



भारतीय रिज़र्व बैंक
कोच्ची

भारतीय रिज़र्व बैंक स्टाफ क्वार्टर कोच्ची के लिए नेट मिटरिंग सुविधा के साथ 2×5 केडब्ल्यूपी ग्रिड इंटरएक्टिव एसपीवी आधारित सौर ऊर्जा प्रणाली का डिजाइन, आपूर्ति, स्थापना, परीक्षण और कमीशनिंग के लिए निविदा

ई-निविदा सं. आरबीआई/कोच्ची/संपदा/275/20-21/ईटी/384

निविदाकार का नाम: _____

पता : _____

**RESERVE BANK OF INDIA
PREMISES SECTION
Kochi
Notice Inviting e-Tender (NIT)**

Design, Supply, Installation, Testing and Commissioning of 2×5 KWp Grid Interactive SPV Based Solar Power System with net metering facility at Reserve Bank of India, Staff Quarters, KOCHI.

1. Reserve Bank of India invites competitive e-tenders/ e-bids for providing Design, Supply, Installation, Testing and Commissioning of 2×5 KWp Grid Interactive SPV Based Solar Power System with net metering facility at Reserve Bank of India, Staff Quarters, KOCHI from eligible bidders as per the specified pre-qualification criteria. The work is an estimated cost of Rs.6.10 lakh.
2. All the Pre-Qualification papers shall be submitted to Premises (Estate) Section, Reserve Bank of India, Kochi through e-mail/ hardcopy On or before 14.00 Hrs, January 13, 2021. The E-mail ids are provided under **“Important instructions for E-procurement” – “Contact Person (RBI Kochi)”**.
3. Intending tenderers shall pay as Earnest Money Deposit a sum of Rs. 12,200/- by a demand draft or Bank Guarantee in a form ([Annexure-7](#)) acceptable to the Bank in favor of Reserve Bank of India, drawn on a scheduled Bank along with Part I of the tender. The Earnest Money Deposit of the successful tenderer shall be held by the Reserve Bank of India as security for the execution and due fulfilment of the Contract. No interest shall be paid on the said deposit. Under no circumstances Earnest Money Deposit will be accepted in the form of fixed deposit receipts or insurance guarantee or cheque or cash. EMD will be released after virtual completion of the work.

On receipt of intimation from the Bank about acceptance of his / their tender, the successful tenderer shall be bound to implement the contract and within fourteen days thereof. The successful tenderer shall sign an agreement in accordance with the draft agreement and the Schedule of Conditions but the written acceptance by the Reserve Bank of India of a tender will constitute a binding contract between the Reserve Bank of India and the person so tendering whether such formal agreement is or is not subsequently executed.

All compensation or other sums of money payable by the contractor to the Bank under the terms of this Contract may be deducted from his earnest money and the security deposit if the amount so permits and the Contractor shall, unless such deposit as become otherwise payable, within ten days after such deduction make good in cash the amount so deducted.

The registered MSEs will get exemption on EMD as per extant Government Guidelines
4. Online tenders will be allowed to be viewed /downloaded by all firms after 10:00 Hrs of January 07, 2021. The firms which do not comply with the following **pre-qualification criteria** and/or do not submit EMD will not be considered for opening of their tender Part-II.
 - i. **The intending bidder must have minimum 5 years of experience in carrying out similar nature of works viz. “Design, Supply, Installation, Testing and Commissioning of 5 KWp Grid Interactive SPV Based Solar Power System with net metering facility.**

ii. **The intending bidder must have executed successfully** “Design, Supply, Installation, Testing and Commissioning of minimum 5 KWp Grid Interactive SPV Based Solar Power System, **during last five years ending on or before November 30, 2020 as under:**

(a) **Three works each costing not less than the amount equal to 40% of the estimated cost**

OR

(b) **Two works each costing not less than the amount equal to 50% of the estimated cost**

OR

(c) **One work costing not less than the amount equal to 80% of the estimated cost.**

iii. **Minimum yearly turnover of 100% of the estimated cost during last 3 financial years, ending March 31, 2020, supported by audited financial statements.**

5. **Should have service setup at any town/city of Kerala State for rendering after sales service of the solar power plant.**

6. The contractors shall submit the following information/documents to Premises (Estate) Section, Reserve Bank of India, Kochi through e-mail/ hardcopy On or before 14.00 Hrs,- January 13, 2021 to satisfy the Bank about their eligibility.

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| (a) | Composition of the firm | Full particulars (whether contractor is an individual, or a partnership firm, or a company etc.,) of the composition of the firm of contractors in details should be submitted along with name(s) and address (es), of the partner's copy of the Articles of Association/ Power of Attorney/Attorney/another relevant document. |
| (b) | Work experience & Completion of similar works of specified value during the specified period | Copies of the detailed work orders for the qualifying works 4 (i) and 4 (ii) above indicating date of award, value of awarded work, time given for completing the work, etc. and the corresponding completion certificates indicating actual date of completion and actual value of executed similar works should be enclosed in proof of the work experience. The details along with documentary evidence of previous experience, if any, of carrying out works for the Reserve Bank of India at any Centre, should also be given. |
| (c) | Turnover | Audited financial statements for last three financial years along with a certificate of Chartered Accountant indicating the turnover for these financial years. |
| (d) | Credit worthiness of the contractor and their turnover during the specified period | Copies of the Income Tax Clearance Certificates/Income Tax Assessment Orders along with the latest final accounts of the business of the contractor duly certified by a Chartered Accountant |

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| | | should be enclosed in proof of their creditworthiness and turnover for last three years. |
| (e) | Name(s) and address(es) of the Bankers and their present contact executives | Written Information about the names and addresses of their bankers along with full details, like names, postal addresses, e-mail IDs, telephone (landline and mobile) nos., fax nos., etc. of the contact executives (i.e. the persons who can be contacted at the office of their bankers by the Bank, in case it is so needed) should be furnished. |
| (f) | Details of bank accounts | Full particulars of their bank accounts, like account no. type, when opened etc., should be given. |
| (g) | Name(s) and address(es) of the Clients and their present contact executives | Written information about the names and addresses of their clients along with full details, like names, postal addresses, e-mail IDs, telephone (landline and mobile) nos., fax nos. etc., of the contact executives (i.e. the persons who can be contacted at the office of their clients by the Bank in case it is so needed) should be furnished. |
| (h) | Details of completed works (Annex 12) | The client-wise names of work(s), year(s) of execution of work (s), awarded and actual cost (s) of executed work (s), completion time stipulated in the contract (s) and actual time taken to complete the work (s), Name(s) and full contact-details of the officers/authorities/departments under whom the work(s) was/were executed should be furnished. |
| (i) | Details of office setup | Address and contact details of the office set up at Kerala. |
| (j) | Details of registration and copies of registration certificate/ documents for | PAN GST Micro and Small Enterprises (MSE) GOI, if applicable, Office of Labour Commissioner, if applicable |

7. In the event of intending bidder's failure to satisfy the Bank; the Bank reserves the right to not allow him to participate in tendering process.

8. A pre-bid meeting (off-line mode) of the intending bidders will be held **at 11:00 hrs. on January 04, 2021** at Premises (Estate) Section, Staff Quarters, Reserve Bank of India, Kochi. The duly filled in tender documents shall be uploaded on MSTC site till **14:00 Hrs. of January 15, 2021**.

9. (a) Tender forms can be downloaded for viewing from the website www.mstcecommerce.com w.e.f. **11:00 Hrs of December 28, 2020 onwards** .

(b) EMD of Rs. 12,200/- (Rupees Sixty thousand only) in the form of an irrevocable Bank Guarantee issued by a scheduled Bank or through NEFT in the Bank's standard proforma which is available in the tender form ([Annex - 7](#))

(c) Tenderers shall submit all the information and the documents as mentioned in Para 4 above

After examination, if any of the bidder is not found to possess the required eligibility, their tenders will not be accepted by the Bank for further processing.

10. Part I of the tenders will be opened on-line at **15:00 Hrs. of January 15, 2021**. Part-II (Price bid) shall be opened of the eligible bidders on a subsequent date which will be intimated to the eligible bidders in advance.

11. The applicants/tenderers have to upload

a. Client's certificate as per format at [Annex- 13](#) from their clients for whom they have carried out "eligible works" in terms of the eligibility (Pre-qualification) criteria explained in this notice.

b. Banker's certificate as per format at [Annex -14](#) from their banker/bankers. The client's certificate shall be accepted only when the same is signed by an official of the rank of Executive engineer/Superintendent Engineer or equivalent in respect of a Government/Semi Government organization or a PSU and only when they are supported by adequate proof of payment received by the contractor for the work done by him. The client's certificate issued by the private organizations shall also accompany Tax Deducted at Source (TDS) certificates. Applications/tenders uploaded without the above certificates may be rejected. The Bank shall have the right to independently verify these certificates.

The Bank shall evaluate the said reports before processing the tenders and opening of price bid of the tenders. If any bidder is not found to possess the required eligibility for participating in the tendering process at any point of time and/or his performance reports received from his clients and/or his bankers are found unsatisfactory, the Bank reserves the right to reject his offer even after opening of Part-I of the tender. The Bank is not bound to assign any reason for doing so.

12. Any amendments / corrigendum to the tender, if any, issued in future will only be notified on the RBI Website and MSTC Website as given above.

13. The Bank is not bound to accept the lowest tender and reserves the right to accept either in full or in part any tender. The Bank also reserves the right to reject all the tenders without assigning any reason there for.

Kochi:

General Manger (O-i-C)

Date :

The Schedule of e-Tender is as follows:

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| a. E-Tender No. | RBI/Kochi/Estate/275/20-21/ET/384 |
| b. Name of work: | Design, Supply, Installation, Testing and Commissioning of 2×5 KWp Grid Interactive SPV Based Solar Power System with net metering facility at Reserve Bank of India, Staff Quarters, KOCHI |
| c. Mode of Tender | e-Procurement System Online (Part I – Techno-Commercial Bid and Part II - Financial Bid through MSTC portal https://www.mstcecommerce.com/eprochome/rbi) |
| d. Date of NIT available to the parties to download / View Tender Time | 11:00 Hrs of December 28, 2020 onwards |
| e. Date and venue of the Pre-Bid Meeting (Offline) | 11:00 hrs. on January 04, 2021, at Premises (Estate) section, Reserve Bank of India, Kochi. |
| f. Uploading the outcome of Pre-bid meeting on to RBI website in the form of addendum, corrigendum, etc. | On or before January 06, 2021 |
| g. Estimated cost of work (for an year) | ₹ 6.10 lakh/- (Rupees Six Lakh Ten Thousand only) inclusive of GST |
| h. Earnest Money Deposit (EMD) | ₹ 12,200/- (Rupees Sixty thousand only) as DD / BG (as per Annex 7) / NEFT in favour of Reserve Bank of India to be delivered in physical form (DD/BG in original form) at Premises Section, Reserve Bank of India, Kochi on or before 14.00 hrs on January 15, 2021 Details of NEFT: Beneficiary Name: KOCHIESTATE <space> Your Firm's Name Beneficiary Account Number: 8614038 Beneficiary IFSC: RBIS0KCPA01 Remarks: 2×5 KWp Solar Plant |
| i. Last date of submission of DD/BG/NEFT for EMD | Till 14.00 hrs on January 15, 2021 |
| j. Bidding start date of Techno-Commercial Bid and Financial Bid at https://mstcecommerce.com/eprochome/rbi | 10:00 Hrs. of January 07, 2021 |

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| k. Last date of submission of Pre-Qualification Documents | Till 14.00 hrs on January 13, 2021 |
| l. Date of closing of online e-Tender for submission of Techno-Commercial Bid & Financial Bid | 14:00 Hrs. of January 15, 2021 |
| m. Date & time of opening of Part-I (i.e. Techno-Commercial Bid) | 15:00 Hrs. of January 15, 2021 |
| n. Date & Time of opening of Part- II (Financial Bid) | Opening of Financial Bid shall be intimated separately |
| o. Transaction Fee | Amount as advised by M/s MSTC Ltd. |

Important instructions for E-procurement

Bidders are requested to read the terms & conditions of this tender before submitting your online tender.

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| 1 | <p><u>Process of e-Tender:</u></p> <p>A) Registration: The process involves vendor's registration with MSTC E-procurement portal which is free of cost. Only after registration, the vendor(s) can submit his/their bids electronically. Electronic Bidding for submission of Technical Bid as well as Commercial Bid will be done over the internet. The Vendor should possess Class III signing type digital certificate. Vendors are to make their own arrangement for bidding from a P.C. connected with Internet. MSTC is not responsible for making such arrangement. (Bids will not be recorded without Digital Signature).</p> <p>SPECIAL NOTE: THE TECHNICAL BID AND THE COMMERCIAL BID HAS TO BE SUBMITTED ON-LINE AT www.mstcecommerce.com/eprochome/rbi</p> <p>1). Vendors are required to register themselves online with www.mstcecommerce.com → e-Procurement → PSU/Govt depts → Select RBI Logo → Register as Vendor → Filling up details and creating own user id and password → Submit.</p> <p>2). Vendors will receive a system generated mail confirming their registration in their email which has been provided during filling the registration form. In case of any clarification, please contact RBI/MSTC, (before the scheduled time of the e-tender).</p> <p>Contact person (RBI, KOCHI):</p> <ol style="list-style-type: none">1. Sachin B More (AM-Tech) 9619869805 (Sachinmore@rbi.org.in)2. Jose J Njarukulam (AM- Prem) 09447602672 (josejjarukulam@rbi.org.in)3. Pavan Kumar Nayak (AM-Prem)9036920654 (pavankumarnayak@rbi.org.in)4. Harikrishnan P. M. (Asst) – 9447338527 (pmharikrishnan@rbi.org.in)5. Bineesh Bhasi (JE-Elect) – 09496333603 (bineeshbhasi@rbi.org.in) <p>Contact person (MSTC Ltd):</p> <ol style="list-style-type: none">1. Mr. Remil Rashid, Branch Manager – rrashid@mstcindia.co.in – Mobile: 0994647362. 45 Office Address: 1st Floor, Forest Central Library Building, Kerala Forest Head Quarters, Vazhuthacaud, KOCHI – 6950143. Mr. Sushil Nale, Asst. Manager – sushil@mstcindia.co.in Mobile- 099877584604. Ms. Archana, Asst. Manager- archana@mstcindia.co.in Mobile- 099906736985. Ms. Rupali Pandey, Executive- rpandey@mstcindia.co.in Ph- 022 228862686. Mr. Tejas V, Executive tejasv@mstcindia.co.in Ph-022 22822789 <p>Google hangout ID- (for text chat)- mstceproc@gmail.com</p> |
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| | <p>B) System Requirement:</p> <p>i) Windows 7 or above Operating System ii) IE-7 and above Internet browser.</p> <p>iii) Signing type digital signature iv) Latest updated JRE 8 (x86 Offline) software to be downloaded and installed in the system.</p> <p>To disable “Protected Mode” for DSC to appear in The signer box following settings may be applied.</p> <ul style="list-style-type: none"> ➤ Tools => Internet Options =>Security => Disable protected Mode, if enabled- i.e, Remove the tick from the tick box mentioning “Enable Protected Mode”. Other Settings: ➤ Tools => Internet Options => General => Click on Settings under “Browsing history/Delete Browsing History” => Temporary Internet Files => Activate “Every time I Visit the Webpage”. ➤ To enable ALL active X controls and disable ‘use pop up blocker’ under Tools →Internet Options→ custom level (Please run IE settings from the page https://www.mstcecommerce.com once) |
| 2 | <p>The Techno-commercial Bid and the Price Bid shall have to be submitted online at https://www.mstcecommerce.com/eprochome/rbj. Tenders will be opened electronically on specified date and time as given in the Tender.</p> |
| 3 | <p>All entries in the tender should be entered in online Technical & Commercial Formats without any ambiguity.</p> |
| 4 | <p>Special Note towards Transaction fee:</p> <p>The vendors shall pay the transaction fee using “Transaction Fee Payment” Link under “My Menu” in the vendor login. The vendors have to select the particular tender from the event dropdown box. The vendor shall have the facility of making the payment either through NEFT or Online Payment. On selecting NEFT, the vendor shall generate a challan by filling up a form. The vendor shall remit the transaction fee amount as per the details printed on the challan without making change in the same. On selecting Online Payment, the vendor shall have the provision of making payment using its Credit/ Debit Card/ Net Banking. Once the payment gets credited to MSTC’s designated bank account, the transaction fee shall be auto authorized and the vendor shall be receiving a system generated mail.</p> <p>Transaction fee is non-refundable. A vendor will not have the access to online e-tender without making the payment towards transaction fee.</p> <p>NOTE: Bidders are advised to remit the transaction fee well in advance before the closing time of the event so as to give themselves sufficient time to submit the bid.</p> |
| 5 | <p>Information about tenders /corrigendum uploaded shall be sent by email only during the process till finalization of tender. Hence the vendors are required to ensure that their corporate email I.D. provided is valid and updated at the time of registration of vendor with MSTC. Vendors are also requested to ensure validity of their DSC (Digital Signature Certificate).</p> |
| 6 | <p><u>E-tender cannot be accessed after the due date and time mentioned in NIT.</u></p> |

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| 7 | <p>a) The process involves Electronic Bidding for submission of Technical and Commercial Bid.</p> <p>b) The vendor(s) who have submitted transaction fee can only submit their Technical Bid and Commercial Bid through internet in website: https://www.mstcecommerce.com → e-procurement →PSU/Govt depts→ Login under RBI → My menu→ Auction Floor Manager→ live event →Selection of the live Event.</p> <p>c) The vendor should allow running JAVA application. This exercise has to be done immediately after opening of Bid floor. Then they have to fill up Common Terms/Commercial specification and save the same. After that click on the Technical bid. If this application is not run then the vendor will not be able to save/submit his Technical bid.</p> <p>d) After filling the Technical Bid, vendor should click 'save' for recording their Technical bid. Once the same is done, the Commercial Bid link becomes active and the same has to filled up and then vendor should click on "save" to record their Commercial bid. Then once both the Technical bid & Commercial bid has been saved, the vendor can click on the "Final submission" button to register their bid.</p> <p>e) Vendors are instructed to use <i>Attach Doc button</i> to upload documents. Multiple documents can be uploaded.</p> <p>f) In all cases, vendor should use their own ID and Password along with Digital Signature at the time of submission of their bid.</p> <p>g) During the entire e-tender process, the vendors will remain completely anonymous to one another and also to everybody else.</p> <p>h) The e-tender floor shall remain open from the pre-announced date & time and for as much duration as mentioned above.</p> <p>i) All electronic bids submitted during the e-tender process shall be legally binding on the vendor. Any bid will be considered as the valid bid offered by that vendor and acceptance of the same by the Buyer will form a binding contract between Buyer and the Vendor for execution of supply.</p> <p>j) It is mandatory that all the bids are submitted with digital signature certificate otherwise the same will not be accepted by the system.</p> <p>k) Buyer reserves the right to cancel or reject or accept or withdraw or extend the tender in full or part as the case may be without assigning any reason thereof.</p> <p>l) No deviation of the terms and conditions of the tender document is acceptable. Submission of bid in the e-tender floor by any vendor confirms his acceptance of terms & conditions for the tender.</p> |
| | Any order resulting from this tender shall be governed by the terms and conditions mentioned therein. |
| | <u>No deviation to the technical and commercial terms & conditions are allowed.</u> |
| | The tender inviting authority has the right to cancel this e-tender or extend the due date of receipt of bid(s) without assigning any reason thereof. |
| | Vendors are requested to read the vendor guide and see the video in the page https://www.mstcecommerce.com/eprochome/rbi to familiarize them with the system before bidding. |

Important Note

In the Online price bid, due to number of words limitation of 1000 characters, complete description could not be accommodated and description given thereof is brief. Before quoting rates online, all the contractors must read the complete details of each items given in the un-priced bill of quantities (BOQ) given in Part-I of the tender document. For execution and rate purpose, the details given in Unpriced Bill of Quantities in Part- I of the tender document will be implemented.

