid. Site survey will help bidder for better understanding of field conditions such as type of building roof, internal wiring arrangement, existing Load details, health of grid, connectivity for transportation etc. The Site Survey will be done on 10.04.2024 at Udaipur. Contact person Sh. Sunil Maheshwari 7727011769. Interested bidder shall depute their representative along with authorization letter. Site Survey undertaking shall be submitted by bidders alongwith bid. None type of charged will be paid towards site survey.
7. **Service Center:-** Service center is mandatory at division level in Rajasthan for providing quick O&M support. bidders shall submit the list of Service center detail with complete address and contact details. Bidders should also submit the undertaking to establish division level service center alongwith bid. Successful bidder shall submit the service center detail after issuing of work order.
8. **SAMPLE SUBMISSION**:- interested bidder shall submit the sample at following address before last date of tender submission

   Addl. General manager (MM Bos)

   2, Kanakpura Industrial Area, Sirsi road, Jaipur 302034

Annexure-V

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. FORCE MAJURE

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

7. RESTRICTIN ON EMPLOYMENT

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

8. ARBITRATION

The parties agree to use their best efforts to resolve any dispute that may arise under the Agreement through good faith negotiations. No party shall commence any arbitration or litigation in relation to this Agreement unless it has first invited the Chief executive of the other party to meet with its own Chief executive for the purpose of endeavouring to resolve the dispute on mutually acceptable terms.

Any dispute arising under this Agreement which cannot be settled by negotiation between the parties or their respective representatives shall be submitted to arbitration in accordance with

the Indian Arbitration and Conciliation Act, 1996

9. 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.

10. 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:-

has abandoned the Contract

has without valid reason failed to complete the projects in respect of the contract.

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.

11. DURATION OF CONTRACT

This contract shall take effect on the day of execution of this contract and shall endure for the period of 5 year from date of commissioning and hand over the Power Plant(s) to beneficiary and renewable as per mutual agreement.

12. 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)

13. 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 as per clause mentioned in Eligibility Condition page no. 12.

14. 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.

15. FORCE MAJEURE:

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.

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.

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.

16. GENERAL;

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

A. Work man‟s compensation act.
B. Minimum wages Act.
C. Payment wages Act.
D. Contact Labour regulation & abolition Act.
E. ESI, PF & Bonus Act.
F. Regulation under Indian Electricity Rules,

G. Safety & electrical Standard as applicable i
H. 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 beneficiaries as per format provided by REIL.

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.

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.

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.

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.

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.

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.

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.

The company shall be fully absolved from the third party claims and damages during the execution of the contract. All disputes arising out of this contract and questions relating to its interpretation etc. shall be referred to the sole arbitration of for his decision, which shall be final and binding on both parties.

The contract agreement shall be executed at Jaipur and shall be subject to Jaipur court jurisdiction alone. 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.

Annexure – VI

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

COVERING LETTER

Tender ref.: REIL/RE/2024-25/001

No. Date:……

Addl. General Manager (MM-BoS),

Rajasthan Electronics & Instruments Limited, 2, Kanakpura

Industrial Area, Jaipur-302034 Rajasthan

Sub: NIT for Survey, Supply of BoS (Except SPV Modules), Installation- Commissioning and CMC of Off-Grid/Grid connected SPV Power Plant(s) at various Govt. Schools in Rajasthan

Dear Sir,

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

We confirm that, we have the capability for work for "NIT for Survey, Supply of BoS (Except SPV Modules), Installation- Commissioning and CMC of Off- Grid/Grid connected SPV Power Plant(s) at various Govt. Schools in Rajasthan". (Supporting document in proof of capacity should be attached).

Regards,

Signature with company seal Name-

Designation

Annexure- VII

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

AUTHORIZATION CERTIFICATE

Date .....

To

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

Dear Sir,

We M/s. .....are authorizing Mr.. ..... to submit tender document in reference to your tender no **REIL/RE/24-25/001 Dated 05.04.2024** for work for "NIT for Survey, Supply of BoS (Except SPV Modules), Installation- Commissioning and CMC of Off-Grid/Grid connected SPV Power Plant(s) at various Govt. Schools in Rajasthan" on our behalf. He is authorized to carry out communication and negotiations on our behalf.

