

**RESERVE BANK STAFF COLLEGE (RBSC),
TEYNAMPET, CHENNAI-600018**

Notice Inviting Tender (NIT)

Reserve Bank Staff College, No.359, Anna Salai, Teynampet, Chennai – 600 018, (hereinafter referred to “the College”), invites E-tenders under Two – Bid system (Technical & Financial Bid) for the work, viz “Design, Supply, Installation, Testing and Commissioning of 50 KWp Grid Interactive SPV based Rooftop Solar Power System for Reserve Bank Staff College, Chennai”.

The tenderers should electronically submit their proposal, as per the instructions regarding E-Tender, along with all supporting documents complete in all respects **on or before October 22, 2019 up to 02.00 p.m.** Tenderers shall submit tender proposal along with refundable EMD of ₹ 56,000/-, **as prescribed in the tender.** The technical bids (Part I) will be **opened electronically on October 22, 2019 at 03.00 pm at RBSC.** In the event of any date indicated above being declared a holiday, the next working day shall become operative for the respective purpose mentioned herein. Financial bid (Part II) of only those bidders who are found to be eligible on evaluation of their Part I documents, etc., will be opened on a later date, after intimating them.

Tender document can be downloaded from RBI website- www.rbi.org.in - and www.mstcecommerce.com. Any amendment(s) / corrigendum / clarifications with respect to this tender shall be uploaded on the website / e-portal only. The tenderer should check the above website / e-portal for any amendment / corrigendum / clarification before submitting the bid. The Bank reserves the right to reject any or all the tenders without assigning any reason thereof.

The Chief General Manager/Principal
Reserve Bank Staff College
359, Anna Salai, Teynampet
Chennai- 600 018



RESERVE BANK STAFF COLLEGE

Estate Cell, Chennai -600 018

Part I

Design, Supply, Installation, Testing and Commissioning of 50 KWp Grid Interactive SPV based Rooftop Solar Power System for Reserve Bank Staff College, Chennai

SCHEDULE OF TENDER (SOT)

a. e-Tender no	RBI/RBSC//116/19-20/ET/116
b. Mode Of Tender	e-Procurement System (Online Part I –Pre qualification criteria and Techno-Commercial Bid and Part II - Price Bid through www.mstcecommerce.com/eprichome/rbi)
c. Date of NIT available to parties to download	20/09/2019 by 01:00 PM
d. Earnest Money Deposit	₹ 56,000 /- from each bidder.
e. Pre Bid Meeting	01/10/2019 at 10:00 AM (Venue: RBSC)
f. Date of Starting of e-Tender for submission of on line Techno-Commercial Bid and price Bid at www.mstcecommerce.com/eprichome/rbi	04/10/2019 by 05:00 PM
g. Date of closing of online e-tender for submission of Techno-Commercial Bid & Price Bid.	22/10/2019 by 02:00 PM
h. Date & time of opening of Tender Part I	22/10/2019 by 03:00 PM
i. Transaction Fee	Payment of Transaction fee as mentioned in the MSTC portal through MSTC payment gateway /NEFT/RTGS in favour of MSTC LIMITED

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359, Anna Salai, Teynampet
Chennai- 600 018

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IMPORTANT INSTRUCTIONS FOR E-PROCUREMENT

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

Process of E-tender:

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 PC connected with Internet. MSTC is not responsible for making such arrangement. (Bids will not be recorded without Digital Signature).

SPECIAL NOTE: THE TECHNICAL BID AND THE COMMERCIAL BID HAVE TO BE SUBMITTED ON-LINE AT www.mstcecommerce.com/eprochome/rbi

1). Vendors are required to register themselves online with www.mstcecommerce.com → e-Procurement → PSU/Govtdepts → Select RBI Logo > Register as Vendor -- Filling up details and creating own user id and password → Submit.

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, vendors may contact RBI/MSTC, (before the scheduled time of the e- tender).