Section I - Form of Tender

Place _____

Date _____

Shri Vijaya Kumar Nayak
General Manger (OIC)
Reserve Bank of India

Dear Sir,

We have carefully examined the specifications, designs and schedule of quantities relating to the works specified in the memorandum hereinafter set out and have visited and examined the installation site of the works specified in the said memorandum and have acquired the requisite information relating thereto as affecting the tender. We hereby offer to execute the works specified in the said memorandum within the time specified in the said memorandum at the rates mentioned in the attached Schedule of Quantities and in accordance in all respects with specifications, designs and instructions in writing referred to in articles of agreement, general instructions to the tenderers and special conditions, conditions hereinbefore referred to, specifications, schedule of works, data sheet and schedule of quantities and with such materials as are provided for, by and in all other respects, in accordance with such conditions so far as they may be applicable.

MEMORANDUM

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| (a) | Description of works | Design, Supply, Installation, Testing and Commissioning of 2x5 KWp Grid Interactive SPV Based Solar Power System with net metering facility at Reserve Bank of India, Staff Quarters, KOCHI |
| (b) | Estimated cost | ₹ 6.10 lakh inclusive of GST. |
| (c) | Mode of payment | As per clause 22, Section II of General Instructions to Contractors and Special Conditions. |
| (d) | Earnest Money | Rs. 12,200/- |
| (e) | Time allowed for completion of work from tenth day after the date of letter advising acceptance of tender. | 10 Weeks |

2. We also agree that our tender will remain valid for acceptance by the Bank for 90 days from the date of opening of Part I of the tender and this period of validity can be extended for such period as may be mutually agreed between the Bank and us in writing. We also agree to keep the Bank Guarantee towards earnest money valid during the entire period of validity of tender, as per enclosed proforma ([Annex 7](#)).
3. Should this Tender be accepted, we hereby agree to abide by and fulfil all the Terms and Conditions of the Tender and in default thereof, to forfeit and pay to you or your successors, or assignees or nominees such sums of money as are stipulated in the conditions contained in the tender together with the written acceptance of the Contract.
4. We understand that you reserve the right to accept or reject any or all the tender either in full or in part without assigning any reason therefor.
5. We are enclosing a list of our clients and bankers in India with complete details as per the proforma given in the [Annex 12](#) and [Annex 9](#).
6. We have deposited a sum of **Rs. 12,200.00 as earnest money** with the Reserve Bank of India, which amount is not to bear any interest. Should we fail to execute the Contract when called upon to do so, we do hereby agree that this sum shall be forfeited by us to the Reserve Bank of India.

Dated this _____ day of _____ 2021.

For and on behalf of M/s _____

(Signature with seal)

Name _____ Designation Place Date_

(Certified true copy of the Power of Attorney of the above signatory should be enclosed).

Witnesses

(1) Signature with
name, address and date _____

(2) Signature with
name, address and date _____

Section II

General Instructions to Tenderers and Special Conditions

Design, Supply, Installation, Testing and Commissioning of 2×5 KWp Grid Interactive SPV Based Solar Power System with net metering facility at Reserve Bank of India, Staff Quarters, KOCHI

1.0 Instructions to Tenderers

Tenders for Design, Supply, Installation, Testing and Commissioning of 2×5 KWp Grid Interactive SPV Based Solar Power System with net metering facility at Reserve Bank of India, Staff Quarters, KOCHI Only those contractors who have minimum 5 years' experience in the field of undertaking similar works viz **Design, Supply, Installation, Testing and Commissioning of 2×5 KWp Grid Interactive SPV Based Solar Power System with net metering facility** and associated works for the office buildings/commercial premises and have, during the last 5 years (works completed on or after October 2015), executed successfully similar works individually costing as under:

(a) Three works each costing not less than 40% of estimated cost.

OR

(b) Two works each costing not less than 50% of estimated cost.

OR

(c) One work costing not less than 80% of estimated cost.

AND

(d) Have a minimum yearly turnover of 100% of estimated cost during the last 3 years supported by audited financial statements.

AND

(e) Have a service set up at KERALA for rendering after sales service.

Tenderers should submit the following documents in respect of their eligibility:

- i. Copies of detailed work order indicating scope and value of works.
- ii. Completion certificate (Client certificate) for the qualifying works.
- iii. List of completed works with all the details as per the proforma
- iv. Financial statement for turnover for last 3 years
- v. Solvency Certificate (Banker's Certificate) as per [Annexure 14](#)

Only tenderers who qualify as above will be eligible to tender for the work. A tender submitted by a firm who is found to be not satisfying the above criteria will be liable for rejection

- 1.1. The tenderers are advised to submit the tender based strictly on the General Conditions of the Contract and Technical Specifications contained in the tender documents, and not to stipulate any deviations. If acceptance of the terms and conditions given in the tender documents has any price implications, the same should be considered and included in the quoted price. Tender containing deviations from the terms and conditions may be rejected at the Bank's discretion.

- 1.2. The tenderers shall submit full details of the patent, trademark, registered design, intellectual property rights, copyrights, industrial property rights held by them or used by them of any third party with regard to design or any part of the system.
- 1.3. **A pre-tender briefing meeting of the intending tenderers (Off-line Mode) will be held at 11:00 hours on January 04, 2021 to clarify any point/doubt raised by them in respect of the tender.** No separate communication will be sent for this meeting. All the intending tenderers are advised to study the tender document and to be present in the above meeting. All the points/conditions/specifications requiring clarifications shall be given in writing addressed to Shri. Vijaya Kumar Nayak, General Manger (Officer in Charge), Reserve Bank of India, KOCHI by the intending tenderers by **January 04, 2021**. These issues will be discussed and all the tenderers will be advised suitably. The tenderers are expected to get all the issues clarified during the above meeting and, should desist from deviating from the Bank's tender conditions/specifications in their tender (Part – I and Part –II)
- 1.4. All information, correspondence letters shall be submitted in duplicate and addressed to Shri. Vijaya Kumar Nayak, General Manger (Officer in Charge) KOCHI

2.0 Part I – Technical & Commercial

2.1 Part I - This part shall contain the unpriced tender consisting of complete technical specification, documents and commercial terms and conditions. Earnest money guarantee shall be submitted with the original of Part I as mentioned.

2.2 Part I of the tender as submitted/attached shall also contain the following:

- (i) Earnest Money Bank Guarantee (BG)/NEFT (proof to be enclosed) issued by a scheduled Bank in India.
- (ii) Power of Attorney/authorization with the seal of the company/firm in the name of the person signing the tender documents as per [Annex-3](#).
- (iii) A letter from the OEM, authorizing the bidder to participate in the tender along with a copy of the agreement with the OEM as regards implementation of similar projects in India and their after sales service
- (iv) List of deviations, if any, in commercial terms and conditions.
- (v) List of deviations, if any, in technical specification.
- (vi) Guaranteed power generation capacity of the entire system.
- (vii) Detailed specifications of each of the offered items such as SPVs, Arrays, PCUs, control panels, bi-directional energy meter, control & monitoring systems, cables etc. matching with the specifications contained under this contract along with manufacturer's catalogue / product brochure. If there are some variations in specifications and dimensions of the equipment / products as contained under the manufacturer's catalogue / product brochures Vis-a Vis those given under the specifications contained under this tender document, the specifications and dimensions given in this tender document shall prevail.
- (viii) Complete technical details and any special features proposed for incorporation must be given for full technical evaluation. Supporting documents for the claimed facilities/ features shall also be attached while submitting the technical bid.
- (ix) Product support for CAMC period shall be given. Tenderer shall specifically indicate the product support offered against this tender & submit an undertaking in this regard. ([Annex. -5 & 6](#)).
- (x) Technical data sheet as given under shall be filled up giving full information.
- (xi) Other Certificates / Declarations as per Annexures enclosed to be submitted (Offline/Online)

(xii) Any other technical information the tenderer wishes to furnish.

(xiii) The Tenderers are advised to visit the site of installation and acquaint themselves of the site conditions before tendering. An undertaking as per [Annexure-4](#) shall be given on this regard.

3.0 Part II – Price

3.1 Schedule of Quantities, duly filled-in MSTC website only

4.0 Tender not a Lump sum tender

This contract is neither a fixed lump sum contract nor a piece work contract but is a contract to carry out the work in respect of provision of the entire solar power system to be paid for according to actual measured quantities at the rates/quantities provided in the schedule of rates (Part II) In case of difference in the rate/amount mentioned in words and figures, the rate/amount whichever is lower shall be considered. The rates quoted shall be deemed to be for the finished work and shall be firm and binding without any escalation whatsoever till the system is handed over to the Bank.

5.0 Opening of Tender

5.1 Part I of the tenders will be opened on **15:00 Hrs. of January 15, 2021**, through on-line mode.. Price bid (Part II) of only such of those tenderers who are found eligible after scrutiny of their Part I of the tenders will be opened on a subsequent working day which will be intimated to all the eligible tenderers.

6.0 Scope of Work

6.1 The scope of work shall include the following.

- Design and Delivery of all equipment materials for the captioned work to Bank's site at RBI OQ at KOCHI including insurance, packing, handling, transporting, loading/unloading etc. at site.
- Erection, Testing, Commissioning of Solar Power System including the grid connectivity via Bi-Directional Energy Meter to the Power grid and handing over the entire system to Bank.
- Providing regular Inspection and Upkeep of system inclusive of periodic service etc.
- Application, testing and approval, if any, of local statutory authorities for the connection to the grid.
- The tenderer should indicate the complete description of the working of the system/sub systems and their power requirements with all relevant brochures/literature etc. in addition to those called for in the Technical Specifications:
- The Tenderer shall carefully check the specifications and shall satisfy himself that the equipment offered is suitable as per the Bank's Technical Specifications.
- Tenderer shall supply all tools, scaffolding, labour and consumables etc.as required for installation, testing and commissioning of the system.

6.2 Responsibility for obtaining all statutory approvals and liasoning with competent authority related to the work lies with the CONTRACTOR. The contractor shall obtain and pay for necessary inspection fee/Application fee/Testing fee levied by the Government and/or any other authorities and obtain necessary permit as required and also conduct such tests as are called for by the regulation of the authorities without any extra cost to the Employer. The commissioning of entire system is the responsibility of the contractor.

7.0 Drawings and Documents

7.1 The successful tenderer shall submit, in duplicate, on receipt of acceptance of the tender, detailed working drawings and specifications showing the complete details of all work required. He will be

held responsible for any discrepancies, errors and omissions in the drawing or particulars submitted by him even if these have been approved by the Bank.

8.0 Packing and Dispatch

8.1 The equipment shall be properly and securely packed in boxes suitable for export (wherever applicable) and multiple handling and transportation by sea/ air / rail / road under Indian conditions. All equipment/components shall be delivered on Duty Delivery Paid (DDP) basis at the Bank's Staff Quarters, Kochi.

9.0 Taxes and duties

9.1 The prices quoted for supply of equipment shall be deemed to have included all taxes, custom duty, excise duty, octroi, local levies, any other taxes/duties imposed by Central/State Government/ Local Bodies, charges for labour, transport, insurance charges for transit, shipment, packing, freight from the factory to the destination site, handling, clearing, installation, and commissioning charges, insurance charges for storage, erection, testing and commissioning policy, workmen compensation and third party liability etc. till the Solar Power Plant is finally handed over to the Bank. If the Tenderer fails to include such taxes and duties in the tender, no claim thereof will be entertained by the Bank afterwards. As per Indian laws, income tax and other statutory charges will be deducted at source and a certificate for the same will be issued to the contractor.

10.0 Validity of Tender

10.1 The Tender along with the prices shall remain valid initially for a period of 90 days from the date of opening of Part I of tender, which period may be further extended by mutual agreement in writing by the Tenderer and the Tenderer shall not cancel or withdraw the tender during this period.

11.0 Language

11.1 The Tender including all labels in drawings, documents, catalogues etc. shall be in English.

12.0 Earnest Money Deposit & Security Deposit during Defect liability period

12.1 All tenderers shall deposit Earnest Money of **Rs. 12,200/-** by a demand draft drawn in favour of Reserve Bank of India, payable at Thiruvananthapuram, from any Scheduled Bank. The Earnest Money Deposit (EMD) is also acceptable in the form of Bank Guarantee in the approved format. The EMD paid by the tenderer shall be held by the Reserve Bank of India as security for the execution and due fulfilment of the Contract. No interest shall be paid on the said deposit under no circumstances, Earnest Money Deposit will not be accepted in the form of fixed deposit receipts or insurance guarantee or cheque or cash. EMD will be released after virtual completion of the work & submission of Bank Guarantee of 10% of the contract value as Security deposit. EMD exemption shall be given for MSME/MSE firms as per extant guidelines.

12.1 All compensation or other sums of money payable by the Contractor to the Employer under the terms of this Contract may be deducted from the security deposit, if the amount so permits unless the contractor deposits such amounts in cash within ten days of issue of demand notice by the Bank.

12.2 The tenderer shall furnish a separate **Bank guarantee of 10% of the contract** value as Security for due fulfilment of terms and obligation of defects liability period from the date of commissioning and handing over of the works as specified in the tender to the Bank. The amount of Bank Guarantee will be valid for Three year.

12.3 After DLP PERIOD of Three year, amount of Bank guarantee will be reduced by Eight percent (8%)

of initial value every year for next 10 (Ten) years and again by TEN percent(10%) release in each year towards the last two years of the CAMC period and finally becomes zero at the end of 15 years. Before the expiry of a bank guarantee in each year the firm shall submit a fresh bank guarantee for an amount as per the above-mentioned terms

13.0 Lowest Tender Not Necessarily to Be Accepted

13.1 The Bank is not bound to accept the lowest /any tender or to assign any reason for non-acceptance.

13.2 The tenderer whose tender is not accepted shall not be entitled to claim any costs, charges, damages and expenses of and incidental to or incurred by him through or in connection with his submission of tenders, even though the Bank may elect to modify/withdraw the tender.

14.0 Right to Accept Part Tender

14.1 The Bank reserves the right to accept the tender either in whole or in part at the same prices quoted by the Tenderer.

15.0 Evaluation of Tender

Tenders will be evaluated based on capital cost of the system and taking into account the effect of annual maintenance charges (AMC) for 12 years. Tenders will, therefore, be evaluated based on the total owning cost (TCO) for 15 years which will be arrived at as under:

TCO= Quoted capital cost + NPV of service contract charges for 9 years.

TCO=Quoted capital cost +AMC x Multiplying Factor (MF) (MF 7.7389)

For calculating the NPV of service contract charges, the following factors have been applied:

| | | |
|-----|--|--|
| (a) | Increase (Escalation) | 5% per annum |
| (b) | Discount factor | 8% per annum |
| (c) | Period of contract | 15 years from the date of handing over of the system. |
| (d) | Payment terms for annual maintenance contract. | Half yearly payment after satisfactory completion of service |

16.0 Signing of Contract Agreement

16.1 The General instructions to the tenderers and special conditions, conditions hereinbefore referred to, Conditions of Contract and Technical Specifications, schedule of works enclosed with the tender documents and the subsequent correspondence exchanged between the Bank and the tenderer shall be the basis of the Purchase Order/final contract to be entered into with the successful tenderer.

16.2 The Tenderer shall go through the terms and conditions given in the general conditions of contract herewith and his offer shall be strictly in line with the terms specified therein. No deviation from the terms and conditions specified shall be acceptable. Each page of the tender documents should be signed for his/their having acquainted himself/themselves in the general conditions of contract,

Technical specifications, etc.

- 16.3** The tender submitted on behalf of a firm shall be signed by all the partners of the firm or a partner who has the necessary authority on behalf of the firm to enter into the proposed contract. Otherwise the tender may be rejected.
- 16.4** On receipt of intimation from the Bank of the acceptance of his/their tender, the successful tenderer shall be bound to implement the Contract and within fourteen days thereof, the successful tenderer shall sign an agreement in accordance with the draft agreement. Notwithstanding the signing of the agreement, the written acceptance by the Reserve Bank of India of a tender in itself will constitute a binding contract between the Reserve Bank of India and the person so tendering, whether such agreement is or is not subsequently executed.
- 16.5** The contractor shall not assign the contract. He shall not sublet any portion of the contract except with the written consent of the Employer. In case of breach of these conditions, the Employer may serve a notice in writing on the Contractor rescinding the contract whereupon the security deposit shall stand forfeited to the Employer, without prejudice to his other remedies against the Contractor.

17.0 Import and Export License

- 17.1** Import License, if required, will be obtained by the Tenderer. All necessary documents/fees required to be submitted/paid to the relevant authorities, for obtaining the import license shall be the sole responsibility of the tenderer.
- 17.2** The Tenderer shall obtain and maintain the necessary export license for importing machines into India from the competent authorities and shall pay all costs and fees connected therewith. Failure to obtain and maintain export license shall not be considered as Force Majeure. In case the Tenderer fails to obtain or maintain the licenses, or if the licenses are withdrawn, the tenderer shall restore them within two months from the date of such cancellation/withdrawal. If the tenderer fails to restore the export license, the Bank shall have the right to cancel the contract in whole or in part and the Tenderer shall forthwith return to the Bank all the amounts paid by the Bank to the Tenderer in respect of the supplies and services cancelled, together with all damages suffered by the Bank. In this regard the decision of the Bank shall be final and binding.