On behalf of company .....

Name and Designation

Signed and sealed (who has signed the tender)

CERTIFICATE TOWARDS COMPLETION OF WORKS

To

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

Dear Sir,

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

On behalf of company ……

Name and Designation

Annexure -IX

CERTIFICATE FOR NON BLACK LISTING

(Bidder must submit it on Letter Head of the firm)

Date……
……

To

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

Ref: NIB No. ……..

Dear Sir,

We M/s. confirm that we are not blacklisted in any PSUs / Government /

Semi Government / Quasi Government department in India, as on date of submission of bid. This undertaking is submitted to the best of my knowledge. If at any stage it is found wrong, then REILmay take necessary action against us.

On behalf of company ……

Name and Designation

Annexure-X

Tender ref.: REIL/RE/2024-25/001

UNDERTAKING OF NO NEAR RELATIVE

Date……..

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

Dear Sir,

We M/s ……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

Tender ref.: REIL/RE/2024-25/001

CERTIFICATE TOWARDS LEGAL / CONTRACTUAL DISPUTES

Date……

To

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

Dear Sir,

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

On behalf of company ……

Name and Designation

Annexure -XII

Maintenance Certificate

Date-

Type of SPV Power Plant :- Off Grid/ Grid Connected

Contact Person:-

Name of Site:- Location of Site:-

Capacity of SPV Power Plant:-

S. No.	DESCRIPTION	STATUS			REMARK
	Nos. of SPV Modules & Capacity				
	Cleaning of Modules on Date……				
	Nos. of String Inverter & Capacity				
	Sr. No. of String Inverter				
	Nos. of Strings				
	Nos. of Modules in each String				
	Vmp & Imp of Strings	Nos.	Vmp	Imp	
	Reading of String Inverters	Power (kW)	E-Today (kWh)	Cumulative (kWh)	
	Solar Meter Details Sr. No. Make	……..kWh			
	Net Meter Details Sr.No. Make	Import kWh	Export kWh	Net kWh	
	If/Any				

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

Signature of REIL Signature of Beneficiary

QUARTERLY MAINTENANCE & SERVICING REPORT

DETAILS OF SOLAR PHOTOVOLTAIC SYSTEM INSTALLED

Supplied by :
Date of installation:
Servicing period : From ……. to ……..

BENEFICIARY PROFILE

Name and address of Beneficiary:

TECHNICAL DETAILS

Module Capacity, make and serial numbers :
Inverter Capacity, make and serial no.

CHECK OF THE PRODUCT

Correct inclination and orientation of SPV panel :
Cleaning of dust from SPV panel :
Interconnection of modules, charge controller etc.:
Fuse of charge controller:
Working of inverter

DIFFICULTIES IN OPERATION/ PROBLEM FACED BY

BENEFICIARY: DIAGNOSIS DETAILS/ REPAIR ACTION:

DATE ON WHICH SYSTEM WAS LAST ATTENDED:

GENERATION DATA AND CUF DURING THE

PERIOD REMARKS:

It is mandatory to submit Installation wise Quarterly Energy Generation Data to REIL.

Beneficiary Name & Signature **Firm's Name & Signature of Authorized Person**

Annexure-IX

FORMAT OF INSTALLATION CERTIFICATE

GSTIN No:	M/s..... Address:	Phone No: Fax No: E-mail

Date of Installation :

Name of Beneficiary : .....
Address of Place of Installation :.....
Name of City :....., Tel.No: ...../Mobile No:……
Email Id:.....
Adhaar No. ,
K.No. in Electricity Bill ……
Location of Project… (Latitude, Longitude in decimal)

Certified that kW PV Capacity SPV Roof Top Grid connected Power Plant in reference to REIL RC order No:.....Dated:..... has been installed and commissioned at the place mentioned and taken over the system by beneficiary in good working condition: The details of material supplied and installed are as under :

S. No.	**Item:**	**Make & capacity of each**	**Quantity**	**Serial Numbers.**
1.	SPV Module of Wp each:			
2.	Inverter/ PCU			
3.	Battery bank			
4.	Module Stand			
5.	Cable			
6.	Lighting Arrestor			
7.	Surge Protection device			
8.	Other items.....			