Contact person (RBI):

1. Shri. Shaji Thomas (Manager, Estate Cell)
044-24302728
2. Shri. Bharat Raj (Assistant Manager, Estate Cell)
044-24302729
3. Shri. Rajeev S.J. (Junior Engineer, Estate Cell)
044-24302727

Email : principalrbsc@rbi.org.in

Contact person (MSTC Ltd):

1. MSTC Helpline numbers: 7338878731, 7338878732, 7338878733
2. Shri. V Ganesh Moorthy - 9176616410 / vgmoorthy@mstcindia.co.in
Google hangout ID- (for text chat)- mstceproc@gmail.com

B) System Requirements:

- i) Windows 7 or above Operating System
- ii) IE-7 and above Internet browser.
- iii) Signing type digital signature
- iv) Latest updated JRE 8 (x86 Offline) software to be downloaded and installed in the system.

To disable “Protected Mode” for DSC to appear in the signer box following settings may be applied.

- 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 www.mstcecommerce.com once)

The Techno-commercial Bid and the Price Bid shall have to be submitted online at www.mstcecommerce.com/eprochome/rbj. Tenders will be opened electronically on specified date and time as given in the Tender.

All entries in the tender should be entered in online Technical & Commercial Formats without any ambiguity.

Special Note towards Transaction fee:

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. **Transaction fee is non-refundable.** A vendor will not have the access to online e-tender without making the payment towards transaction fee.

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.

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 Email ID 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).

E-tender cannot be accessed after the due date and time mentioned in NIT.

Bidding in e-tender:

- a) **Earnest Money Deposit** for a sum of ₹. **56,000** /- shall be remitted to Bank Account of Reserve Bank Staff College. The account details for NEFT/RTGS transactions are as follows. Bidders are advised to remit EMD well in advance to avoid last minute hassle.

Beneficiary Name: RBSC CHENNAI

IFSC: RBIS0SCPA01

Account No.: 186003001

Proof of remittance with transaction number (Scanned copy) shall be attached/ uploaded.

The bidders are also advised to send the proof of remittance with transaction number (scanned copy) to principalrbsc@rbi.org.in.

EMD shall also be submitted in the form of Bank Guarantee ([Annexure C](#)) at the Estate Cell, Reserve Bank Staff College, Chennai - 18. A tender which is not accompanied by such EMD will not be considered. Scanned copy of EMD shall be uploaded in MSTC site.

No interest will be paid on EMD. EMD of the unsuccessful vendor(s) will be refunded by the tender inviting authority in due course.

- b) The process involves Electronic Bidding for submission of Technical and Commercial Bid.
- c) The vendor(s) who have submitted transaction fee can only submit their Technical Bid and Commercial Bid through internet in MSTC website www.mstcecommerce.com → *e-procurement* → *PSU/Govtdepts* → *Login under RBI* → *My menu* → *Auction Floor Manager* → *live event* → *Selection of the live event*.
- d) The vendor should have 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, they should click on the Technical bid. If this JAVA application does not run, then the vendor will not be able to save/submit his Technical bid.
- e) After filling the Technical Bid, vendors have to click 'save' for recording the same. Once the Commercial Bid link becomes active and the details are filled up, vendors have to click on "save" to record the Commercial bid. After both the Technical bid & Commercial bid have been saved, vendor has to click on the "Final submission" button to register the bids

- f) Vendors are instructed to use *Attach Doc button* to upload documents. Multiple documents can be uploaded.
- g) In all cases, vendors are advised to use their own ID and Password along with Digital Signature at the time of submission of their bids.
- h) During the entire e-tender process, the vendors will remain completely anonymous to one another and also to everybody else.
- i) The e-tender floor shall remain open from the pre-announced date & time and for as much duration as mentioned above.
- j) 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.
- k) It is mandatory that all the bids are submitted with digital signature certificate otherwise the same will not be accepted by the system.
- l) 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.

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. Any order resulting from this tender shall be governed by the terms and conditions mentioned therein. 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 reasons thereof.

Vendors are requested to read the vendor guide and see the video in the page www.mstcecommerce.com/eprochome to familiarize them with the system before bidding.