19.0 Completion Period

- 19.1** Time allowed for carrying out the work, as mentioned in the Memorandum, shall be strictly observed by the Contractor and it shall be reckoned from the 10th day after written order to commence the work is issued. The work shall throughout the stipulated period of the contract be proceeded with all the due diligence and if the contractor fails to complete the work within the specified period, he shall be liable to pay liquidated damages as defined in "Appendix herein before referred to" of the contract. The tenderer shall, before commencing the work, prepare a detailed work programme which shall be approved by the Employer.
- 19.2** The contractor shall submit a **Bar Chart for completion of the work within the contractual completion period from the tenth day of letter of intent**. Such chart shall include all activities like the date of supply of material at site, item wise completion of work etc., and obtain the approval of the Bank.
- 19.3** Bank will provide storage space within the compound of the building. However, the responsibility and safety of the materials stored will be with the contractor. No accommodation will be provided for any worker by the Bank.

20.0 Insurance

The contractor shall, within 14 days from the date of commencement of the works, insure the works at his cost and keep them insured until the virtual completion of works, against loss or damage by fire with an office in the joint names of the employer and the contractor (RBI should place first in the policy) for the full amount of the contract. Such policy shall cover the property of the "Employer" only. The contractor shall deposit the policy and receipts for the premium with the employer within twenty-one days from the commencement of the works. In default of the contractor, insuring as provided above, the employer may so insure the works and may deduct the premium paid from any moneys due, penalty etc., or which may become due to the Contractor without prejudice to the other rights of the Employer in respect of such default. In case it becomes necessary to suspend the works, the Contractor shall as soon as the claim under the policy is settled, or the work reinstated by the Insurance Office, should they elect to do so, proceed with all due diligence with the completion of the works in same manner as though the fire had not occurred and in all respects under the same conditions of Contract. The Contractor in case of rebuilding or reinstatement after fire shall be entitled to such extension of time for completion as deems fit.

The contractor shall take all insurances at his cost to cover all kinds of risks from the time the equipment's/materials leave the manufacturer's works till handing over the said system to the Bank, in the joint names of the Bank and the contractor and it shall cover the following risks.

A) Storage, erection, testing and commissioning policy.

B) Workmen compensation policy for the employees of the contractor at site.

C) Third party liability policy for a total of Rs.10.00 lakh and with a limit of Rs. 2 lakh per accident.

Note: These policies shall be valid till the completion of the work & in the joint name of RBI with RBI's name being the first one. If the contractor does not provide these policies, the Bank reserves the right to take the above insurance policies themselves and recover the cost thereof from the bill of the contractor or any other action.

21.0 Warranty and All-Inclusive Maintenance Contract

3.15 (a) The entire system shall be warranted against any manufacturing/design/ installation defects etc. for a minimum period of **Three years**. During this period any defect observed in the system shall be rectified within 3 working days of the observation without any additional cost to the Bank.

(b) Supply and replacement of all spares, consumables and parts required for smooth operation and serviceability of the system shall be the responsibility of the contractor during this period. In this respect the contractor shall maintain sufficient spares/consumables for immediate replacement of defective / damaged part during day-to-day routine maintenance / breakdown maintenance. Cost of these spares and any other spares which may be required during maintenance is deemed to be included in the rates quoted by the contractor. The periodicity of service shall be depending upon the weather conditions.

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

21.1 All-inclusive Annual Maintenance Contract (AMC)

The tenderer shall quote his rates in rupees for the solar power plant per annum for all-inclusive Comprehensive Maintenance Contract inclusive of custom duty for spares imported, transport, insurance, handling, etc. applicable after expiry of 36 months free warranty period. These rates shall remain firm for the first year of AMC & these charges will also be considered while evaluating tender as prescribed in the section II, clause 15.0 "evaluation of tenders". Further renewal amount for the AMC shall be worked out as per the following formula:

| | | |
|--|--|--|
| | | $A_C = \frac{A_P \cdot MP_C \cdot W_I_C}{100 \cdot MP_P \cdot W_I_P} \left(50 \times \frac{A_P \cdot MP_C \cdot W_I_C}{100 \cdot MP_P \cdot W_I_P} + 50 \times \frac{A_P \cdot MP_C \cdot W_I_C}{100 \cdot MP_P \cdot W_I_P} \right)$ |
| | | |

| | | | | |
|--|--|---------|---|--|
| | | A_C | = | The contract amount for the current year. |
| | | A_P | = | The contract amount for the previous year. |
| | | MP_C | = | Wholesale Price Index for metal products 6 months prior to the commencement date of contract for the current year. |
| | | MP_P | = | Wholesale Price Index for metal products 6 months prior to the commencement date of contract for the previous year. |
| | | W_I_C | = | Consumer Price Index for industrial workers (KOCHI) 6 months prior to commencement date of contract for the current year. |
| | | W_I_P | = | Consumer Price Index for industrial workers (KOCHI) 6 months prior to commencement date of contract for the previous year. |

The Bank Guarantee submitted by the successful tenderer towards security deposit shall be valid till end of first year of AMC for due fulfilment of the terms and obligations of the service contract for a period (12 years) after completion of the Three-Year warranty period. The amount of Bank Guarantee will be reduced by 1/8th of initial guarantee amount for the first 10 years and by 1/10th of initial guarantee for the next two years afterwards and finally becomes zero.

21.2 Scope of works during CAMC

21.2.1 The tenderers shall quote their charges separately for comprehensive annual maintenance service of complete system as per schedule of quantities which will be applicable after Three year of defect liability period (DLP). The rates shall also include the charges for the insurance of the workmen for carrying out the above job.

21.2.2 The system shall be inspected, upkeep/serviced/cleaned periodically. The periodicity shall be depending upon the weather conditions.

The charges for comprehensive annual maintenance service shall include replacement of any part of the system, including all required spares, consumables etc. during service contract period. Any defects in the system/sub- assemblies, found within the CAMC period, shall be rectified/ replaced by the tenderer without any additional cost to the Bank

21.2.3 During the comprehensive annual maintenance service period (after DLP period), any fault in the system shall be rectified within 2 working days of receipt of intimation of the defect in the system. The quoted rates shall, therefore, take into account all the cost, including travel cost from the nearest service station. There will be a penalty of Rs.100/- per day subject to maximum of 10% of the annual maintenance charges, if the defect in the system is not rectified within the period of 3 working days during the CAMC period as stated above. Any penalty during the DLP shall be recovered from any dues payable to the contractor or invoke from the bank guarantee.

21.2.4 Payment of service charges during comprehensive annual maintenance service (CAMS):

The payment during the CAMS period shall be **made on half yearly basis** on rendering satisfactory service.

The successful tenderer shall enter into an agreement for comprehensive annual maintenance

contract of the system with the Bank.

22.0 Terms of Payment

The payment for the works to be executed under this contract shall be made as follows subject statutory deductions. No variation in the mode of payment will be acceptable.

- 1) 70% of the quoted rate against delivery, erection, testing of the system along with submission of the following documents:
 - (a) Contractor's Certificate that all components, parts, sub systems, consumables etc. for successful installation, commissioning and testing of the systems including maintenance have been received at site in good condition and if any shortfall is noticed during installation, commissioning and testing they will be supplied free to the Bank.
 - (b) Policies of insurance as per tender conditions.
- 2) 20 % of the quoted rate against commissioning of the system by connecting to the grid as per Raw power supplier's terms and conditions and handing over both the system to the Bank.
- 3) Balance 10% of the quoted rates after submission of equivalent Bank Guarantee.

Other Issues

23. The contractor shall furnish an undertaking as per the enclosed proforma ([Annex 5](#)) that they will maintain the Solar System satisfactorily for a minimum period of 15 years from the date of expiry of the defect liability period at the rate quoted by them in this contract towards all-inclusive maintenance service contract subject to the terms, conditions, scope indicated under scope of service contract.
24. The Contractor shall carry out all the work strictly in accordance with drawing, details and instructions of the Bank's engineer. If in the opinion of the Bank's engineer, nominal changes have to be made to suit the site condition and with the prior approval in writing of the Employer, they desire the Contractor to carry out the same, the Contractor shall carry out the same without any extra charge.
25. The tenderer must obtain for himself on his own responsibility and at his own expense, all the information which may be necessary for the purpose of making a tender and for entering into a contract and must examine the drawings, inspect the site of the work, and acquaint himself with all local conditions, means of access to the work, nature of the work and all matters pertaining thereto. The Employer's decision in such cases shall be final and shall not be open to arbitration.
26. A Schedule of Probable Quantities in respect of each work and Specifications accompany these Special Conditions. The Schedule of Probable Quantities is liable to alteration by omissions, deductions or additions at the discretion of the Employer. Each tender should contain not only the rates but also the value of each item of work entered in a separate column and all the items should be totaled in order to show the aggregate value of the entire tender.
27. The rates quoted in the tender shall include all charges for scaffoldings, watching and lighting by night as well as day including Saturdays/Sundays and holidays, protection of all other erections, matters or things and the Contractor shall take down and remove any or all such centering, scaffolding etc. as occasion shall require or when ordered so to do, and fully reinstate and make good all matters and things disturbed during the execution of work and to the satisfaction of the Bank.

28. Guarding and protecting hoist way shall be responsibility of the tenderer from the date of commencement of work at site.
29. The Bank shall identify a suitable electrical point near to the PCU for connecting the PCU to the grid. The firm shall consider the work from the above-mentioned electrical point to the complete installation and commissioning of the system. The suitable AC cable/wire or AC power shall be under the scope of work of the contractor as per standard and as directed by Bank's Engineer. The Reverse Operated Relay/Reverse Power Relay/Reverse Current Relay installation and commissioning also included in the scope of work of the tender. The contractor may also consider the cost of the above-mentioned. AC work while quoting the tender.
30. The contractor shall not be entitled to any compensation for any loss suffered by him on account of delays in commencing or executing the work, whatever the cause of delays may be, including delays arising out of modifications to the work entrusted to him or in any sub- contract connected therewith or delays in awarding contracts for other trades of the project or in commencement or completion of such works. The Employer does not accept liability for any sum besides the tender amount, subject to such variations as are provided for herein.
31. The successful tenderer is bound to carry out all items of work necessary for completion of the job even though such items are not included in the quantities and rates. Schedule of instruction in respect of such additional items and their quantities will be issued in writing by the Bank.
32. A brief specification and design data accompany these special conditions. It is not to be accepted as final by any means. The tenderers are expected to explain in detail the various designs in solar system offered, which would give a more enhanced working and finish.
33. The successful tenderer must co-operate with the other contractors appointed by the Bank so that the work shall proceed smoothly with the least possible delay. He should make his own arrangement for storage and protection of all materials supplied by him.
34. The work has to be carried out in an occupied office and, therefore, may have to be carried out during restricted hours/ beyond office hours/Saturdays/Sundays/Bank's holidays.
35. The contractor must bear in mind that all the work shall be carried out strictly in accordance with the specifications made by the Employer and also in compliance of the requirement of the local public authorities and to the requirements of the State/Central Electrical Inspectorate and any other Acts/Rules/Regulations and no deviation on any account will be permitted.
36. The successful tenderer shall obtain and pay for necessary inspection fee levied by the Government and/or any other authorities and obtain necessary permit as required and also conduct such tests as are called for by the regulation of the authorities without any extra cost to the Employer.

| | |
|--|-----------------------|
| I/We hereby declare that I/we have read and understood the above instructions for the guidance of the tenderers. | |
| | |
| Witness | Signature of tenderer |
| | |
| Address | Address |
| | |
| Date | Date |

Section III - Safety Code

GENERAL SAFETY

1. First-aid appliances, including adequate supply of sterilized dressings and cotton wool, shall be maintained in a readily accessible place.
2. The injured person shall be taken to a public hospital without loss of time, in cases where the injury necessitates hospitalization.
3. Suitable and strong scaffolds should be provided for workmen for all works that cannot safely be done from ground.
4. No portable single ladder shall be over 8 meters in length, the width between the side rails not less than 30 cm (clear) and the distance between two adjacent rungs shall not be more than 30 cm. When a ladder is used, an extra labour shall be engaged for holding the ladder.
5. The excavated material shall not be placed within 1.5 meters of the edge of the trench or half of the depth of the trench, whichever is more. All trenches and excavations shall be provided with necessary protection of minimum height of one meter.
6. No floor, roof or other part of the structure shall be so over-loaded with debris or materials as to render it unsafe.
7. Workers employed on mixing and handling material such as asphalt, cement, mortar or concrete and lime mortar shall be provided with protective footwear and rubber hand-gloves.
8. Those engaged in welding works shall be provided with welder's protective eye-shields and gloves.
9. No paint containing lead or lead products shall be used except in the form of paste or readymade paint.
10. Suitable face masks should be supplied for use by the workers when the paint is applied in the form of spray or surface having lead paint dry rubbed and scrapped.
11. Hoisting machines and tackles used in the work, including their attachments, anchorage and supports shall be in perfect condition.
12. The ropes used in hoisting or lowering material or as a means of suspension shall be of durable quality and adequate strength and free from defects.

FIRE SAFETY

- i. Cutting / drilling machine and other electrically operated equipments used at site shall be plugged into correctly rated electrical outlets.
- ii. Only ISI marked 3 pin plug and other appliances and equipments shall be used.
- iii. Electrical power cables/wires used shall not have any joints and shall be properly rated.
- iv. All electrical appliances i.e. welding, drilling, cutting machine etc. shall be safely and securely earthed to prevent leakage current while in operation.
- v. Before commencing the welding work for the first time on any day, fire section shall be informed and only after the site inspection by the Fire officers/Personnel, work shall be started.
- vi. Two buckets of water and sand shall be kept in an easily accessible area on the site.
- vii. Fire extinguishers recommended and issued by fire officers shall be kept on the site.
- viii. Used paint drums shall be stored in specified store only after closing them properly.
- ix. Personal protective equipments such as safety shoes, hand gloves, welder's mask, ear plug etc. depending upon the requirement of the work shall be provided by the contractor to the workmen to prevent occupational health hazards.
- x. The safety belt shall be provided by the contractor and used by the workmen while working from height for more than 10' from Ground level.
- xi. None of the passages near lifts lobby and staircases shall be used for stacking / dumping any kind of materials/waste.
- xii. Both the staircase doors shall be normally kept closed.
- xiii. None of the fire extinguishers shall be removed/shifted from its designated location.
- xiv. Power supply shall be switched off from the mains when equipment is not in use.
- xv. Wood-shavings and saw-dust generated from the work shall be collected on daily basis, removed from site and stored at the designated place in proper manner.
- xvi. Any debris generated from the work shall be collected on daily basis, removed from site and stored at the designated place in proper manner.
- xvii. Battery operated emergency light/torches shall be provided by the contractor to the workmen while working beyond office hours.

PLACE:

SIGNATURE AND SEAL OF THE CONTRACTOR

DATE:

Section IV - The Conditions Hereinafter Referred To

Interpretation Clause

In construing these Conditions, the Specifications, Schedule of Quantities and Contract Agreement, the following words shall have the meanings herein assigned to them except where the subject or context otherwise required.

| | | |
|-----|--|---|
| (a) | “Employer” | Shall mean The Reserve Bank of India and shall include its assigns and successors. |
| (b) | “Contractor” (in the case of a partnership) | “Contractor” shall mean _____ and _____ trading in the name and style of _____ and having a place of business at _____ and shall include the partners for the time being of the said firm and the legal representatives of a deceased partner. |
| | (in the case of individual) | “Contractor” shall mean Shri _____ trading in the name and style of _____ and shall include his heirs, successors and legal representatives. |
| | (in the case of Company) | “Contractor” shall mean _____ a company incorporated under _____ and having its registered office at _____ and shall include its successors and assigns. |
| (c) | “Site” | Shall mean the site of the contract works including any building and erections thereon and any other land (inclusively) as aforesaid allotted by the Employer for the Contractor’s use. |
| (d) | “This Contract” | Shall mean the Articles of Agreement, the Special Conditions, the Conditions, the Appendix, the Schedule of Quantities and Specifications etc. attached hereto and duly signed. |
| (e) | “Notice in writing” | Or written notice shall mean a notice in written, typed or printed characters sent (unless delivered personally or otherwise proved to have been received) by registered post to the last known private or business address to have been received when in the ordinary course of post it would have been delivered. |
| (f) | “Act of Insolvency” | Shall mean any Act of Insolvency ad defined by the Presidency Towns Insolvency Act or the Provincial Insolvency Act or any Act amending such original. |
| (g) | “Net Prices” | If in arriving at the contract amount, the Contractor shall have added to or deducted from the total of the items in the Tender any sum, either as a percentage or otherwise, then the net price of any item in the tender shall be the sum arrived at by adding to or deducting from the actual figure appearing in the Tender as the price of that item a similar percentage or proportion of the sum so added or deducted by the Contractor the total amount of any Prime Cost items and provisional sums of money shall be deducted from the total amount of the tender. The expression “net rates” or “net prices” when used with reference to the contract or accounts shall be held to mean rates or prices so arrived at. |
| (h) | “The works” | Shall mean the Design, Supply, Installation, Testing and Commissioning of ON-Grid 2×5 KWp Solar Power Plant for Bank’s Staff Quarters for the Employer at KOCHI as provided herein. |

Word importing persons include firms and corporations. Word importing the singular only also include the plural and vice-versa where the context requires.

Scope of Contract

1. Scope of Work

The extent of the work shown and specified hereunder is defined to include all labour, materials, equipment, and supervision required for the design, fabrication, supply, installation, testing and commissioning of the complete solar power generation system with grid connectivity and net-metering facility. The subsequent upkeep and maintenance as defined is also the responsibility of the contractor.

Generation of **5.5 KWp** of power in Solar based, conversion of the same to AC power with a **guaranteed annual generation of 7500 KWH** per year with a tolerance of 10% of total annual generation (considering the weather conditions in KOCHI) during the first five years of operation at supply provider's power grid synchronization point including:

- a) Design, Manufacturing, Factory Acceptance Test (FAT), supply, installation, testing and commissioning of Solar PV Modules (inclusive of Electrical, Electronic and Mechanical features) along with Power Conditioning Units (PCUs), as required and specified.
- b) Supply and installation of Module mounting structure / super structure on identified locations. The successful tenderer shall design their SPV Panel structure with Hot dipped galvanized steel and cement concrete (CC) foundation suitable for site condition. Design of SPV structure shall be certified /vetted by a recognized Govt. Engineering College viz. IIT / NIT etc. or by a reputed structural consultant and submitted for approval before taking up the structure and foundation works. The mounting structure shall be painted with one coat of epoxy primer and two coats of enamel paint.
- c) Supply, installation, testing and commissioning of three phase Power Conditioning Units (PCU),(inverter plus local grid synchronizing system), distribution panels, electrical switchgears, inverters, metering and connecting the system to the switch gear(MCB/Distribution Board) for load and connecting up the system to the electrical grid surge protection units etc. as required.
- d) Supply and laying of all power and control cables on cable trays including supply of cable trays, their installation, hangers, supports, cable terminations and all fixing accessories.
- e) **Earthing:** GI Pipe/Copper rod Earthing with necessary size and length (as per the site conditions) of earth pit shall be provided with testing point for every pits as per relevant/latest IS, including cutting of roads / paved areas & making good the damages as in original shape.
- f) Testing and commissioning of the entire system including synchronizing with power grid and connecting to a desired electrical consumer number with a bi-directional energy meter with approval from competitive authority. The installation shall include the electrical switchgears, cabling, terminations, and cable trays, inverters, metering and connecting the system to the electrical grid with a bi-directional energy meter.
- g) The PV modules shall be installed with the necessary tilt with the most effective orientation.
- h) All related & required civil works will be the responsibility of successful tenderer.
- i) Solar System capacity shall be demonstrated to the Bank's Engineer.
- j) Onsite training to RBI Engineers and Workmen for proper operation, maintenance and trouble shooting.
- k) Provision for periodic cleaning of the solar panels considering the ambient conditions of the site.