Signature of Beneficiary:

Signature of Firm‟ authorized Person REIL verification. With seal.

Note: GSTIN No. should be printed or stamped properly.

Annexure-XV

MANUFACTURER'S AUTHORIZATION FORM (MAF)
(on letterhead of OEM)

To,

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

Ref:- **REIL/RE/2024-25/001**

Dear Sir,

WHEREAS

We M/s……., who are Original manufacturers of ……having factories at ……(address of manufacturer) do hereby authorize to M/s …… for submit a Bid relation to the invitation for Bids indicated above, the purpose of which is to provide the following Goods, manufactured by us and to subsequently negotiate and sign the contract.

1.
2.
3.
4.
5.

we hereby extend our full guarantee and warranty upto O&M period as per NIT and agree to provide spares in accordance with the General conditions of contract, with respect to the Goods offered by the above firm in reply to this invitation for Bids. We hereby declare that we have read the NIT and agree on above terms & condition.

For M/s

Date:

Place:

Signature:

Name of the Authorized person

TECHNICAL COMPLAINCE SHEET

S.No	Item Description	Specification	Make
1.	**PCU**	5 KVA PCU with IEC 60068, IEC61683, IEC 62116 & IEC 61727 certification	
2.	**LifePO4 Battery**	BIS approved Cell, IEC 62133-2:2017	
3.	**String Inverter**	IEC 62109-1, IEC 62109-2, IEC/IS 61683 (as applicable), IEC 62116/ UL 1741/ IEEE 1547 (as applicable) IEC 60068-2 (1, 2, 14 & 30) and as per NIT specification	
4.	**Cables**	IEC 60227/IS 694, IEC 60502 /IS 1554 (Part 1 & 2)/IEC69947 (as applicable)	

Name of the Authorized person

Annexure-XVII

Commercial Terms &Conditions

S/N	Terms	Terms status	Description	Offer status Complied / Not Complied
1.	Terms of Delivery	Required	FOR Site (Inclusive of Freight, Insurance, Packing & Forwarding and unloading)	
2.	GST	Required	Please specify the current rate.	
3.	Terms Of payment	Required	As per Payment terms clause.	
4.	Submission by Associated Firms	Required	Two associated firms can not submit offer in same tender for same item. If at any stage it is found than offer of both parties will not be considered.	
5.	GST No:	Required	GST no is essential for participating in this Tender. Kindly provide your GST No:	
6.	**Corrigendum and extension**	**Required**	**Corrigendum and extension if any will be hosted on the following website(https://eprocure.gov.in/) only. Please check regularly for further information update.**	
7.	Backout Clause	Required	After opening of price bid or on release of PO, if party backsout to supply the material, such party will be debarred from participating in future tenders for same / similar item.	
8.	Udhyam Registration	**Required**	**As per recent Government guide line, manufacturer / Service provider has to take** Udhyam registration to avail benefit of MSE. Attach your copy of Udhyam Registration with tender.	
9.	**Legal or arbitration issues**	**Required**	**Bidder having any legal or arbitrary issues pending with REIL directly or indirectly are not eligible to quote in the tender.**	
SIGNATURE WITH STAMP				

Note :- 1. Offer Status is to be mentioned in form of Complied or Not Complied. If it is not complied then please mention deviation in deviation column.

INTEGRITY PACT

Between

Rajasthan Electronics & Instruments Limited (REIL), a company registered under the Companies Act 1956 and having its registered office at 2, Kanakpura Industrial Area, Jaipur-302034 (India) hereinafter referred to as "The Principal", which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the ONE PART

and

_____, (description of the party along with address), hereinafter referred to as "The Bidder/ Contractor" which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the OTHER PART

Preamble

The Principal intends to award, under laid-down organizational procedures, contract/s for _____. The Principal values full compliance with all relevant laws of the land, rules and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder(s)/ Contractor(s).