The bidders are advised to quote only base rate for items in Financial Bid (Part II), ie; the rates for the items in Financial Bid (Part II) should be quoted exclusive of GST. However, all the items in the price bid will be subjected to GST @ applicable rates, and the entire value (ie, the base rate quoted for the item plus applicable GST thereon) will be taken as the total contract value.

MSTC portal will be available for uploading documents and rates from 5.00 PM on October 04, 2019 to 2.00 PM on October 22, 2019.

Section I

Form of Tender

To

The Principal,
Reserve Bank Staff College,
Teynampet,
Chennai

Dear Sir / Madam,

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 having 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, 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

(a)	Description of works	Design, Supply, Installation, Testing and Commissioning of 50 KWp Grid Interactive SPV based Rooftop Solar Power System for Reserve Bank Staff College, Chennai
(b)	Estimated cost	₹ 28 Lakhs (inclusive of GST but exclusive of AMC cost).
(d)	Earnest Money	₹56,000/-
(e)	Time allowed for completion of work from tenth day of the date of work order.	12 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.
3. Should this Tender be accepted, I/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. I/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. We have deposited a sum of ₹56,000/- as earnest money with the Reserve Bank Staff College, 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.

Place:

Date:

Signature

Section II

Articles of Agreement

ARTICLES OF AGREEMENT made the ___day of Month, Year between the **Reserve Bank Staff College**, (hereinafter called "The Bank") on the one part and _____(hereinafter called "the Contractor") on the other part.

WHEREAS the Employer is desirous of carrying- out the work viz. "Design, Supply, Installation, Testing and Commissioning of 50 KWp Grid Interactive SPV based Rooftop Solar Power System for Reserve Bank Staff College, Chennai" and has caused specifications and Schedule of Quantities describing the works to be done which have been signed by or on behalf of the parties hereto.

AND WHEREAS the said specifications, the Schedule of Quantities and drawings have been signed by or on behalf of the parties hereto.

AND WHEREAS the Contractor has agreed to execute upon the 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 specification 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 thereunder(hereinafter referred to as 'the said Contract Amount')

NOW IT IS HEREBY AGREED AS FOLLOWS:

1. In consideration of 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 Drawings and described in the said Specifications and the Schedule of Quantities.
2. The Bank 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.
3. The said Conditions and Appendix thereto 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.
4. The plans, agreement and documents mentioned herein shall form the basis of this Contract.
5. 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 the entire design, supply, installation, testing, commissioning and handing over of "Design, Supply, Installation, Testing and Commissioning of 50 KWp Grid Interactive SPV based Rooftop Solar Power System for

Reserve Bank Staff College, Chennai ” for ₹ _____/- to be paid for according to actual measured quantities at the rates contained in the Schedule of Rates and Probable Quantities or as provided in the said conditions

6. The Bank reserves to itself the right of altering the Drawings and nature of the work by adding to or omitting any items of work or having portions of the same carried out without prejudice to this contract.
7. Time shall be considered as the essence of this Contract and the contractor hereby agrees to commence the work from tenth day of the date of issue of work order as provided for in the said Conditions and to complete the entire work **within a period of 12 weeks from the 10th day of date of work order** subject nevertheless to the extension of time granted by the Bank.
8. All payments by the Bank under this Contract will be made only at Chennai.
9. All disputes arising out of or in any way connected with this agreement shall be deemed to have arisen at Chennai and only Courts in Chennai shall have jurisdiction to determine the same.
10. The Contractor / Agency shall be solely responsible for full compliance with the provisions of “the Sexual Harassment of women at work place (Prevention, Prohibition and Redressal) Act, 2013”, In case of any complaint of sexual harassment against its employee within the premises of the Bank, the complaint will be filed before the Internal Complaints Committee constituted by the Contractor / Agency and the Contractor / Agency shall ensure appropriate action under the said Act in respect to the complaint. Any complaint of sexual harassment from any aggrieved employee of the contractor against any employee of the Bank shall be taken cognizance of by the Regional Complaints Committee constituted by the Bank. The contractor shall be responsible for any monetary compensation that may need to be paid in case the incident involves the employees of the contractor, for instance any monetary relief to the Bank’s employee, if sexual violence by the employee of the contractor is proved. The contractor shall be responsible for educating its employees about prevention of sexual harassment at work place and related issues. The contractor shall provide a complete and updated list of its employees who are deployed within the Bank’s premises.
11. The contractor shall be responsible for any monetary compensation that may need to be paid in case the incident involves the employees of the contractor, for instance any monetary relief to Bank’s employee, if sexual violence by the Employee of the contractor is proved. The contractor shall be responsible for educating its employees about prevention of sexual harassment at work place and related issues. The Contractor shall employ its labour in sufficient numbers to maintain the required rate of progress and of quality to ensure workmanship of the degree specified in the Contract and to the