Water connection at the same floor at one point shall be provided by Bank.

- l) Provision of necessary switchgear in the LT distribution panel for connecting the solar energy-based AC power to Power grid.

Contractor 's Duties

2. Contractor's duties include the following and submit the document as per [annex-10](#):

- a) Provide and pay for labour, materials and equipment, tools, construction equipment and machinery and other facilities and services necessary for the proper execution and completion of the specified works.
- b) Secure and pay for required permits, statutory workman's compensation insurance, fees and licenses necessary for proper execution and completion of required work.
- c) Give required notices.
- d) Promptly submit written notice to the Consultant of observed variance of this Specification from legal requirements.
- e) Enforce strict discipline and good order among employees. Do not employ persons unskilled in assigned task.

Variations to be approved by Employer

3. The Contractor shall submit a statement of variations giving a quantity and rates duly supported by analysis of rates, vouchers etc. The rates on scrutiny and final acceptance by the Employer shall form a supplementary tender. The Employer shall not be liable for payment of such variations until these statements are sanctioned by it.

Drawings, Schedule of Quantities & Agreement

4. The Contract shall be executed in triplicate and the Contractor shall be entitled to one executed copy for his use. Before the issue of the final certificate to the Contractor, he shall forthwith return to the Employer, all Drawings and Specifications to the Bank.

Work sequence

5. The successful Contractor shall include all costs in the tender to complete the works in the time schedule as given by him in the work schedule table. By submitting a tender, the Contractor agrees that they have reviewed the project specifications and drawings, toured the jobsite, and will complete all work in accordance with the overall time frame of 10 weeks as per the approved schedule. The schedule time frame starts after a notice to proceed or contract is received from the Employer. The Contractor shall provide a detailed construction schedule, in accordance with the time frame approved as per the work task schedule, prior to award of the project.

Contractor's use of premises

6. The site of the work is an occupied building. Contractor's use of premises shall be subject to following: -

Do not unreasonably encumber the site with materials or equipment. Staging area shall be located as directed by the Client.

Assume full responsibility for protection and safekeeping of tools and products stored on or off premises.

Contractor to provide everything necessary at his cost

7. The Contractor shall provide at his cost, everything necessary for the proper execution of the works according to the intent and meaning of the Drawings, Schedule of Quantities and Specifications taken together whether the same may or may not be particularly shown or described therein provided that the same can reasonably be inferred therefrom, and if the Contractor finds any

discrepancy in the Drawings or between the Drawings, Schedule of Quantities and Specifications, he shall immediately and in writing refer same to the Employer who shall decide which is to be followed. The Contractor shall provide all works under this specification in full accordance with Health and Safety Regulations.

No disruption to normal office functions

8.This project is a installation of Solar Power Plant work in an existing building. It is essential that the Contractor gives special attention and priority to all matters concerning safety, protection from dust and loose materials, reduction of noise levels, protection from water and air infiltration into building, and maintenance of neat and orderly conditions in and around work areas inside and outside of building. Packaging, scrap materials and demolition debris shall be promptly removed from the building and site on a daily basis.

9.If the contract includes works, which will be disruptive during normal business operations, or would be dangerous to building occupants, said works shall be performed during hours as the Client dictates. Examples of such work include, without limitation, saw cutting of concrete, jack hammering, welding, metal cutting, pouring concrete, erecting steel or hoisting equipment over occupied portions of the building. The Contractor shall perform such work during Client dictated hours and shall include all costs in its tender.

10.The Contractor shall keep noise levels below 75 dB during normal building hours. When it is necessary to produce noise above this level, the Contractor shall advise the Client of such needs and times will be scheduled as directed. The Contractor shall anticipate any excessive noise generating procedures and include an allowance for it in the tender.

Protection of Work and Property

11..The Contractor shall install a suitable protective covering on all finished floors in areas where the works are being performed. No material handling equipment shall be permitted on or over finished floors unless said floors have been protected in a manner approved by the Client. Any damage to building finishes caused by the Contractor shall be refinished at no additional cost to the Client. The Contractor shall take photographs of any adjacent finishes that may be damaged during the works for a photographic record.

Authorities, Notices and Patents

12.The Contractor shall conform to the provisions of any Act of the Legislature relating to the works, and to the regulations and bye-laws of any authority, and of electric supply and other companies and/or authorities with whose systems, the installation is proposed to be connected and shall, before making any variations from the Drawings or Specifications that may be necessitated by so conforming, give to the Employer, written notice, specifying the variation proposed to be made and the reason for making it and apply for instructions thereon. In case the Contractor shall not receive such instructions within ten days, he shall proceed with the work conforming to the provisions, regulations or bye-laws, in question, and any variation so necessitated shall be dealt with under Clause No.22 thereof.

The Contractor shall bring to the attention of the Employer, all notices required by the said Acts, regulations or bye-laws to be given to any authority and pay to such authority, or to any public office, all fees that may be properly chargeable in respect of the works, and lodge the receipts with the Employer.

The Contractor shall indemnify the Employer against all claims in respect of rights, and shall defend

all actions arising from claims, and shall himself pay all royalties, license fees, damages, cost and charges of all and every sort that may be legally incurred in respect thereof.

Setting out of works

13. The Contractor shall set out the works and shall be reasonable for the true and perfect setting out of the same and for the correctness of the positions, levels, dimensions, and alignment of all parts thereof. If at any time any error in this respect shall appear during the progress of the works within a period of one year from the completion of the works, the Contractor shall, if so required, at his own expense, rectify such error to the satisfaction of the Employer.

Materials and workmanship to conform the descriptions

14. All materials and workmanship shall so far as procurable be of the respective kinds described in the Schedule of Quantities and/or Specifications and in accordance with the Employer's instructions, and the Contractor shall upon the request of the Employer furnish him with all invoices, accounts receipts and other vouchers to prove that the materials comply therewith. The Contractor shall at his own cost arrange for and/or carry out any test of any materials which the Employer may require.

Contractor's superintendence and representative on the works

15. The Contractor shall give all necessary personal superintendence during the execution of the works, and as long thereafter as the Employer may consider necessary until the expiration of the "Defects Liability Period" stated in the Appendix hereto. The Contractor shall also during the whole time the works are in progress, employ a competent representative who shall be constantly in attendance at the works while the men are at work. Any directions, explanations, instructions or notices given by the Employer to such representative shall be held to be given to the Contractor.

Dismissal of Workmen

16. The Contractor shall on the request of the Employer, immediately dismiss from the works, any person employed thereon by him who may, in the opinion of the Employer, be incompetent or misconduct himself and such persons shall not be again employed on the works, without the permission of the Employer.

Access to Works

17. The Employer and their respective representatives shall at all reasonable times have free access to the works and/or the workshops, factories or other places where materials are lying or from which they are being obtained and the Contractor shall give every facility to the Employer and their representatives necessary for inspection and examination and test of the materials and workmanship. No person not authorized by the Employer except the representatives of public authorities shall be allowed on the works at any time.

Assistant Manager (Tech)/Manager (Tech)

18. The term "Assistant Manager (Tech)/Manager (Tech)" shall mean the person appointed and paid by the Employer to inspect the works, the Contractor shall afford the Assistant Manager/Manager, every facility and assistance for inspecting the works and materials and for checking and measuring time and materials. The Assistant Manager (Tech)/Manager (Tech) shall have power to set out works or to revoke, alter, enlarge or relax any requirements of the Contract or to sanction any work, additions, alterations, deviations or omissions or any extra work whatever, except in so far as such authority may be specially conferred by a written order with the prior

concurrence in writing of the Employer.

The Assistant Manager (Tech)/Manager (Tech) or any representative of the Employer shall have power to give notice to the Contractor or to his representative of non-approval of any work or materials and such work shall be suspended or the use of such materials shall be discontinued by the Assistant Manager/Manager (Tech) but such examination shall not in any way exonerate the Contractor from the obligation to remedy any defects which may be found to exist at any stage of the works or after the same is completed.

Assignments and Sub-letting

19. The whole of the works included in the Contract shall be executed by the Contractor and the Contractor shall not directly or indirectly transfer, assign or under-let the Contract or any part share thereof or any interest therein without the prior written consent of the Employer, and no undertaking shall relieve the Contractor from the full and entire responsibility of the Contract or from active superintendence of the works during their progress.

20. No alteration, omission or variation shall vitiate this Contract but in case the Employer thinks proper at any time during the progress of the works to make any alterations in or additions to or omissions from the works or any alteration in the kind or quality of the materials to be used therein and shall give notice thereof in writing under his hand to the Contractor, the Contractor shall alter, add to or omit from, as the case may be, in accordance with such notice but the Contractor shall not do any work extra to or make any alterations or additions to or omissions from the works or any deviation from any of the provisions of the Contract, Stipulation, Specifications or Contract Drawings without the previous consent in writing of the Employer and the value of such extras, alterations, additions or omissions shall in all cases be determined with the prior approval in writing of the Employer in accordance with the provisions of Clause 26 hereof, and the same shall be added to or deducted from the Contract Amount, as the case may be, accordingly.

Schedule of Quantities

21. The Schedule of Quantities, unless otherwise stated, shall be deemed to have been prepared in accordance with the Standard Method of Measurement.

Any error in description or in quantity or in omission of items from the Schedule of Quantities shall not vitiate this contract but shall be rectified and the value thereof as ascertained under Clause 26 hereof, shall be added to, or deducted from, the Contract Amount (as the case may be) provided that no rectification of errors, if any, shall be allowed in the Contractor's Schedule of Rates.

Sufficiency of Schedule of Quantities

22. The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the prices stated in the Schedule of Quantities and/or the Schedule of Rates and Prices which rates and prices shall cover all his obligations under the Contract, and all matters and things necessary for the proper completion of the works.

Measurement of Works

23. The Assistant Manager (Tech)/Manager (Tech) may from time to time intimate to the Contractor and the Employer that he requires the works to be measured, and the Contractor shall forthwith attend or send a qualified Agent to assist the Assistant Manager (Tech)/Manager (Tech) in taking such measurements and calculations and to furnish all particulars or to give all assistance required by any of them.

Should the Contractor not attend or neglect or omit to send such Agent, then the measurement taken by the Assistant Manager (Tech)/Manager (Tech) shall be taken to be correct measurements of the works. Such measurements shall be taken in accordance with the Mode of Measurement detailed in the Specifications.

The Contractor or his Agent may at the time of measurement take such notes and measurements as he may require.

All authorized extra works, omissions and all variations made with the prior approval in writing of the Employer shall be included in such measurements.

Prices for extra etc. ascertainment of

24. The Contractor may, when authorized by Employer, add to, omit from, or vary the works shown upon the drawings, or described in the Specification, or included in the Schedule of Quantities, but the Contractor shall make no addition, omission or variation without such authorization or direction. A verbal authority or direction by the Employer shall, if confirmed by him in writing within seven days, be deemed to have been given in writing

No claim for any extra shall be allowed unless it shall have been executed under provisions of Clause 5 hereof with the concurrence of the Employer as herein mentioned. Any such extra is herein referred to as authorized extra and shall be made in accordance with the following provisions.

| | | | |
|--|--|------|--|
| | (a) | (i) | The net rates or prices in the original tender shall determine the valuation of the extra work where such extra work is of similar character and executed under similar conditions as the work priced therein. |
| | | (ii) | Rates for all items, wherever possible, should be derived out of the rates given in the Priced Schedule of Quantities. |
| | (b) | | The net prices of the original tender shall determine the value of the items omitted, provided if omissions vary the conditions under which any remaining items of works are carried out, the prices for the same shall be valued under sub-clause (c) hereof. |
| | (c) | | Where the extra works are not of similar character and/or executed under similar conditions as aforesaid or where the omissions vary the conditions under which any remaining items of works are carried out or if the amount of any omission or additions relative to the amount of the whole of the Contract works or to any part thereof shall be such that in the opinion of the Employer the net rate or price contained in the Priced Schedule of Quantities or tender or for any item of the works involves loss or expense beyond that reasonably contemplated by the Contractor or is by reason of such omission or addition rendered unreasonable or inapplicable, the Employer shall fix such other rate or price as in the circumstances he shall think reasonable and proper. |
| | (d) | | Where extra work cannot be properly measured or valued, the Contractor shall be allowed day work prices at the net rates in accordance with the local day work rates and wages for the district, provided that in either case vouchers specifying the daily time and materials employed, be delivered for verification to the Employer at or before the end of the week following that in which the work has been executed. |
| | The measurement and valuation in respect of the Contract shall be completed within the "period of final measurement" stated in the Appendix, or if not stated, then defined in Clause 25 hereof. | | |

Unfixed materials when taken into account to be the property of the Employer

25. Where in any Certificate (of which the Contractor has received payment) the Employer has included the value of any unfixed materials intended for and/or placed on or adjacent to the works, such materials shall become the property of the Employer and they shall not be removed except for use upon the works, without the written authority of the Employer. The Contractor shall be liable for any loss of or damage to such materials.

Removal of improper work

26. The Employer shall, during the progress of the works, have power to order in writing from time to time the removal from the works within such reasonable time or times, as may be specified in the order, of any materials which in the opinion of the Employer are not in accordance with the Specifications or the instructions of the Employer, the substitution of proper materials, and the removal and proper re-execution of any work executed with materials or workmanship not in accordance with the Drawings and Specifications or instruction, and the Contractor shall forthwith carry out such order at his own cost. In case of default on the part of the Contractor to carry out such order, the Employer shall have the power to employ and pay the other persons to carry out the same, and all expenses consequent thereon, or incidental thereto shall be borne by the

Contractor, or may be deducted by the Employer from any moneys due, or that may become due, to the Contractor.

Defects after virtual completion

27. Any defect, shrinkage, settlement or other faults which may appear within the "Defects Liability Period" stated in the Appendix hereto, if none stated, then within 36 months after the virtual completion of the works, arising in the opinion of the Employer from materials or workmanship not in accordance with the contract, shall upon the directions in writing of the Employer, and within such reasonable time as shall be specified therein, be amended and made good by the Contractor, at his own cost and in case of default, the Employer may employ and pay other persons to amend and make good such defects, other faults, and all damages, loss and expenses consequent thereon or incidental thereto shall be made good and borne by the Contractor and such damage, loss and expenses shall be recoverable from him by the Employer or may be deducted by the Employer from any moneys due or that may become due to the Contractor, or the Employer may in lieu of such amending and making good by the Contractor deduct from any money due to the Contractor a sum to be determined by the Employer equivalent to the cost of amending such work and in the event of the amount retained under Clause 12.6 of section II hereof being insufficient, recover the balance from the Contractor, together with any expenses the Employer may have incurred in connection therewith. Should any defective work have been done or material supplied by any Sub-Contractor employed on the works who has been nominated or approved by the Employer as provided in Clauses 21 and 22 hereof, the Contractor shall be liable to make good in the same manner as if such work or material had been done or supplied by the Contractor and been subject to the provisions of this Clause and Clause 2 hereof. The Contractor shall remain liable under the provision of this Clause, notwithstanding the signing of any certificate or the passing of any accounts, by the Employer.

Certificate of virtual completion and Defects Liability Period

28. The works shall not be considered as completed until the Employer has certified in writing that they have been virtually completed. The Defects Liability Period shall commence from the date handing over of the system.

Nominated Sub-Contractor

29. All Specialists, Merchants, Tradesman and others executing any work of supplying and fixing any goods, for which prime cost prices or provisional sums are included in the Schedule of Quantities and/or Specifications, who may be nominated or selected by the Employer are hereby declared to be Sub-Contractors employed by the Contractor and are herein referred to as nominated Sub-Contractors.

No nominated Sub-Contractors shall be employed on or in connection with the works against whom the Contractor shall make reasonable objection or (save where the Employer and Contractor shall otherwise agree) who will not enter into Contract providing.

(a) That the nominated Sub-Contractors shall indemnify the Contractor against the obligation in respect of the Sub-Contractor as the Contractor is under in respect of this Contract.

(b) That the nominated Sub-Contractor shall indemnify the Contractor against claims in respect of any negligence by the Sub-Contractor, his servants or agents or any misuse by him or them of any scaffolding or other plant, the property of the Contractor or under any Workmen's Compensation Act in force.

(c) Payment shall be made to the nominated Sub-Contractor within fourteen days provided that all nominated Sub-Contractor's accounts included in previous Certificates have been duly discharged, in default whereof, the Employer may pay the same and deduct the amount thereof from any sums due to the Contractor. The exercise of this power shall not create privity of contract as between Employer and Sub-Contractor.

Other persons employed by Employer

30. The Employer reserves the right to use the premises and any portions of the site for the execution of any work not included in this Contract, which it may desire to have carried out by other persons, and the Contractor shall allow all reasonable facilities for the execution of such work but shall not be required to provide any plant or materials for the execution of such work. Such work shall be carried out in such manner as not to impede the progress of the works included in the Contract and the Contractor shall not be responsible for any damage or delay which may happen to or occasioned by such work.

Insurance in respect of damage to person and property

31. The Contractor shall be reasonable for all injury to persons, animals or things, and for all structural and decorative damage to property which may arise from the operation or neglect of himself or of any nominated Sub-Contractor or any employee or either, whether such injury or damage arises from carelessness, accident or any other cause whatever, in any way connected with the carrying out of this Contract. This Clause shall be held to include inter alia, any damage to buildings, whether immediately adjacent or otherwise, and any damage to roads, streets, footpaths, bridges or ways as well as all damage caused to the buildings and works forming the subject of this Contract by frost, rain, wind or other inclemency of weather. The Contractor shall indemnify the Employer and hold him harmless in respect of all and any expenses arising from any such injury or damage to persons or property as aforesaid and also in respect of any claim made in respect of injury or damage under any Acts of any legislature or otherwise and also in respect of any award of compensation or damages consequent upon such claim.

The Contractor shall reinstate all damage of every sort mentioned in this Clause, so as to

deliver up the whole of the Contract works complete and perfect in every respect and so as to make good or otherwise satisfy all claims for damage to the property of third parties.