In order to achieve these goals, the Principal will appoint Independent External Monitor(s), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1 – Commitments of the Principal

The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-

No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.

The Principal will exclude from the process all known prejudiced persons.

If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or anyther statutory penal enactment, or if there be a substantive suspicion in this regard, the

Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

Section 2 – Commitments of the Bidder(s)/ Contractor(s)

The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.

The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal‟s employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he / she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant IPC/ PC Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

The Bidder(s)/ Contractor(s) of foreign origin shall disclose the name and address of the agent(s)/ representative(s) in India if any. Similarly the Bidder(s)/ Contractor(s) of Indian Nationality shall furnish the name and address of the foreign principal(s) if any. Further details as mentioned in the “Guidelines on Indian Agent of Foreign Suppliers” shall be disclosed by the Bidder(s)/ Contractor(s). Further as mentioned in the guidelines all the payments made to the Indian Agent/ Representative have to be in Indian Rupees only.

The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.

The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3 – Disqualification from tender process and exclusion from future contracts

If the Bidder(s)/ Contractor(s), before award or during execution has committed a transgression through a violation of Section 2 above, or acts in any other manner such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidders(s)/ Contractor(s) from the tender process or take action as per the separate “Guidelines for Suspension of Business Dealings with Suppliers/ Contractors” framed by the Principal.

Section 4 – Compensation for Damages

If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security.

If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit/Performance Bank Guarantee, whichever is higher.

Section 5 – Previous Transgression

The Bidder declares that no previous transgressions occurred in the last 3 years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.

If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

Section 6 – Equal treatment of all Bidders/ Contractors/ Sub-contractors

The Bidder(s)/ Contractor(s) undertake(s) to demand from his sub-contractors a commitment in conformity with this Integrity Pact. This commitment shall be taken only from those sub-contractors whose contract value is more than 20% of Bidder‟s/ Contractor‟s contract value with the Principal.

The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors.

The Principal will disqualify from the tender process all bidders who do not sign this pact or violate its provisions.

Section 7 – Criminal Charges against violating Bidders/ Contractors Subcontractors

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the same to Vigilance Office.

Section 8 –Independent External Monitor(s)

The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.

ShriArunendra Kumar, IRSME (Retd.) has been appointed as IEM for this contract. His address is as below.

KD-80, Kavinagar,
Ghaziabad (UP)-
201002 E-mail:
noidarail@gmail.com

ShriSadhu Ram Bansal, Ex-CMD, Corporation Bank, has been appointed as IEM for this contract. His address is as below.

1052, Sanskriti Apartments, Plot
No. 35, Sector-10, Dwarka, New
Delhi-110075. E-mail:
sr.bansal123@gmail.com

The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the MD, REIL.

The Bidder(s)/ Contractor(s) accepts that the Monitor has the right to access without restriction to all contract documentation of the Principal including that provided by the Bidder(s)/ Contractor(s). The Bidder(s)/ Contractor(s) will grant the monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his contract documentation. The same is applicable to Sub-contractor(s). The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s) / Sub- contractor(s) with confidentiality.

The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.

As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or take corrective action, or to take other relevant action. The Monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.

The Monitor will submit a written report to the MD, REIL within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.

If the Monitor has reported to the MD, REIL, a substantiated suspicion of an offence under relevant IPC / PC Act, and the MD, REIL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

The word „Monitor" would include both singular and plural.

Section 9 – Pact Duration

This Pact begins when both parties have legally signed it. It expires for the Contractor 12 months after the last payment under the respective contract and for all other Bidders 6 months after the contract has been awarded.

If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified as above, unless it is discharged/ determined by the MD, REIL.

Section 10 – Other Provisions

This agreement is subject to Indian Laws and jurisdiction shall be registered office of the Principal, i.e. Jaipur.

Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.

Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

Only those bidders/ contractors who have entered into this agreement with the Principal would be competent to participate in the bidding. In other words, entering into this agreement would be a preliminary qualification.

For & On behalf of the REIL For & On behalf of the Bidder/ Contractor

(Office Seal) (Office Seal)

Place----------

Date----------Witness:__ (Name & Address) _____Witness:____ (Name & Address)_