satisfaction of the RBI. The Contractor shall not employ in connection with Works any person who has not completed eighteen years of age.

12. All the workers or employees deployed by the contractor shall consider the employees of contractor and RESERVE BANK OF INDIA shall not have any liability what so ever in nature in regard to such workers / employees. The Contractor shall pay to labour employed by him directly wages not less than fair wages as per Minimum Wages Act. Fair Wage means wages, which shall include wages for weekly day of rest and other allowances whether for time or piece work, after taking into consideration prevailing market rates for similar employment in the neighborhood but shall not be less than the minimum rates of wages fixed under the payment of Minimum Wages Act.

13. The Contractor shall in respect of labour employed by him or his sub-contractor comply with or cause to be complied with the Labour Regulation in regard to all matters provided therein. The contractor shall comply with the provisions of the payment of Wages Act, 1936, Minimum Wages Act, 1948, Employers Liability Act, 1938. Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947, Maternity Benefit Act, 1970, Sexual Harassment of Women at work place (Prevention, Prohibition and Redressal) Act, 2013, or any modification thereof or any other law relating thereto and rules made there under from time to time. The Contractor shall indemnify and keep indemnified the RESERVE BANK OF INDIA against

- i) Any claim arising out of third party loss / damage to life or property caused by / during execution of the work.
- ii) Any claim arising out of loss / damage to the workmen engaged by the contractor during execution of the work.
- iii) Any claim due to non-compliance of applicable PF / Labour laws, ESI. regulations etc.

The contractor shall take necessary insurance covers (i.e. Workmen Compensation Policy, CAR Policy, Third Party Liability, Fire and Transit Insurance etc) with Reserve Bank of India as the first name, at their cost, before commencement of the work. Necessary insurance covers (Workmen Compensation Policy) with RBI as the first name, at their cost, before commencement of the work.

The Contractor shall comply with the provisions of Contract Labour (Regulation & Abolition) Act, 1970. Before release of final bill, the contractor shall submit a certificate to the effect that he has actually paid the entire dues to the labourers of all descriptions engaged by him, for completion of this work at the rate, which is not less than the one prescribed under the Minimum Wages Act, 1949 and has complied with the provisions of CLRA Act with regard to providing the essential amenities to the Contract Labour.

The Contractor shall provide a complete and updated list of its employees who are deployed within the Bank's premises.

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

If the contractor is a Partnership or an Individual

IN WITNESS WHEREOF The Bank and the Contractor have set their respective hands to these presents and two duplicate hereof the day and year first hereinabove written.

If the contractor is a Company

IN WITNESS WHEREOF The Bank 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 duplicate/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

SIGNED AND DELIVERED BY
M/s
by the hand of
Shri.....
.....

If the part is a partnership firm or any individual should be signed by all or on behalf of all the partners.

1).....
.....Address

.....
.....
.....

2)
.....
.....

Address
.....
.....
.....

If the Contractor signs under its common Seal the signature clause should tally with their sealing clause in the Articles of Associations.

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 taken thereof in the presence of

The Contractor is signing by the hand of power of attorney whether a company or individual.