The Contractor shall indemnify the Employer against all claims which may be made against the Employer by any member of the public or other third party in respect of anything which may arise in respect of the works or in consequences thereof and shall at his own expense arrange to effect and maintain, until the virtual completion of the Contract, with an approved Office a Policy of Insurance in the joint names of the Employer and the Contractor against such risks and deposit such Policy or Policies with the Employer from time to time during the currency of this Contract. The Contractor shall also similarly indemnify the Employer against all claims which may be made upon the Employer whether under the Workmen's Compensation Act or any other statute in force during the currency of this contract or at Common Law in respect of any employee of the

Contractor or any Sub-Contractor and shall at his own expenses effect and maintain, until the virtual completion of the Contract, with an approved Office a Policy of Insurance in the joint names of the Employer and the Contractor against such risks and deposit such Policy or Policies with the Employer from time to time during the currency of the Contract.

The Contractor shall be responsible for any liability which may be excluded from the Insurance Policies above referred to and also for all other damages to any person, animal or property arising out of and incidental to the negligent or defective carrying out of this Contract. He shall also indemnify the Employer in respect of any costs, charges or expenses arising out of any claim or proceedings and also in respect of any award of compensation or damages, arising therefrom.

The Employer shall be entitled to deduct the amount of any damage, compensation, costs, charges and expenses arising or accruing from or in respect of any such claims or damage from any or all sums due or to become due to the Contractor, without prejudice to the Employer's other rights in respect thereof.

Fire Insurance

32.(a) The Contractor shall insure the works at his cost and keep them insured until the virtual completion of the work, against loss or damage by fire with in the joint names of the Employer and Contractor (the name of the former being placed first in the Policy), for the full amount of the contract and for any further sum if called upon to do so by the Employer, the premium of such further sum, being allowed to the Contractor as an authorized extra. Such policy shall cover the property of the Employer only and the Employer's and Surveyors' fees for assessing the claim and in connection with his services generally in the reinstatement and shall not cover any property of the Contractor or of any Sub-Contractor or employee. The Contractor shall deposit the Policy and receipts for the premia as specified unless otherwise instructed by the Employer. In default of the Contractor insuring as provided above, the Employer on his behalf, may so insure the works and may deduct the premia paid from any moneys due or which may become due to the Contractor without prejudice to the other rights of the Employer in respect of such default. In case it becomes necessary to suspend the works, the Contractor shall, as soon as the claim under the Policy is settled, or the work reinstated by the Insurance Office, should they elect to do so, proceed with all due diligence with the completion of the works in the same manner as though the fire had not occurred and in all respects under the same Conditions of Contract. The Contractor in case of rebuilding or reinstatement after fire, shall be entitled to such extension of time for completion as the Employer deems fit.

(b) The amount so due as aforesaid shall be the total value of the works duly executed and

of the Contract materials and goods delivered upon the site for use in works upto and including a date not more than seven days prior to the date of the said Certificate less the amount to be retained by the Employer (as hereinafter provided) and less any instalments previously paid under this Clause. Provided that such certificate shall only include the value of the said materials and goods as and from time to time as they are reasonably, properly and not prematurely brought upon the site and then only if properly stored and/or protected against weather.

Date of Commencement and Completion

33.The Contractor shall be allowed admittance to the site on the “Date of Commencement” stated in the Appendix hereto or such later date as may be specified by the Employer and he shall thereupon and forthwith being the works and shall regularly proceed with and complete the same (except such painting or other decorative work as the Employer may desire to delay) on or before the “Date of Completion” stated in the Appendix subject nevertheless to the provisions for extension of time hereinafter contained.

Damages for Non-completion

34.If the Contractor fails to complete the works by the date stated in the Appendix Here in before, Referred to or within any extended time under Clause 37 hereof and the Employer certifies in writing that in his opinion the same ought reasonably to have been completed, the Contractor shall pay the Employer the sum named in the Appendix as “Liquidated Damages” for the period during which the said works shall so remain incomplete and the Employer may deduct such damages from any moneys due to the Contractor.

Delay and Extension of Time

35.If in the opinion of the Employer, the works be delayed (a) by force majeure or (b) by reason of any exceptionally inclement weather or (c) by reason of proceedings taken or threatened by or dispute with adjoining or neighboring owners or public authorities arising otherwise than through the Contractor’s own default or (d) by the works or delays of other Contractors or Tradesmen engaged or nominated by the Employer and not referred to in the Schedule of Quantities, and/or Specification or (e) by reason of Employer’s instructions as per Clause 2 hereof or (f) by reason of civil commotion, local combination of workmen or strike or lock-out affecting any of the building trades or (g) in consequence of the Contractor not having received in due time, necessary instructions from the Employer for which he shall have specifically applied in writing or (h) from other causes which the Employer may certify as beyond the control of Contractor or (i) in the event the value of the work exceeds the value of the Priced Schedule of Quantities owing to variation, make a fair and reasonable extension of time for completion of the Contract works,, in case of such strike or lock-out the Contractor shall nevertheless constantly use his endeavors to prevent delay and shall do all that may reasonably be required to the satisfaction of the Employer to proceed with work.

Failure by Contractor to comply with Employer’s instructions

36.If the Contractor after receipt of written notice from the Employer requiring compliance within ten days fails to comply with such further drawings and the Employer may employ and pay other persons to execute any such work whatsoever that may be necessary to give effect thereto, and all costs incurred in connection therewith shall be recoverable from the Contractor by the Employer or may be deducted by him from any moneys due to the Contractor.

Termination of Contract by the Employer

37.If the Contractor being an individual or a firm commits any “act of insolvency”, or shall be adjudged an insolvent or being an Incorporated Company shall have an order for compulsory winding up made against it or pass an effective resolution for winding up voluntarily or subject to the supervision of the Court and the Official Assignee of the Liquidator, in such acts of insolvency or winding up, as the case may be, shall be unable, within seven days after notice to him requiring him to do so, to show the reasonable satisfaction of the Employer that he is able to carry out and fulfil the Contract and to give security therefor, if so required by the Employer.

Or if the Contractor (whether an individual, firm or Incorporated Company) shall suffer execution or other process of Court attaching property to be issued against the Contractor,

Or shall suffer any payment under this Contract to be attached by or on behalf of any of the creditors of the Contractor,

Or shall assign or sublet this Contract without the consent in writing of the Employer first had obtained,

Or shall charge or encumber this Contract or any payments due or which may become due to the Contractor hereunder,

Or if the Employer determine that the Contractor

(i) has abandoned the Contract, or

(ii) has failed to commence the works, or has without any lawful excuse under those Conditions suspended the progress of the works for 14 days after receiving from the Employer notice to proceed, or

(iii) has failed to proceed with the works with such due diligence and failed to make such due progress as would enable the works to be completed within the time agreed upon, or

(iv) has failed to remove materials from the site or to pull down, and replace work for seven days after receiving written notice that the said materials or work were condemned and rejected by the Employer under these Conditions or

(v) has neglected or failed persistently to observe and perform all or any of the acts, matters or things by this Contract to be observed and performed by the Contractor for seven days after written notice shall have been given to the Contractor requiring the Contractor to observe or perform the same.

Then and in any of the said cases, the Employer may notwithstanding any previous waiver, after giving seven days’ notice in writing to the Contractor, determine the Contract

and liabilities of the Contractor, the whole of which shall continue in force fully as if the Contract had not been so determined, and as if the works subsequently executed had been executed by or on behalf of the Contractor and further, the Employer by his agents or servants may enter upon and take possession of the works and all plant, tools, scaffoldings, machinery and materials lying upon the premises or the adjoining lands or roads, and use the same as his own property or may employ the same by means of his servants and workmen in carrying on and completing the works or by employing any other Contractor or other person or persons to complete the works, and the Contractor or other person or persons employed for completing and finishing or using the materials and plant for the works. When the works shall be completed or as soon thereafter as convenient, the Employer shall give a notice in writing to the Contractor to remove his surplus materials and plant, and should the Contractor fail to do so within a period of twenty days after receipt thereof by him, the Employer may sell the same by public auction, and give credit to the Contractor for the net amount realized. The Employer shall thereafter ascertain in writing under his hand what (if anything) shall be due or payable to, or by the Employer, for the value of the said plant and materials so taken possession of by the Employer and the expense or loss which

the Employer shall have been put to in procuring the works to be completed, and the amount, if any, owing to the Contractor and the amount which shall thereupon be paid by the Employer to the Contractor or by the Contractor to the Employer, as the case may be, and the decision of the Employer shall be final and conclusive between the parties.

Termination of Contract by Contractor

38.If payment of the amount payable by the Employer shall be in arrears and unpaid for thirty days after notice in writing requiring payment of the amount as aforesaid shall have been given by the Contractor to the Employer or if the Employer shall repudiate the Contract, or if the works be stopped for three months under the order of the Employer or by any injunction or other order of any Court of Law, then and in any of the said cases, the Contractor shall be at liberty to determine the Contract by notice in writing to the Employer and he shall be entitled to recover from the Employer, payment for all works executed and for any loss he may sustain upon any plant or materials supplied or purchased or prepared for the purpose of the Contract.

In arriving at the amount of such payment, the net rates contained in the Contractor's original Tender shall be followed, or where the same may not apply, valuation shall be made in accordance with Clause 17 hereof.

Certificates and Payments

39.The Contractor shall be paid by the Employer from time to time by instalments under Interim Certificate to the Contractor on account of the works executed, work to the approximate value named in the Appendix as "Value of work for Interim Certificates" (or less at the reasonable discretion of the Employer) has been executed in accordance with this Contract, after which time the instalments shall be up to the full value of work, subsequently so executed and fixed in the building. The Employer may, at his discretion, include in the Interim Certificate such amount as he may consider proper on account of materials delivered upon the site by the Contractor for use in the works. And when the works have been virtually completed and the Employer shall have certified in writing that they have been completed, the Contractor shall be entitled to the payment of the Final Balance in accordance with the Final certificate to be issued in writing by the Employer at the expiration of the period referred to as "the Defects Liability Period" in the Appendix hereto from the date of Virtual Completion or as soon after the expiration of such period as the works shall have been finally completed and defects made good according to the true intent and meaning hereof, whichever shall last happen, provided always that the issue by the Employer of any certificate during the progress of the works at or after their completion shall not relieve the Contractor from his liability under Clause 2 and 29 nor relieve the Contractor of his inability in cases of fraud, dishonesty or fraudulent concealment relating to the works or materials or to any matter dealt within the Certificate, and in case of all defects and insufficiencies in the works or materials, which a reasonable examination would not have disclosed. No Certificate shall of itself be conclusive evidence that any works or materials, to which it relates, are in accordance with the Contract neither will the Contractor have a claim for any amounts which the Employer might have certified in any interim bill and paid by the Employer and which might subsequently be discovered as not payable and in this respect the Employer's decision shall be final and binding.

The Employer shall have power to withhold any Certificate if the works or any parts thereof are not being carried out to his satisfaction.

The Employer may by any Certificate make any correction in any previous certificate which shall have been issued by him.

No certificate or payment shall be issued if the Contractor fails to insure the works and keep

them insured till the issue of the Virtual Completion Certificate.

Payments shall be made within the period named in the Appendix as "Period for honoring Certificates" after such Certificates have been delivered to the Employer.

Delayed Payment

40. Any amounts payable by the Employer to the Contractor if not paid within the "Period for honoring Certificates" named in the Appendix, carry interest at the rate named in the Appendix as the "Rate of interest for delayed payment" from the date upon which such sum ought to have been paid by the Employer until the payment.

Matters to be finally determined by Employer

41. The Employer decision, opinion, direction, Certificate (except for payment), with respect to all or any of the matter under Clauses 2(a), 2(b), 4,7,12,19,28 (a,b,c,d,f) hereof (which matters are herein referred to as the excepted matters) shall be final and conclusive and binding on the parties hereto and shall be without appeal. Any other decision, opinion, direction, Certificate or valuation of the Employer or any refusal of the Employer to give any of the same shall be subject to the right of arbitration and review under Clause 44 hereof in the same way in all respects (including the provision as to opening the reference) as if it were a decision of the Employer.

Settlement of dispute by arbitration

42. In case of any dispute or difference arising out of or in connection with or in carrying out of the work (whether during the progress of the work or after completion and whether before or after the determination, abandonment or breach of contract) except as to any of the excepted matters provided hereunder the parties hereto, shall first endeavor to settle such disputes or differences amicably. If both the parties fail to reach such amicable settlement, all the disputes or differences shall be finally settled by arbitrators as provided herein.

In case of failure of such amicable settlement by the parties, then either party may within 28 days of such a failure give a written notice to the other party requiring that all matters in dispute or difference be arbitrated upon. Such written notice shall specify the matters which are in dispute or differences of which such written notice has been given and no other matter shall be referred to the arbitration of a single arbitrator to be appointed by both the parties or in case of disagreement as to the appointment of a single arbitrator, the appointment of two arbitrators (one to be appointed by each party) and an umpire to be appointed by the arbitrators. The provisions of Arbitration and Conciliation Act, 1996 or any statutory modification or re-enactment thereof and rules framed thereunder from time to time shall apply to such arbitrations.

In the event of the Arbitrator or any one of the Arbitrators, as the case may be, dying, neglecting, refusing to act or resigning or being unable to act for any reason or the award being set-aside by the Court for any reason it shall be lawful for the parties to appoint another Arbitrator in the manner provided herein above.

The venue of arbitration shall be KOCHI, INDIA.

The Arbitrator or Arbitrators appointed under this Schedule shall hold the arbitration proceeding jointly and shall have the power to extend the time to make the award with the consent of the parties.

Pending reference to arbitration and award thereon, the parties shall make all endeavor to complete the work in all respects as herein contracted and all disputes, if any, will finally be

settled in the arbitration.

Upon every or any such references to the arbitration, as provided herein the cost of and incidental to the reference and award respectively shall be, at the discretion of the Arbitrator or Arbitrators or the Umpire, as the case may be, who may determine the amount thereof.

The Arbitrator, Arbitrators or Umpire, as the case may be, shall give reasoned award in respect of each item of dispute which shall be final and binding on both the parties. It is agreed that the Contractor shall not delay the carrying out of the work by reason of any such matter, question or dispute being referred to arbitration, but shall proceed with the work with all due diligence and shall, until the decision of the Arbitrators, as the case may be, is given, abide by the terms and conditions of the contract herein, as also instructions with regard to the actual carrying out of the work herein contracted and no award shall relieve the Contractor of his obligations to adhere strictly to the terms and conditions of the contract herein as also instructions with regard to the actual carrying out of the work. The Bank and the Contractor hereby also agree that arbitration under this schedule shall be a condition precedent to any right of action, under the Contract.

In case during the arbitration proceedings, the parties mutually settle, compromise or compound their dispute or difference, the reference to arbitration and the appointment of the Arbitrator or Arbitrators, or Umpire, as the case may be, shall be deemed to have been revoked and the arbitration proceedings shall stand withdrawn or terminated with effect from the date on which the parties file a joint memorandum of settlement thereof with the Arbitrator or Arbitrators or the Umpire, as the case may be.

For the purpose of this clause, the expression "excepted matters" shall mean and refer to all or any of the matters under Scope of work, Contract price, Delivery Schedule & Final Acceptance certificate.

Right of technical scrutiny of final bill

43.The Employer shall have a right to cause a technical examination of the works and the final bill of the Contractor including all supporting vouchers, abstracts etc. to be made at the time of payment of the final bill. If as a result of this examination or otherwise, any sum is found to have been overpaid or over-certified, it shall be lawful for the Employer to recover the sum.

Employer entitled to recover compensation paid to workmen

44.If, for any reason, the Employer is obliged, by virtue of the provision of the Workmen's Compensation Act,1923, or any statutory modifications or re-enactment thereof to pay compensation to a workman employed by the Contractor in execution of the works, the Employer shall be entitled to recover from the Contractor the amount of compensation so paid, and without prejudice to rights of the Employer under the said Act. The Employer shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by the Employer to the Contractor under this Contract or otherwise. The Employer shall not be bound to contest any claim made against it under the said Act, except on the written request of the Contractor and upon his giving to the Employer full security to the satisfaction of the Employer for all costs for which the Employer might become liable in consequence of contesting such claim.

Abandonment of Works

45.At any time after acceptance of the tender, the Employer shall, for any reasons whatsoever, not require the whole or any part of the works to be carried out, the Employer shall give notice in writing to the Contractor who shall have no claim to any payment of compensation or otherwise whatsoever on account of any profit or advantage which he might have derived from the execution

of the whole works.

Return of surplus materials

46. Notwithstanding anything contained to the contrary in any or all the Clauses of this Contract, where any material for the execution of the Contract is procured with the assistance of the Employer by purchases made under orders or permits or licenses issued by Government, the Contractor shall hold the said materials economically and solely for the purpose of the Contract and not dispose of them without the prior written permission of the Employer and return it to the Employer, if required by the Employer, at the price to be determined by the Employer having due regard to the condition of the materials, the price to be determined not to exceed the purchase price thereof inclusive of sales tax, octroi and other such levies paid by the Contractor in respect thereof. In the event of breach of the aforesaid condition, the Contractor shall, in addition to being liable to action for contravention of the terms of licenses or permits and/or criminal breach of trust, be liable to the Employer for all moneys, advantages or profits resulting, or which in the usual courses would have resulted to him, by reason of such breach.

Right of Employer to terminate Contract in the event of death of Contractor. if individual

47. Without prejudice to any of the rights or remedies under this Contract, if the Contractor, being an individual, dies, the Employer shall have the option of terminating the Contract without incurring any liability for such termination.

Accident Reports

48. In the event of accidents of any kind, the Contractor shall furnish the Client with copies of all accident reports, the reports shall be sent without delay and at the same time that they are forwarded to any other parties.

Marginal Notes

49. The notes in the box and in the catch lines hereto and in the Annex's hereto are meant only for convenience of reference and shall not in any way be taken into account in the interpretation of these presents and the Annex's hereto.

SPECIAL CONDITIONS

Progress of Work

50. Upon award, the Contractor shall reconfirm, in writing, the starting and completion schedule including equipment delivery dates based upon the information submitted on its tender form.

Section (V)- Articles of Agreement

ARTICLES OF AGREEMENT made the _____ day of _____ between the Reserve Bank of India, Kochi having its Central Office at Mumbai (hereinafter called "the Employer") of the one part and _____ (hereinafter called "the Contractor") of another part.

WHEREAS the Employer is desirous of installing 2x5 KWp Solar Power Plant in the Bank's Staff Quarters at Kochi and has caused drawings and specifications describing the work to be done to be prepared by M/s _____. AND WHEREAS the said drawings numbered _____ to _____ inclusive, the Specifications and the Schedule of Quantities have been signed by on behalf of the parties hereto.