The Contractor is signing by the hand of power of attorney whether a company or individual.

(1)
.....

(2)
...

SIGNED AND DELIVERED BY
the Contractor by the hand Of

Shri
.....
....

and duly constituted attorney.

Section III

General Instructions to Tenderers and Special Conditions

Part I - Commercial Conditions

1. E-Tenders are invited from Original Equipment Manufacturers or their authorized dealers/integrators for the work of **Design, Supply, Installation, Testing and Commissioning of 50 KWp Grid Interactive SPV based Rooftop Solar Power System for Reserve Bank Staff College, Chennai**. E-Tenders comprising duly filled in details of both Part-I and Part II specifications of the tender should be uploaded in MSTC website under RBI portal **not later than 2.00 PM** on October 22, 2019.

2. Eligibility Criteria:

Tenders will be accepted from the firm who meets the following requirements:

- (i) **Firms having 5 years of experience as on August 31, 2014 in carrying out solar power system installation works (Copy/ies of work order/s issued to the tenderer prior to August 31, 2014 shall be uploaded).**
 - (ii) **Minimum yearly turnover of ₹ 28 Lakh during last 3 financial years (FY 2016-17, FY 2017-18 and FY 2018-19) supported by audited financial statements.**
 - (iii) **Completed works of Design, Supply, Installation, Testing and Commissioning of grid interactive SPV based Solar Power System, during the last 5 years i.e works completed on or after September 01, 2014, individually costing as under:**
 - (a) **Three works each costing not less than the amount equal to ₹ 11.2 Lakhs (40% of the estimated cost)**
 - OR**
 - (b) **Two works each costing not less than the amount equal to ₹ 14 Lakhs (50% of the estimated cost)**
 - OR**
 - (c) **One work costing not less than the amount equal to ₹ 22.4 Lakhs. (80% of the estimated cost)**
- **Should have service setup at any town/city of Tamilnadu state or nearest city for rendering after sales service of the power plant.**

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.

3. Tenderers should upload the following documents in respect of fulfilling their eligibility. Tenders accompanies without the mentioned document will be liable for rejection.

- i. Copies of detailed work order indicating scope and value of works for indicating the experience (work completed before August 31, 2019) and for the qualifying works (work completed after September 01, 2019).
- ii. List of completed works with all the details - In the format of [Annexure A](#)
- iii. Client certificate regarding performance of the contractor for the qualifying works – In the format of [Annexure B](#)
- iv. Proof of remittance of EMD/ Bank Guarantee In Lieu Of Earnest Money Deposit as per [Annexure C](#)
- v. Banker's Certificate as per [Annexure D](#)
- vi. Audited financial statement for turnover for last 3 years (FY 2017, FY 2018 and FY 2019).
- vii. Details of service setup- In the format of [Annexure E](#)
- viii. Details of technical deviations proposed – As per [Annexure F](#)
- ix. Technical information of the proposed system- As per [Annexure G](#)
- x. Details of major equipment of the proposed system- As per [Annexure H](#)
- xi. Guaranteed energy generation for 25 years. - As per [Annexure I](#)
- xii. Undertaking for product and maintenance support. - As per [Annexure J](#)
- xiii. Undertaking by the manufacturer of SPV modules and PCUs regarding the manufacturer's obligation to extend uninterrupted after sales service to RBSC. - As per [Annexure K](#)
- xiv. Declaration of country of origin. - As per [Annexure L](#)
- xv. Format of Power of attorney for signing of proposal. (If applicable) - As per [Annexure M](#)
- xvi. Format of Bank guarantee for security deposit- As per [Annexure N](#)
- xvii. Any other information relevant to the proposed work

Note (Regarding client certificate):

- In respect of Government Departments/Public sector Undertakings the certificate should be signed by the concerned Executive Engineer or an officer in an equivalent or higher rank.
- In respect of Departments other than Government Departments/Public sector Undertakings apart from the certificates mentioned above the TDS certificates matching with the payments related to the work executed shall also be enclosed.