AND WHEREAS the Contractor has agreed to execute upon and subject to the conditions set forth herein and to the conditions set forth in the Special Conditions and in the Schedule of Quantities and Conditions of Contract (all of which are collectively hereinafter referred to as "the said Conditions") the works shown upon the said drawings and/or described in the said Specifications and included in the Schedule of Quantities at the respective rates therein set forth amounting to the sum as therein arrived at or such other sum as shall become payable there under (hereinafter referred to as "said Contract Amount").

NOW IT IS HEREBY AGREED AS FOLLOWS

In consideration of the said Contract Amount to be paid at the times and in the manner set forth in the Said Conditions, the Contractor shall upon and subject to the Said Conditions execute and complete the work shown upon the said Drawings and described in the Said Specifications and the Schedule of Quantities.

The Employer shall pay the Contractor the said Contract Amount or such other sum as shall become payable at the times and in the manner specified in the said Conditions.

The Said Conditions and Appendix thereto and any correspondence exchanged between the Bank and the firm from the date of opening Part I of the tender till the date of letter of acceptance of their tender shall be read and construed as forming part of this Agreement and the parties hereto shall respectively abide by, submit themselves to the said Conditions and perform the agreements on their part respectively in the said Conditions contained.

The plans, agreement and documents mentioned herein shall form the basis of this Contract.

This contract is neither a fixed lump sum contract nor a piece work contract but is a contract to carry out the work in respect of provision of the 2x5 KWp On Grid Solar Plants, subject only to the Price Variation Clause as specified elsewhere, to be paid for at the rates/amounts contained in the Schedule of Rates and Probable Quantities or as provided in the Said Conditions.

The Contractor shall afford every reasonable facility for carrying out of all works relating to civil works, electrical installations and fittings, telephone, air conditioning and other ancillary works in the manner laid down in the said Conditions and shall make good any damages done to walls, floors etc. after the completion of such works.

Time shall be considered as the essence of this contract and the Contractor hereby agrees to commence the work soon after the site is handed over to him or from tenth day of date of issue of formal work order as provided for in the said Conditions, whichever is later, and to complete

the entire work within 10 weeks subject nevertheless to the provisions for extension of time.

All payments by the Employer under this Contract will be made only at KOCHI.

All disputes arising out of or in any way connected with this Agreement shall be deemed to have arisen at KOCHI and only Courts in KOCHI shall have jurisdiction to determine the same.

That the several parts of this Contract have been read and fully understood by the Contractor.

IN WITNESS THEREOF the Employer has set its hand to these presents through its duly authorized official and the Contractor has caused its common seal to be affixed hereunto and the said two duplicates / has caused these presents and the said two duplicates hereof to be executed on its behalf, the day and year first hereinabove written.

Signature clause

SIGNED AND DELIVERED by the
Reserve Bank of India by the hand of
Shri _____

(Name and designation)

in the presence of

(1) _____

Address _____

(2) _____

Address _____

(Witnesses)

The COMMON SEAL OF _____
Was hereunto affixed pursuant to the resolutions
passed by its Board of Directors at the meeting
held on _____ in the presence of

(1) _____

(2) _____

Directors, who have signed these presents in
token thereof in the presence of

(1) _____

(2) _____

If the Contractor signs under
common seal, the signature clause
should tally with the sealing clause in
the Articles of Association.

SIGNED AND DELIVERED BY the Contractor by
the hand of Shri _____
and duly constituted attorney.

If the Contractor is signing by the
hand of power of attorney, whether a
company or an individual.

Section (VI) - Appendix Hereinbefore Referred To

| | | |
|----|-----------------------------------|---|
| 1. | Defects Liability Period | 36 Months from the date of handing over of the system referred to in Clause 28 of the section IV " Conditions Hereinafter Referred To ". |
| 2. | Period of Final Measurement | 3 months |
| 3. | Date of Commencement | 10 th day from the date of letter of acceptance. |
| 4. | Date of Completion | Date of Virtual Completion certificate. |
| 5. | Liquidated damages at the rate of | 0.25% of the contract value per week subject to a maximum of 10% of the contract value of the delayed period |
| 6. | Period for honoring certificates | One month for interim bills and 3 months for final bill. |
| 7. | Interest for delayed payment | 3% per annum |

Contractor

Employer

Section (VII) – Technical Specifications & Schedule of Work

Section - VII

Technical Specifications

1. Scope of Work

The extent of the work shown and specified hereunder is defined to include all labour, materials, equipment, and supervision required for the design, fabrication, supply, installation, testing and commissioning of the complete solar power generation system with grid connectivity and metering facility. The subsequent upkeep and maintenance as defined is also the responsibility of the contractor.

Generation of 2x5 KWp of power in Solar based, conversion of the same to AC power with a **guaranteed annual generation of 7500 KWH** per year per system with a tolerance of 10% of total annual generation (considering the weather conditions in KOCHI) during the first five years of operation at supply provider's power grid synchronization point including:

- a) Design, Manufacturing, Factory Acceptance Test (FAT), supply, installation, testing and commissioning of Solar PV Modules (inclusive of Electrical, Electronic and Mechanical features) along with Three Phase Power Conditioning Units (PCUs), as required and specified.
- b) Supply and installation of Module mounting structure / super structure on identified locations. The successful tenderer shall design their SPV Panel structure with Hot dipped galvanized steel and cement concrete (CC) foundation suitable for site condition. Design of SPV structure shall be certified /vetted by a recognized Govt. Engineering College viz. IIT / NIT etc. or by a reputed structural consultant and submitted for approval before taking up the structure and foundation works. The mounting structure shall be painted with one coat of epoxy primer and two coats of enamel paint.
- c) Supply, installation, testing and commissioning of three phase Power Conditioning Units (PCU),(inverter plus local grid synchronizing system), distribution panels, electrical switchgears, inverters, metering and connecting the system to the switch gear(MCB/Distribution Board) for load and connecting up the system to the electrical grid surge protection units etc. as required.
- d) Supply and laying of all power and control cables on cable trays including supply of cable trays, their installation, hangers, supports, cable terminations and all fixing accessories.
- e) **Earthing:** GI Pipe Earthing with necessary size and length (as per the site conditions) of earth flat shall be provided with testing point for every pits as per relevant/latest IS, including cutting of roads / paved areas & making good the damages as in original shape. G+8 storey building and the earthing shall be done as per standard.
- f) Testing and commissioning of the entire system including synchronizing with power grid and connecting to a desired electrical consumer number with a bi-directional energy meter. The installation shall include the electrical switchgears, cabling, terminations, and cable trays, inverters, metering and connecting the system to the electrical grid with a bi-directional energy meter.
- g) The PV modules shall be installed with the necessary tilt with the most effective orientation.
- h) All related & required civil works will be the responsibility of successful tenderer.
- i) Solar System capacity shall be demonstrated to the Bank's Engineer.
- j) Onsite training to RBI Engineers and Workmen for proper operation, maintenance and trouble shooting.
- k) Provision for periodic cleaning of the solar panels considering the ambient conditions of the site.

Water connection at the same floor at one point shall be provided by Bank.

- l) Provision of necessary switchgear in the LT distribution panel for connecting the solar energy-based AC power to the Power grid.
- **The date of handing over of the systems to the Bank after commissioning by raw power supplier's terms and conditions shall be taken for initiation of DLP and CAMC period.**
- **The combined peak rated wattage of the laid solar panels of the system shall be not less than 5,500Wp for each system.**

Service to be provided by the Bank:

Unless otherwise agreed by RBI, only the following services shall be provided in connection with this work:

- a) Single point water source for cleaning of SPV panels near to the solar system. Further plumbing for distribution of water to various array locations, if required, to be provided by the contractor.

MINIMAL TECHNICAL REQUIREMENTS / STANDARDS FOR SPV ITEMS /SYSTEMS

2. PV MODULES:

The PV modules must conform to the latest edition of any of the following IEC/ equivalent BIS Standards for PV module design qualification and type approval: Crystalline Silicon Terrestrial PV Modules: IS 14286: 2010/IEC 61215: 2005 or equivalent

In addition, the modules must conform to IEC 61730 Part 1- requirements for construction & Part 2 - requirements for testing, for safety qualification or Equivalent

PV modules shall be suitable to be used in a highly corrosive atmosphere (coastal areas, etc.) must qualify Salt Mist Corrosion Testing as per IEC 61701 / IS61701 or equivalent.

3. RELEVANT STANDARD OF SYSTEM/ COMPONENTS/ITEMS

7.2.1 The system/ components/ items of the SPV power systems/ systems deployed must conform to the latest edition of IEC/ Equivalent BIS Standards/ MNRE specifications / as specified below:

| system/ components/ items | Applicable BIS /Equivalent IEC Standard Or MNRE Specifications | |
|--|---|---|
| Power Conditioners/ Inverters including (Maximum peak power transfer) MPPT and Protections | Environmental Testing | IEC 60068-2 (1,2,14,30) / Equivalent BIS Std. |
| | Efficiency Measurements | IEC 61683 / IS 61683 or equivalent |
| | procedure of islanding prevention Measures | IEC 62116 or equivalent |
| | Electrical Safety Standards | IEC20068-2 or equivalent |
| PV Modules | Ageing of PV Modules | IEC 61215-Ed 2 & 61730-1&2 / UL certified and with MNRE (GOI)- SEC test certificate or from other accredited / approved labs |
| | Salt Mist Corrosion | IEC 61701:2011 / IS61701 or equivalent |

| | | |
|--|---|--|
| Cables | General Test and Measuring Method of PVC insulated cables | IEC 60227 / IS 694 Or Equivalent BIS Std |
| Switches/Circuit Breakers /Connectors | General Requirements connectors | IEC 60947 part I, II, III / IS 60947 Part I,II,III/ EN 50521 or MNRE approved equivalent |
| Junction Boxes /Enclosures for Inverters/Charge Controllers/Luminaries | General Requirements | IP 65 (for outdoor)/ IP 55 (for indoor) or MNRE approved equivalent |
| Bi-Directional Energy Meter | General Requirements | IS 13779 (1999) & IEC 62053 or MNRE approved equivalent |

4 AUTHORISED TESTING LABORATORIES / CENTERS

7.4.1 The PV modules must be tested and approved by one of the IEC authorized test centres. Test certificates can be issued by any of the NABL / BIS Accredited Testing / Calibration Laboratories.

7.4.2 Test certificates for the system/ components/ items from any of the NABL / BIS Accredited Testing Calibration Laboratories / MNRE approved test centres to be submitted to the Bank.

5 IDENTIFICATION AND TRACEABILITY

Each PV module used in the solar power project must use a RF identification tag (RFID), which must contain the following information. The RFID can be inside or outside the module Laminate but must be able to withstand harsh environmental conditions.

- i) Name of the manufacturer of PV Module
- ii) Name of the Manufacturer of Solar cells of PV Module
- iii) Month and year of the manufacture (separately for solar cells and module).
- iv) I-V curve for the module
- v) Peak Wattage, I_m , V_m and field factor (FF) for the module
- vi) Country of origin (separately for solar cells and module)
- vii) Unique Serial No. and Model No. of the module
- viii) Name of the test lab issuing IEC certificate

6. The contractor shall execute the whole & every part of the work in the most substantial manner and both as regard to materials and otherwise in every respect in strict accordance with the specifications. The contractor shall also confirm the execution of work exactly, fully and faithfully to designs, drawings & instructions in writing in respect of the work assigned by the Bank's Engineer.

7. Drawings indicating the design of Solar Power Generation System proposed along with designs for structures / foundations for SPV array duly certified / vetted by a recognized Govt. Eng. College etc. shall be submitted to the Bank's Engineer, for approval, within Seven (7) days of the receipt of detailed order. The drawings shall indicate all relevant details about the component/equipment etc. The contractor shall submit all equipment information, which should include but not limited to the following and obtain approval:

- General arrangement and dimensional layout
- Schematic Drawing showing the requirement of SPV System, Power conditioning Unit(s), Circuit breakers, Junction Boxes, AC and DC Distribution Boards, meters etc.
- Structural drawing along with foundation details for the structure.
- Itemized bill of material for complete SPV system covering all the components and associated accessories.

8. Testing of equipment/system: Type test certificates for all the tests specified for the factory built Solar PV modules and the component parts shall be submitted by the Bidder along with the bid.

9. Testing at site after completion of installation:

On completion of the installation, the tenderer shall conduct a system acceptance test. The tenderer shall propose a detail system acceptance test plan, which shall be jointly reviewed by RBI and the tenderer.

i. **Acceptance of system:** after completion of the system performance tests a joint acceptance inspection shall be carried out by Bank's Engineer and the representative of the contractor. The purpose of this inspection shall be to determine that the system has been furnished and installed as specified. If the system is not acceptable for reasons of non-compliance to the drawings and specifications, the contractor shall make immediate corrections within the construction schedule. A final acceptance inspection shall be done to determine all corrections have been made.

10. DETAILED SPECIFICATIONS

Solar PV system shall consist required number of PV modules, module mounting structures, MPPT/PCU with data logger, Junction box and distribution boards, cables and hardware, earthing, surge arrestors, tool kit, related civil works, and control & monitoring system etc. The specifications of these items are as under:

10.1 Solar PV Modules:

- 7 The solar photo-voltaic module of $\geq 330W$ power output under STC to be provided with high efficiency of more than 14% mono crystalline silicon solar cells. **The combined peak rated wattage of the laid solar panels of the system shall be not less than 5,500Wp for each system.**
- 8 The solar cell shall have surface anti-reflective coating to help to absorb more light in all weather conditions.
- 9 It should have rugged design to withstand tough environmental conditions and high wind speeds (over 150 km/h). It shall perform satisfactorily in relative humidity up to 95% and temperature between 10 deg C and 85 deg C.
- 10 PV modules must be designed for their output peak watt capacity, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years.
- 11 The PV module should be IEC 61215-Ed 2 & 61730-1&2 / UL certified and with MNRE (GOI)-SEC test certificate or from other accredited / approved labs. The I-V characteristics of all suitable modules as per specifications, to be used in the systems are required to be submitted at the time of supply.

10.2 Module Mounting Structures:

- i. The module mounting structure to be designed in such a way that it will occupy minimum space without sacrificing the output from suitable number of solar modules in series.
- ii. The structure shall be designed to allow easy replacement of any module & shall be in line with the site requirements.
- iii. The frames and leg assemblies of the mounting structure should be of standard M.S. sections of angle, channel, tubes and any other sections conforming to IS: 2062. These structures should be hot dip galvanized for the long life in external weather conditions.
- iv. The mounting structure should be of Fixed Type, Tilt angle suitable to site, Foundation PCC, Fixing type with SS 304 fastener with clamp fitted to provide rigidity to the structure.
- v. Galvanized Steel Structural must be considered for all type structural steel proposed for the power system.

- vi. The array structure shall be grounded properly using earthing kit.
- vii. Design drawings with material selected shall be submitted for prior approval of Bank.
- viii. The structural design shall be approved by the bank.

10.3 PCU / MPPT/INVERTER:

- 12 PCU / MPPT and 3 phase with neutral inverter shall be supplied as integrated unit depending upon the size of the solar power system. It should conform to IEC61683 and must additionally conform to the relevant national/ international Electrical Safety Standards IEC20068-2. To minimize power losses the PCU should be microprocessor & micro controller based having inverter, which converts DC energy produced by the solar array to **3 phase** with neutral AC energy.
- 13 The PCU shall be mounted either on a suitable MS stand on the floor or on the wall with proper supports in the control room. All cable entry to and from the PCU shall be fully sheathed to prevent access of rodents, termites or other insects into the PCU from bottom/top of the PCU.
- 14 PCU to be communicable on LAN protocol and should be provided with the following minimum Indications (through LEDs & LCD display)
- ┆ Inverter ON
 - ┆ Grid ON
 - ┆ Inverter under voltage/over voltage
 - ┆ Inverter over load
 - ┆ Inverter over temperature. Protections:
 - ┆ Over voltage both at input & output
 - ┆ Over current both at input & output
 - ┆ Over/under Grid frequency
 - ┆ Over temperature
 - ┆ Short circuit
 - ┆ Protection against lightening
 - ┆ Surge voltage induced at output due to external source.
- 15 The inverter shall be designed for continuous, reliable power supply as per specifications. The inverter shall have high conversion efficiency from 25 percent load to the full rated load. Output Sine wave with less than 3% THD from no load to full load at 0.8 pf lag or lead. The efficiency of the inverter shall be more than 94% at full load and more than 80% at partial load (50%-75%). The supplier shall specify the conversion efficiency in the offer.
- 16 The inverter should be capable of operating under ambient temperature 0- 55 deg C, Humidity 0- 95% RH
- 17 The inverter shall have internal protection arrangement against any sustained fault in the feeder. The inverter shall have provision for input & output isolation.
- g) Inverter shall be tested for islanding protection performance. When the mains power is off, the PCU should also get automatically off so that back-feeding to the grid is not possible.
 - h) The software and hardware **except PC**, required for interfacing the system are to be supplied for monitoring.
 - i) Maximum Power Point Tracker (MPPT) shall be integrated into the PCU to maximize energy drawn from the Solar PV array. Each solid-state electronic device shall have to be protected to ensure long life of the inverter as well as smooth functioning of the inverter.
 - j) The dimension, weight, foundation, makes details etc. of the PCU / Inverter shall be clearly indicated

in the detailed technical document. Good quality & reputed proven makes having minimum two years of trouble free successful functioning in similar solar PV system should be supplied.

- k) The PCU shall be capable of complete automatic operation, including wake-up, synchronization & shut down
- l) Built-in with data logging to remotely monitor system performance through external PC/network shall be provided (Network/PC shall be provided by Bank)

10.4 Junction box and distribution boards:

- 18 The junction boxes should be dust, vermin & waterproof & made of FRP/ABS plastic for outdoor use and IP 65 rated (for outdoor) / IP 21 (for indoor) and IEC 62208, for long-term use in PV systems. In addition, the direct connection between the strings and the spring clamp connectors should ensure a durable and safe installation.
- 19 The junction boxes shall have suitable cable entry points fitted with cable glands of appropriate sizes for both incoming & outgoing cables. Suitable markings shall be provided on the bus bar for easy identification & cable ferrules shall be fitted at the cable termination points for identification.

10.5 Cables and hardware:

- 20 Flexible cables of appropriate size and voltage rating of 620/1100V to be used in the system and shall conform to IS 694/1554 standards. The cable should have excellent resistance to heat, cold, water, oil, abrasion, UV radiation.
- 21 Sizes of cables between array interconnections, array to junction boxes, junction boxes to Inverter etc. shall be so selected to keep the voltage drop (power loss) of the entire solar system to the minimum. The cables (as per IS) should be insulated with a special grade PVC compound formulated for outdoor use.
- 22 Cable Routing/ Marking: All cable/wires are to be routed in a GI/ PVC cable tray and suitably tagged and marked with proper manner by good quality ferrule or by other means so that the cable easily identified.
- 23 The Cable should be so selected that it should be compatible up to the life of the solar PV panels i.e. 25years.

10.6 Instrumentation, measurement and monitoring:

Watt-hour meter (KWh measurement):

(1) Energy meter: An additional 0.2 accuracy digital energy meter shall be provided in the AC circuit connecting the PCU to the Grid with necessary isolating breakers. Digital Energy Meter to log the actual value of AC/ DC voltage, Current & Energy generated by the PV system provided.

Data Logs: Data Logging Provision for system monitoring, time and date stamped system data logs for analysis shall be made.

Temperature: Temperature probes for recording the Solar panel temperature and ambient temperature to be provided complete with readouts

Wind Speed: A wind speed measurement unit to be provided.

All major parameters available on the digital bus and logging facility for energy auditing shall be available on the PC display.

The following parameters should be accessible via the operating interface display.

- a. AC Voltage.
- b. AC Output current.
- c. Output Power
- d. DC Input Voltage.
- e. DC Input Current.

- f. Time Active
- g. Temperature
- h. Inverter Status.
- i. Data Log

10.7 System protections requirements: Protective function limits (Viz-AC Over voltage, AC Under voltage, over frequency, under frequency, ground fault, PV starting voltage, PV stopping voltage, over voltage delay, under voltage delay, Ground fault delay, PV starting delay, PV stopping delay)

10.8 In addition to above, the system shall be provided with the following:

- 1 **Earthing:** The structure of the PV arrays will be grounded properly using adequate number of earthing conductors. All metal casing / shielding of the system shall be thoroughly grounded to ensure safety of the solar systems. The building is a G+8 storey building and bare copper conductor shall be used for earthing as per standard.
- 2 **Lightning and O/V protection:** The SPV systems shall be provided with lightning & over voltage protection. The main aim in this protection shall be to reduce the over voltage to a tolerable value before it reaches the PV or other sub- system components. The source of over voltage can be lightning, atmosphere disturbances etc.
- 3 All wiring/cables should be in proper conduit or suitable casing and wires should not be hanging loose.
- 4 All connections are to be made through suitable cable/lug/terminals; crimped properly & with use of Cable Glands.
- 5 Switches / Circuit Breakers / Connectors-safety IS/ IEC 20947 part I, II & III, EN 50521
- 6 Fuses to be provided to protect against short circuit conditions.
- 7 Details of solar power system design and layout for all systems shall be submitted along with Technical bid (Part-I)
- 8) All the components of the systems viz PV modules, Electronics, etc. should have type approval / test certificates **as per MNRE guidelines**
- 9) All components and materials used in the system should be of good quality & conform to the BIS / IEC standards / specifications, wherever available / applicable.
- 10) Each system should have number plate with name & logo of the manufacturer and the month / year of installation.
- 11) Danger boards should be provided as and where necessary as per IE Act. /IE rules as amended up to date.

11. ENVIRONMENT/MAINTENANCE/ SAFETY DESIGN PARAMETERS

i) Environment

All components and materials are to be designed and selected for long service life under local environment conditions.

ii) Maintenance consideration

- a) Particular attention shall be given to keep components simple, rugged and easily accessible for routine maintenance and components replacement.
- b) Major assemblies and components such as, electrical components/controls shall be interchangeable and easily removable/replaceable without extensive dismantling of other assemblies of components.
- c) **All wiring shall be of a uniform colour coding and marking system throughout indicating wiring terminations** to permit rapid effective tracing and trouble shooting. Maintenance manual shall reflect said colour coding/markings.

iii) Safety considerations

All components shall be designed to have fail proof performance. In the event of an equipment failure or external influence such as improper operation, power failure or other adverse conditions affecting the proper function of the system or equipment, the said system or equipment **shall revert to a safe state.**

Date Signature of the contractor with company seal

Section VIII

List of Major equipment to be provided for 5 KWp Rooftop Solar Power Plant

(To be filled by the bidder and uploaded to the site)

| S.No | Item | Quantities | |
|-------------|--|---|--|
| 1 | SPV Modules | Total Quantities (nos) | |
| | | No. of Arrays | |
| | | Nos. of SPV modules in each array | |
| 2 | Power Conditioning Units (PCUs) (Centralized / string type) | Type | |
| | | Quantity | |
| 3. | DC Junction Boxes | | |
| 4. | AC Junction Boxes | | |
| 5 | Bi-Directional Energy meters | | |
| 6. | Other related items viz. control & power cables, cable trays, surge diverters, earthing etc. for the complete work as required & specified | All necessary related systems included (YES/NO) | |
| | | | |

Date Signature of the contractor with company seal

SCHEDULE OF TECHNICAL INFORMATION
(To be filled by the bidder and uploaded to the site)

| | | |
|-------|---|---|
| i) | Enclose a write up on the system design proposed for this project specifically indicating how the power generated from the solar energy will be synchronized with the local grid. | |
| ii) | Enclose a single line diagram (SLD) / schematic layout for the proposal indicating the ratings and quantity of major components viz. SPV Modules, nos. of arrays, AC & DC distributions, PCUs etc. | |
| iii) | Enclose the proposed layout of the SPV module array showing the spacing between arrays, walkway width etc. | |
| iv) | Confirm the minimum guaranteed annualized energy (KWH/year) that will be generated from solar energy source and available for internal use for 25 years. | Please fill up the format Enclosed under Annex. 1 |
| v) | Confirm the area required by the bidder for installation of SPV panels along with its structure, maintenance, walk ways to provide a generating capacity of 2×5 KWp as required in the tender. | Length in Meter _____ Width in Meter _____ Total area in sq.m _____ |
| vi) | Enclose drawing showing typical arrangement for mounting of SPV modules along with dimension and nature of foundation. | (plan, elevation and section to be enclosed) |
| vii) | Confirm the location of meters to be provided for continuous measurement of AC power generated. | |
| viii) | Please confirm the acceptance test procedures to be adopted during FAT for the SPV Modules. Also indicate the standard to be followed. | |
| ix) | Please confirm the acceptance test procedure to be adopted on completion of the work for the major components and the complete system at site. | |
| x) | Test certificate for SPV submitted as per clause 7.3 indicating the requirement indicated in clause 7.10.1. | |
| xi) | RFID facility available as per tender clause 7.4 of tender | |
| xii) | Maximum AC Output power | |

**SCHEDULE OF TECHNICAL DATA TO BE FINISHED BY THE CONTRACTOR FOR
EACH SYSTEM
(To be filled by the bidder and uploaded to the site)**

| | | |
|----------|--|--|
| A | SPV MODULE | |
| i. | Manufacture's Name & Address | |
| ii. | Type of Modules with cat. Reference | |
| iii. | Design of module at standard test condition | |
| | a) Peak power watt | |
| | b) Peak power voltage | |
| | c) Peak power current | |
| | d) Open circuit voltage | |
| iv. | No. of SPV Modules proposed to achieve minimum 5.5 KWp DC power | |
| v. | Short circuit current of PV module (Amp.) | |
| vi. | Open circuit voltage of PV Module (V) | |
| vii. | Max. power rating of one PV Module (KWp) (not less than (330Wp) | |
| viii. | Photo electrical conversion efficiency of SPV module (not less than 14%) | |
| ix. | Fill factor of the SPV module (> 0.70) | |
| x | Designated life of the SPV modules | |
| xi. | Overall dimensions (in mm) | |
| xii. | Weight | |
| Xiii | Frame materials | |
| xiv. | Reference of Standards / approval, if any | |
| xv. | Life of SPV Module (Years of Operation) | |
| B | PV ARRAY CAPACITY | |
| | Number of Module in series in each array | |
| | Peak power rating of one array | |
| | Number of array considered to achieve the specified output | |
| C | MODULE MOUNTING STRUCTURE | |
| i) | Type of structure and its materials used in frame and accessories | |
| ii) | Type of mounting structures (Fixed or any other type) | |
| iii) | Overall dimensions | |
| iv) | Type of mounting | |
| v) | Surface azimuth angle of PV Modules | |
| vi | Tilt angle (Slope) of PV module | |

| | | |
|-------|--|--------|
| vii. | Confirm structure & module frame shall be designed at wind speed 150 km/hr. | |
| D | POWER CONDITIONING UNITS (PCUs) | |
| i. | Manufacturer's name & address | |
| ii. | Type of PCU (Centralized or string type) | |
| iii. | Number of units proposed | |
| iv. | Rated capacity of each PCU | |
| v. | Input DC Voltage range | |
| vi. | Output voltage | |
| vii. | Frequency | |
| viii. | Minimum efficiency at full load | |
| ix. | Location (outdoor/indoor) | |
| x. | Output wave shape | |
| xi. | Dimensions in mm | |
| xii. | IP protection level | |
| xiii. | Type of cooling required | |
| xiv | Type of mounting | |
| xv. | Suitability for specified Ambient Temp. range & Humidity at _____ | |
| xvi. | Type of Protection provided | |
| xvii | Over Load Condition | Yes/No |
| xviii | Short Circuit Protection | Yes/No |
| xix | Low/High Voltage Protection | Yes/No |
| xx | Power Electronic Component Protection Yes/No | Yes/No |
| E. | METERING | |
| i. | Nos. of meters proposed to be provided (minimum no of meters as per Bank's requirement is two) | |
| ii | Make and details of Meters | |
| ii. | Location of meters | |
| iii. | Manufacturer's name & address | |
| iv | Confirm compliance with laid down specification | |

Signature of the contractor with Seal

Date:

Section (IX) - Check List

Design, Supply, Installation, Testing and Commissioning of 2×5 KWp Grid Interactive SPV Based Solar Power System with net metering facility at Reserve Bank of India, Staff Quarters KOCHI

Commercial Conditions

| Sr. No. | Description | Bank's Terms | Acceptance of Bank's terms (YES/NO) |
|----------------|--|--|--|
| 1 | Validity | 90 days from the date of opening of Part – I | |
| 2 | EMD | Rs. 12,200/- | |
| 3 | Terms of payment for equipment | As per Section II, para 22, of the tender | |
| | Terms of payment for AMC | Half Yearly payment after satisfactory completion of service. | |
| 4 | Technical specifications | As per Sections mentioned in tender | |
| 6 | Terms, Conditions and payment during AMC | Confirm that the terms, conditions and payment for the AMC and conditions for renewal of AMC as per the tender provision are acceptable. | |
| 7 | Warranty Period | 36 months from date of handing over of the entire work. | |
| 8 | Service after sales & CAMC | Free of cost during the warranty period & CAMC including replacement of any material/ assembly/equipment/software if found necessary. | |
| 9 | Completion period | 10 weeks from 10th day of letter of award of work as per detailed completion program indicated in Section II, clause 19 | |
| 10 | Liquidated damages | 1/4 % of the contract amount per week of delay subject to a maximum of 10% of the contract value of the delayed period | |
| 11 | Penalty for delay in providing service | As per Section II, clause 21 | |
| 12 | Service facility | Shall be available at Kochi and approachable on telephone, mail and mobile. | |
| 13 | Committed period for system maintenance | At least 12 years after Three-year defect liability period | |

Part II should not contain any terms and conditions but only priced bill of quantity. Terms and conditions, if any, incorporated in Part II, will not be valid or considered.

Place
Date

Signature of Contractor
Name Designation Seal of the firm

Section (IX)

PART-II – UN PRICED BILL OF QUANTITY

Design, Supply, Installation, Testing and Commissioning of 2x5 KWp Grid Interactive SPV Based Solar Power System with net-metering facility at Reserve Bank of India, Staff Quarters KOCHI

| SI No | Description of the Item | Qty | Unit |
|--|---|------------|------------------|
| 1. | Design, supply, Installation, Testing & Commissioning of minimum 5.5 KWp grid interactive SPV based Solar Power System. The system shall have guaranteed annualized AC energy output of 7500 Kilo watt hour (Kwh) per year with a tolerance of 10% of total annual generation (Considering the weather conditions in KOCHI) during the first five years of operation. The rate shall include for all the material required including required quantities of SPV modules formed into arrays, their mounting arrangement, power conditioning units, required DC & AC distribution panels with surge protection units, earth stations with strip/cabling for connecting to the plant, data loggers arrangement for system performance monitoring through licensed software, metering, safety arrangements, civil works, training etc. as defined in Part I of the tender to provide a composite operational system. The rate shall include for all the taxes, duties, levies, insurance, transportation etc. AC side cabling as per standard from PCU in roof top to the ground floor meter is also included in the scope of work. | 2 | Per Job |
| 2. | Feasibility study, testing, application, liaising procedure and commissioning charges or any other charges by raw power supply provider for grid connectivity and other charges pertaining to govt. departments/bodies including the supply, installation and commissioning of Bi-directional energy meter (Provision of Net metering) as per the raw power suppliers' terms & conditions and as per requirement. Ensuring the grid connectivity is included in the scope of contract. | 2 | Per Job |
| | | | Total |
| | | | Rate in Words |
| Annual Maintenance Contract Charges | | | |
| 1. | Comprehensive annual maintenance charges for periodic maintenance/servicing of complete system (2 Nos of Systems) installed for cleaning of PV cells, PCU etc. including providing all spare parts/ tools/ consumables for servicing as required as per good engineering practice, recommendation(s) of the respective equipment manufacturer(s) and instructions of engineer-in-charge as per the scope of work in Part I of the tender. The rate shall be applicable after Three-year defect liability period/warranty of both units. The rate shall include for all the taxes, duties, levies, insurance, transportation etc. at existing GST rate per annum for both System. | | Per Annum |
| | | | Rate in Words |

Place:

Date:

Seal & Signature of

Tenderer

ANNEXURES TO VARIOUS SECTIONS AND SCHEDULES

Annex-1

NAME OF WORK: Design, Supply, Installation, Testing and Commissioning of 2×5 KWp Grid Interactive SPV Based Solar Power System with net-metering facility at Reserve Bank of India, Staff Quarters KOCHI.

GUARANTEED ENERGY GENERATION FOR 25 YEARS PER SYSTEM

Note: Efficiency of solar PV System shall be guaranteed to minimum 90% at the end of 10 years and 80% at the end of 25 years.

| Year | Total (KWh) of guaranteed generation |
|-------------|---|
| Year 1 | |
| Year 2 | |
| Year 3 | |
| Year 4 | |
| Year 5 | |
| Year 6 | |
| Year 7 | |
| Year 8 | |
| Year 9 | |
| Year 10 | |
| Year 11 | |
| Year 12 | |
| Year 13 | |
| Year 14 | |
| Year 15 | |
| Year 16 | |
| Year 17 | |
| Year 18 | |
| Year 19 | |
| Year 20 | |
| Year 21 | |
| Year 22 | |
| Year 23 | |
| Year 24 | |
| Year 25 | |

Date
seal

Signature of the Tenderer with company

DECLARATION OF COUNTRY OF ORIGIN

(To be furnished by the tenderer)

NAME OF WORK: Design, Supply, Installation, Testing and Commissioning of 2×5 KWp Grid Interactive SPV Based Solar Power System with net-metering facility at Reserve Bank of India, Staff Quarters KOCHI.

This is to certify that

a) The SPV Modules & PCU's offered are new:

b) The SPV Modules will be manufactured, assembled and offered for inspection before dispatch the works/factory of _____ (*address in India*)

Therefore, Country of Origin of SPV Modules shall be _____.

c) The Power Conditioning Units (PCUs) will be manufactured, assembled and offered for inspection before dispatch at the works / factory of (*address India*)

_. Hence the Country of Origin of PCUs shall be _____.

Date: _____

(*Name of the Company with address and Company Seal*)

Note: There could be different country of origin for SPV Modules & PCUs. Specific address shall be provided for carrying out pre-delivery inspection at the works of the manufacturer (If required).

**FORMAT FOR POWER OF ATTORNEY FOR AUTHORIZED
SIGNATORY**

(On Non-Judicial Stamp Paper of appropriate value)

To,

The General Manager (O-i-C)
Reserve Bank of India
Premises Section, KOCHI,

Dear Sir

NAME OF WORK Design, Supply, Installation, Testing and Commissioning of 2×5 KWp Grid Interactive SPV Based Solar Power System with net-metering facility at Reserve Bank of India, Staff Quarters KOCHI

We..... (Name of the Bidder and address of their registered office) do hereby constitute, appoint and authorize Mr. / Ms.

..... (Name and residential address of Power of Attorney holder) who is presently employed with us and holding the position of as our attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to our bid for the captioned Project, including signing and submission of all documents and providing information / responses to the Reserve Bank of India (RBI), representing us in all matters before RBI, and generally dealing with RBI in all matters in connection with our proposal for the said Project.

We hereby agree to ratify all acts, deeds and things lawfully done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by us.

Signature of Mr./ Ms.is attested below:

Signature/(s) of the Bidder

Name/(s) Stamp/Seal of the Bidder

Note: Power of Attorney should be properly stamped and notarized Power of Attorney furnished by Contractor shall be irrevocable.

UNDERTAKING

Regarding site visit by the tenderer in order to understand the work

To,

General Manager (OIC)
Reserve Bank of India
Premises Section, KOCHI

Dear Sir,

NAME OF WORK: "Design, Supply, Installation, Testing and Commissioning of 2×5 KWp Grid Interactive SPV Based Solar Power System with net-metering facility at Reserve Bank of India, Staff Quarters KOCHI."

We, _____, the tenderer for the above work confirms that we have visited the site (Staff Quarters) and understood the proper details of the existing system, working presently and also the scope of work for the proposed system. We are ready to remove and take away the existing system and further ready to provide Comprehensive Annual Maintenance Contract for the new system.

Date: (Name and address of the company with Company Seal)

Proforma of undertaking for maintenance confirmation by the bidder

To
The General Manager (O-i-C)
Reserve Bank of India
Premises Section, Kochi,
682018

Dear Sir,

Tender for Design, Supply, Installation, Testing and Commissioning of 2×5 KWp Grid Interactive SPV Based Solar Power System with net-metering facility at Reserve Bank of India, Staff Quarters KOCHI

We hereby undertake to maintain the 2×5 KWp Solar Plant System to be installed by us in your above Premises satisfactorily, for a period of not less than 12 years after expiry of the defect liability/warranty period of Three Years at the quoted rates towards all-inclusive annual maintenance contract and terms and conditions as per the contract conditions, subject only to the price revision on the basis of the relevant RBI indices based formula, as provided in the tender document.

In the unlikely event of M/s _____ the original equipment manufacturer, failing to provide support in terms of spares etc. due to technological obsolescence or for any reason, we shall continue to provide all-inclusive service to your satisfaction, by arranging required spares etc. ourselves, within the rate quoted by us for the all-inclusive maintenance contract for the period accepted as above.

Yours faithfully,

For _____

Authorized signatory

(Name and address of the company with Company Seal)

Date:

**Proforma of undertaking for maintenance confirmation by the Original
Equipment Manufacturer**

Undertaking

(Undertaking by manufacturer of SPV Modules and PCUs regarding the manufacture's obligation to extend uninterrupted after sales service to RBI)

NAME OF WORK: Design, Supply, Installation, Testing and Commissioning of 2×5 KWp Grid Interactive SPV Based Solar Power System with net-metering facility at Reserve Bank of India, Staff Quarters KOCHI.