4. Brief Scope of work

- Design and installation of solar grid-connected plants of different capacities on the rooftop of administration building and old hostel of Reserve Bank Staff College. Total capacity of plants should be not less than 50 KWp.
- Design and delivery of all equipment material for the captioned work to Reserve Bank Staff College, Teynampet, Chennai.
- Erection, Testing and Commissioning of Solar power system and handing over the system to College.
- Providing regular inspection and upkeep of system inclusive of periodic service etc.

- Approval, if any, from local statutory authorities in connection with the work.
5. **Pre-bid meeting:** - A pre-bid meeting will be held at 10.00 AM on October 01, 2019 at Reserve Bank Staff College, Chennai to discuss/clarify anything about the tender. No separate communication will be sent for this meeting. All the intending tenderers are advised to be present. Clarifications will be uploaded as corrigendum to the tender. Bidders are advised to see the corrigendum, if any before submitting their bids.
 6. **Tenders shall be submitted in two parts viz. Part I containing Pre-qualification criteria and technical and commercial details of the offer and Part II containing prices only latest by 2.00 PM on October 22, 2019. Part I will be opened on 3.00 PM on October 22, 2019.**The technical and commercial details of those tenderers who do not qualify the requirements of pre-qualification criteria will not be considered for evaluation. Part II bid of only those tenderers who qualify the requirements of technical and commercial conditions/details will be considered for opening. Opening of Part II will be intimated to the qualified tenderers.
 7. **Vendors are advised to verify website for corrigendum, if any before submitting the bid. No clarification will be entertained after 5.00 PM on October 04, 2019.**
 8. **The bidders are advised to quote only base rate for items in Financial Bid (Part II), ie; the rates for the items in Financial Bid (Part II) should be quoted exclusive of GST. However, all the items in the price bid will be subjected to GST @ applicable rates, and the entire value (ie, the base rate quoted for the item plus applicable GST thereon) will be taken as the total contract value. No change in quoted rates will be accepted. Further, the AMC rates quoted shall be automatically multiplied by the NPV factor for 15 years (5.6788).**
 9. The Reserve Bank Staff College reserves the right to accept or reject any or all the tenders, in full or in part, without assigning any reason therefore. The College also reserves the right to accept the tender of any firm.
 10. **Earnest Money:** -The tenderers shall pay as Earnest Money a sum of Rs.56,000/- (Rupees Fifty six thousand only). The Earnest Money Deposit shall be remitted to Bank Account of Reserve Bank Staff College. The account details for NEFT/RTGS transactions are as follows.

Beneficiary Name: RBSC CHENNAI
IFSC: RBIS0SCPA01
Account No.: 186003001

Proof of remittance with transaction number (Scanned copy) shall be attached/ uploaded.

The bidders are also advised to send the proof of remittance with transaction number (scanned copy) to principalrbsc@rbi.org.in.

EMD shall also be submitted in the form of Bank Guarantee ([Annexure C](#)) at the Estate Cell, Reserve Bank Staff College, Chennai – 18 and a scanned copy of the same shall also be uploaded in the MSTC portal. A tender which is not accompanied by such EMD will not be considered. No interest will be paid on EMD. The EMD paid by the tenderer shall be held by the Reserve Bank Staff College as security for the execution and due fulfilment of the Contract. The Earnest Money Deposit of the successful tenderer shall be released without any interest on issue of virtual completion certificate. The vendors who do not qualify the requirements of pre-qualification criteria will be returned the EMD without interest on non-acceptance of their bid. The Earnest Money Deposit of unsuccessful tenderers in Part II shall be released to them without any interest after award of work.

11. Validity of tender:-The tenders shall be valid for a period of 90 days from the date of opening of Part I of the tender.

12. Lowest Tender Not Necessarily To Be Accepted

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

13.The rates quoted shall be inclusive of all taxes (**except GST**), duties, transport, packing, forwarding, insurance etc. and shall be for the complete work duly installed and commissioned at site The prices quoted shall remain firm for the entire period of contract and shall not be subjected to any variations in the foreign exchange or variations of any other taxes, levies, duties etc. No import license will be furnished by the Bank. The tenderers shall make their own arrangement for import of any part or components, if any, required for completion of the work.