We, the manufacturer of Solar Power System Component(s) undertake to provide continued after sales service including but not restricted to the following services.

- i) To guarantee uninterrupted supply of spare parts throughout the designed life of SPV modules and PCU's. The designed life of SPV modules and PCU's shall be as indicated elsewhere in the technical bid.
- ii) To assist RBI in investigation of failure/malfunctioning of any part or system as and when called for by RBI during and after defects liability period.
- iii) We shall propose with cost estimate, any modification / up gradation of safety features, design modification / improvements to be incorporated in the SPV modules and PCU's subsequent to completion of the contract and suggest a time schedule to implement the same to enhance performance, reliability / life of SPV modules and PCU's.
- iv) We hereby undertake to provide the above services and respond to RBI's queries/requests in reasonable time notified by RBI during the design life of the SPV modules and PCU's.
- v) Any breach of above undertaking will entail RBI to take any or all actions mentioned below as deemed fit by RBI.
 - a) To place on record the performance of firm either in the RBI Web Site or other publications.
 - b) Intimate the Regulatory Authorities / bodies or other Banks.
 - c) Restrict the firm's participation in further tendering in RBI.

Date: *(Name and address of the company with Company Seal)*

Note: This undertaking shall be furnished by the manufacturer of SPV Modules and PCUs. In case the manufacturers of these two items are different, separate undertakings must be furnished by the respective manufacturer.

Annexure-7

PROFORMA OF BANK GUARANTEE FOR EARNEST MONEY DEPOSIT/ BID SECURITY (On Non-Judicial Stamp Paper of appropriate value)

Place:

Date:

The General Manager (O-i-C)
Reserve Bank of India
Premises Section, Kochi,

Dear Sir,

**Name of Work: Design, Supply, Installation, Testing and Commissioning of
2×5 KWp Grid Interactive SPV Based Solar Power System with net-metering
facility at Reserve Bank of India, Staff Quarters KOCHI**

Ref.: NIT/Advt.No. date WHEREAS

The Reserve Bank of India, Kochi having its Central Office at Shahid Bhagat Singh Road, Mumbai (hereinafter called the 'RBI') has invited tenders for the captioned work (hereinafter called "the said tender") on the terms and conditions mentioned in the said tender documents.

It is one of the terms of invitation of tenders that the tenderer shall furnish a Bank Guarantee for a sum of Rs._(Rupees_only) as Earnest Money Deposit (EMD).

M/s. (Name of the Tenderer/Bidder)_, (hereinafter called as "the Tenderer/ Bidder"), who are our Clients/Constituents intend to submit their tender/ Bid for the said work and have requested us to furnish Bank Guarantee to RBI in respect of the said sum of Rs. ___
_(Rupees_only) in respect of EMD.

NOW THIS GUARANTEE WITNESSETH

1. We_(Name of the Bank) do hereby agree with and undertake to RBI, their Successors, Assigns that in the event of the RBI coming to the conclusion that the Tenderer have not performed their obligations under the said conditions of the tender or have committed a breach thereof, which conclusion shall be binding on us as well as the said Tenderer; we shall on demand by the RBI, pay without demur to the RBI, a sum of Rs._(Rupees_only) or any lower amount that may be demanded by the RBI. Our guarantee shall be treated as equivalent to the Earnest Money Deposit for the due performance of the obligations of the Tenderer under the said Conditions, provided, however, that our liability against such sum

shall not exceed the sum of Rs._(Rupees _____ only).

2. We also agree to undertake to and confirm that the sum not exceeding Rs. (Rupees_only) as aforesaid shall be paid by us without any demur or protest, merely on demand from the RBI on receipt of a notice in writing stating that the amount is due to them and we shall not ask for any further proof or evidence and the notice from the RBI shall be conclusive and binding on us and shall not be questioned by us in any respect or manner whatsoever. We undertake to pay the amount claimed by the RBI within a period of one week from the date of receipt of the notice as aforesaid.

3. We confirm that our obligation to the RBI under this guarantee shall be independent of the agreement or agreements or other understandings between the RBI and the Tenderer.

This guarantee shall not be revoked by us without prior consent in writing of the RBI. We hereby further agree that –

a) Any forbearance or commission on the part of the RBI in enforcing the conditions of the said agreement or in compliance with any of the terms and conditions stipulated in the said tender and/or hereunder or granting of any time or showing of any indulgence by the RBI to the Tenderer or any other matters in connection therewith shall not discharge us in any way and our obligation under this guarantee. This guarantee shall be discharged only by the performance by the Tenderers of their obligations and in the event of their failure to do so, by payment by us of the sum not exceeding Rs._(Rupees_only).

b) Our liability under these presents shall not exceed the sum of Rs. _ (Rupees_only).

c) Our liability under this agreement shall not be affected by any infirmity or irregularity on the part of our said constituents/clients in tendering for the said work or their obligations there under or by dissolution or change in the constitution of our said constituents.

d) This guarantee shall remain in force up to_(six months from the last date of receipt of tender) provided that if so desired by the RBI, this guarantee shall be renewed for a further period as may be indicated by them on the same terms and conditions as contained herein.

e) Our liability under these presents will terminate unless these presents are renewed as provided hereinabove on the_or on the day when our said constituents comply with their obligations, as to which a certificate in writing by the RBI alone is the conclusive proof whichever date is later. Unless a claim or suit or action is filed against us within_or any

extended period, all the rights of the RBI against us under this guarantee shall be forfeited and we shall be released and discharged from all our obligations and liabilities hereunder.

Yours faithfully,

For and on behalf of _____ Bank.

Authorized Official (with seal)

Signature of authorized Bank

official Name:

Designation

Stamp/ Seal of the Bank

Signed, sealed and delivered for and on behalf of the Bank by the above named in the presence of:

| | |
|--|--|
| <p>Witness 1</p> <p>Signature</p> <p>Name</p> <p>Address</p> | <p>Witness 2</p> <p>Signature</p> <p>Name</p> <p>Address</p> |
|--|--|

(NB: This guarantee will require stamp duty as applicable in the state, where it is executed and shall be signed by the official whose signature and authority shall be verified).

Annexure- 8

PROFORMA OF BANK GUARANTEE for PERFORMANCE SECURITY DEPOSIT

(On Non-Judicial Stamp Paper of appropriate value)

Place:_____ Date: _

The General Manger(O-i-C)
Reserve Bank of India
Premises Section, Kochi,
682018

Dear Sir,

Name of Work: Design, Supply, Installation, Testing and Commissioning of 2×5 KWp Grid Interactive SPV Based Solar Power System with net-metering facility at Reserve Bank of India, Staff Quarters KOCHI

Whereas Reserve Bank of India, having its Central Office at Shahid Bhagat Singh Road, Mumbai, (hereinafter called "the RBI") has awarded the Contract for the captioned project (hereinafter called the "Contract") to M/s (Name of the Contractor) (hereinafter called " the said Contractor" which expression shall include its successors and assigns).

1. We _____(Name of the Bank) do hereby agree with and undertake to RBI, their Successors, Assigns that in the event of the RBI coming to the conclusion that the Contractor has not performed his obligations under the said conditions of the contract or have committed a breach thereof, which conclusion shall be binding on us as well as the said contractor; we shall on demand by the RBI, pay without demur to the RBI, a sum of Rs. ____ (Rupees _____only) or any lower amount that may be demanded by the RBI. Our guarantee shall be treated as equivalent to the Performance Guarantee Amount for the due performance of the obligations of the Contractor under the said Contract, provided, however, that our liability against such sum shall not exceed the sum of Rs. _____ (Rupees ____ only).
2. We also agree to undertake to and confirm that the sum not exceeding Rs. (Rupees ____only) as aforesaid shall be paid by us without any demur or protest, merely on

demand from the RBI on receipt of a notice in writing stating that the amount is due to them and we shall not ask for any further proof or evidence and the notice from the RBI shall be conclusive and binding on us and shall not be questioned by us in any respect or manner whatsoever. The Bank shall pay to RBI any money so demanded notwithstanding any dispute/disputes raised by the Contractor in any suit or proceedings pending before any Court, Tribunal or Arbitrator/s relating thereto and the liability under this guarantee shall be absolute and unequivocal. We undertake to pay the amount claimed by the RBI within a period of one week from the date of receipt of the notice as aforesaid.

3. We confirm that our obligation to the RBI under this guarantee shall be independent of the agreement or agreements or other understandings between the RBI and the Contractor.
4. This guarantee shall not be revoked by us without prior consent in writing of the RBI.

We hereby further agree that –

a) Any forbearance or commission on the part of the RBI in enforcing the conditions of the said agreement or in compliance with any of the terms and conditions stipulated in the said Contract and/or hereunder or granting of any time or showing of any indulgence by the RBI to the Contractor or any other matters in connection therewith shall not discharge us in any way and our obligation under this guarantee. This guarantee shall be discharged only by the performance by the Contractor of their obligations and in the event of their failure to do so, by payment by us of the sum not exceeding Rs._(Rupees ____ _only).

b)Our liability under these presents shall not exceed the sum of Rs. _ (Rupees_ only).

c)Our liability under this agreement shall not be affected by any infirmity or irregularity on the part of our said constituents/clients or their obligations thereunder or by dissolution or change in the constitution of our said constituents.

d)This guarantee shall remain in force up to_(60 days beyond the Defect liability period) provided that if so desired by the RBI, this guarantee shall be renewed for a further period as may be indicated by them on the same terms and conditions as contained herein.

Our liability under these presents will terminate unless these presents are renewed as

provided hereinabove on the_ or on the day when our said constituents comply with their obligations, as to which a certificate in writing by the RBI alone is the conclusive proof whichever date is later. Unless a claim or suit or action is filed against us within_ or any extended period, all the rights of the RBI against us under this guarantee shall be forfeited and we shall be released and discharged from all our obligations and liabilities hereunder.

For and on behalf of_(Name of the Bank)

Signature of authorized Bank official

Name:

Designation

Stamp/ Seal of the Bank

Signed, sealed and delivered for and on behalf of the Bank by the above named in the presence of:

Witness 1

Witness 2

Signature

Signature

Name

Name

Address

Address

.....

.....

(NB: This guarantee will require stamp duty as applicable in the state, where it is executed and shall be signed by the official whose signature and authority shall be verified).

Annexure- 10

**Proforma for Indemnifying the Employer Against Non-Compliance to Contract
labour Rules/regulations**

(On Non-Judicial Stamp Paper of appropriate value)

The General Manger(O-i-C)
Reserve Bank of India
Premises Section, Kochi,
682018

Dear Sir

NAME OF WORK: Design, Supply, Installation, Testing and Commissioning of 2×5 KWp Grid Interactive SPV Based Solar Power System with net-metering facility at Reserve Bank of India, Staff Quarters KOCHI

We, M/s(Name of contractor), hereby undertake that we shall comply with all the statutory rules/ regulations with regard to the employment of contract labour and their payment.

We also hereby fully indemnify and keep indemnified the Employer, i.e. Reserve Bank of India, against payments to be made to the contract labour and for the observance of the laws in this regard without prejudice to our right to claim indemnity from our sub- contractors.

Yours faithfully,

For _____ Authorized signatory

NAME AND ADDRESS OF THE CONTRACTOR:

SIGN & SEAL OF THE CONTRACTOR:

Date:

Place:

Proforma for Indemnifying the Employer against Patent Rights

(On Non-Judicial Stamp Paper of appropriate value)

To,
The General Manger(O-i-C)
Reserve Bank of India
Premises Section, Kochi,
682018
Dear Sir,

NAME OF WORK: Design, Supply, Installation, Testing and Commissioning of 2×5 KWp Grid Interactive SPV Based Solar Power System with net-metering facility at Reserve Bank of India, Staff Quarters KOCHI

We, M/s _____(Name of Contractor) hereby undertake to fully indemnify and keep indemnified the Employer i.e. Reserve Bank of India against any action, claim or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall ourselves pay any royalties, license fees etc. which may be payable in respect of any article or part thereof included in the contract or damages, cost and charges of all and every sort that may be legally incurred in respect thereof.

In the event of any claims made under or action brought against Employer in respect of any such matters as aforesaid, we shall, on being notified thereof, at our own expense, settle any dispute or conduct any litigation that may arise therefrom, provided that we shall not be liable to indemnify the Employer if the infringement of the patent or design or any alleged patent or design right is the direct result of an order passed by the Engineer-in-Charge in this behalf.

Yours faithfully,

For _____
Authorized signatory

NAME AND ADDRESS OF THE CONTRACTOR:

SIGN & SEAL OF THE CONTRACTOR:

Date:

Place

Annexure-12

Proforma for List of Clients

(To whom works of similar scope each qualifying minimum eligibility criteria have been completed in the last 5 years).

| Sl. No | Details | Client (1) | Client (2) | Client (3) |
|--------|--|------------|------------|------------|
| 1. | Name, Address, fax and telephone numbers | | | |
| 2. | Project name, location and address. | | | |
| 3. | Brief details of the work | | | |
| 4. | Value of work as completed | | | |
| 5. | Date of award of contract | | | |
| 6. | Date of completion of work | | | |
| 7. | Whether the work was carried out under Architect/ Consultant, if so, details | | | |

(Add more columns in case of more than 3 clients)

Annexure -13
CLIENT'S CERTIFICATE REGARDING PERFORMANCE OF CONTRACTOR

Name & address of the Client

Details of Works executed by M/s

- 1 Name of work with brief particulars
- 2 Agreement No. and date
- 3 Agreement amount
- 4 Date of commencement of work
- 5 Stipulated date of completion
- 6 Actual date of completion
- 7 Details of compensation levied for delay (indicate amount) if any
- 8 Gross amount of the work completed and paid
- 9 Name and address of the authority under whom works executed
- 10 Whether the contractor employed qualified Engineer/Overseer during execution of work?
- 11 i) Quality of work (indicate grading) Outstanding/Very Good/
Good/Satisfactory/poor
ii) Amt. of work paid on reduced rates, if any.
- 12 i) Did the contractor go for arbitration?
ii) If yes, total amount of claim
iii) Total amount awarded
- 13 Comments on the capabilities of the contractor.
 - a) Technical proficiency Outstanding/Very Good/
Good/Satisfactory/poor
 - b) Financial soundness Outstanding/Very Good/
Good/Satisfactory/poor
 - c) Mobilization of adequate T&P Outstanding/Very Good/
Good/Satisfactory/poor
 - d) Mobilization of manpower Outstanding/Very Good/
Good/Satisfactory/poor
 - e) General behavior Outstanding/Very Good/
Good/Satisfactory/poor

Note : All columns should be filled in properly *Counter signed**

Reporting Officer with Office seal

*Officer of the rank of executive engineer/Superintending Engineer or equivalent

Annexure - 14

FORM OF BANKERS' CERTIFICATE FROM A SCHEDULED BANK

1. Composition of the firm (whether Partnership/ Private Limited/ Proprietorship/ Public Limited.)
2. Name of the Proprietor/ Partners/ Directors of the firm.
3. Turnover of the firm for the last 3 years (year wise).
4. Credit facility/ Overdraft facility enjoyed by the firm.
5. Dealings
6. The period from which the firm has been banking with your bank.
7. Any other remarks.

You may also kindly forward your opinion whether the above firm is considered financially sound to be entrusted with the contract for works estimated to cost Rs.6.10 Lakhs.

(Signature) For the Bank

Note:

1. Bankers' certificates should be on letter head of the Bank, sealed in cover addressed to enlistment authority.

2. In case of partnership firm, certificate to include names of all partners as recorded with the Bank.



**Reserve Bank of India
Kochi**

**Tender For
Design, Supply, Installation, Testing and Commissioning of 2×5 KWp Grid
Interactive SPV Based Solar Power System with net-metering facility at Reserve
Bank of India, Staff Quarters KOCHI**

E-tender - No: RBI/Kochi/Premises/275/20-21/ET/384

PART- II – Price Bid

Name of the Tenderer: _____

Address: _____

Reserve Bank of India, KOCHI

Part II

Bill of Quantities

Name of work: Design, Supply, Installation, Testing and Commissioning of 2×5 KWp Grid Interactive SPV Based Solar Power System with net-metering facility at Reserve Bank of India, Staff Quarters KOCHI

| Sl No | Description of the Item | Qty | | Rate (Incl. GST) | Amount (Incl. GST) |
|--|---|-----|---------|--------------------------------|---------------------------------|
| 1. | Design, supply, Installation, Testing & Commissioning of 5 KWp grid interactive SPV based Solar Power System. The system shall have guaranteed annualized AC energy output of 7500 Kilo watt hour (KWh) per year per system with a tolerance of 10% of total annual generation (Considering the weather conditions in KOCHI) during the first five years of operation. The rate shall include for all the material required including required quantities of SPV modules formed into arrays, their mounting arrangement, power conditioning units, required DC & AC distribution panels with surge protection units, earth stations with strip/cabling for connecting to the plant, data loggers arrangement for system performance monitoring through licensed software, metering, safety arrangements, civil works, training etc. as defined in Part I of the tender to provide a composite operational system. The rate shall include for all the taxes, duties, levies, insurance, transportation etc. AC side cabling as per standard from PCU in roof top to the ground floor meter is also included in the scope of work. (A) | 2 | Per Job | To Be filled in E-Tender Only) | (To Be filled in E-Tender Only) |
| 2. | Feasibility study, testing, application, liaising procedure and commissioning charges or any other charges by raw power supply provider for grid connectivity and other charges pertaining to govt. departments/bodies including the supply, installation and commissioning of Bi-directional energy meter (Provision of Net metering) as per the raw power suppliers' terms & conditions and as per requirement. Ensuring the grid connectivity is included in the scope of contract. (B) | 2 | Per Job | To Be filled in E-Tender Only | (To Be filled in E-Tender Only) |
| | Total | | | | |
| | Rate in Words | | | | |
| Annual Maintenance Contract Charges | | | | | |
| 1. | Comprehensive annual maintenance charges for periodic maintenance/servicing of complete system (2 Nos of Systems) installed for cleaning of PV cells, PCU etc. including providing all spare parts/ tools/ consumables for servicing as required as per good engineering practice, recommendation(s) of the respective equipment manufacturer(s) and instructions of engineer-in-charge as per the scope of work in Part I of the tender. The rate shall be applicable after Three-year defect liability period/warranty of both units. The rate shall include for all the taxes, duties, levies, insurance, transportation etc. at existing GST rate per annum for both systems. (C) | | | Per Annum | (To Be filled in E-Tender Only) |
| | Rate in Words | | | | |

Net Capital cost C= quoted capital cost less buyback of existing equipment

Total cost of ownership (TCO) = (A+B) + (F x C) where multiplication factor F = 7.7379

Name and signature of the contractor with stamp