14. Completion of work: - The entire work of supply, installation, testing and commissioning of the system shall be completed within a period of 12 weeks from the 10th day of date of issue of work order.

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 College.

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.

15. Damages for non-completion: The Contractor shall pay liquidated damages to the College, for delay in completion of work, at the rate of 0.25 % of the contract value per week, for the

period during which the said works shall so remain incomplete, subject to a maximum of 10% of the contract amount and the College may deduct such damages from any money due to the Contractor.

16. Sufficiency of Schedule of Quantities

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.

The quantities in the schedule of quantities approximately indicate the total extent of work, but may vary to any extent and even be omitted thus altering the aggregate value of the contract.

17. Warranty/Defect Liability period

The entire system (except Solar panel) shall be warranted against any manufacturing/design/ installation defects etc. for a minimum period of **five year**. During this period any defect observed in the system **shall be rectified within 4 days** of the observation without any additional cost to the Bank. For Solar panels (PV modules) warranty shall be for a minimum period of **Twenty Five years**

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 bi-monthly or less depending upon the weather conditions.

18. Penalty for delay in rectification of fault during Warranty/ DLP Period:

There will be a **penalty of ₹250/-** per day subject to maximum of 2% of the contract amount, if the defect in the system is not rectified within the period of 4 days during the DLP period. Any penalty during the DLP shall be recovered from any dues payable to the contractor or invoke from the bank guarantee.

19. Comprehensive Annual Maintenance Contract (CAMS) after DLP

- a. 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 five 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.

- b. The system shall be inspected, upkeep/serviced periodically. Successful tenderer shall submit Workmen Compensation Insurance policy.
- c. 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 AMC period, shall be rectified/ replaced by the tenderer without any additional cost to the Bank.
- d. During the comprehensive annual maintenance service period (after DLP period), any fault in the system shall be rectified within 4 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.250/- per day subject to maximum of 10% of the annual maintenance charges. In addition to this, if the system **is not rectified within the period of 4 days, the Bank shall have right to rectify the system at risk and cost of the contractor. The Bank shall have also right to invoke the Bank Guarantee as a penalty for delay in rectifying the system and terminate the contract, if service rendered by the contractor is found to be unsatisfactory.**
- e. The payment of service charges during the CAMS period shall be **made on half yearly basis** on rendering satisfactory service.
- f. The service contract shall be renewed for a further additional period of at least 9 years after the initial annual service contract period of one year after five year warranty/ DLP. While renewing the contract the new contract amount will be arrived at based on following formula:

$AC = AP [(15+60x(EPIC/EPIP)+25x(CPIC/CPIP))] / 100$	
A _C	The contract amount for the current year.
A _P	The contract amount for the previous year.
EPI _C	Wholesale Price Index for Electrical Products 6 months prior to the commencement date of contract for the current year.
EPI _P	Wholesale Price Index for Electrical Products 6 months prior to the commencement date of contract for the previous year.
CPI _C	Consumer Price Index for Industrial Workers (All India Average) 6 months prior to the commencement date of contract for the current year.
CPI _P	Consumer Price Index for Industrial Workers (All India Average) 6 months prior to the commencement date of contract for the previous year.

The successful tenderer shall enter into an agreement for comprehensive annual maintenance contract of the system with the Bank.

20. Evaluation of tenders:

Tenders will be evaluated on the basis of capital cost of the system and taking into account the effect of annual maintenance charges (AMC) for 10 years and DLP of 5 years. Tenders will, therefore, be evaluated based on the total owning cost (TOC) for 15 years which will be arrived at as under:

$$\text{TOC} = \text{Quoted capital cost}^* + \text{NPV of service contract charges for 10 years after 5 year DLP}$$

$$= \text{Quoted capital cost} + \text{AMC}^{**} \times \text{Multiplying Factor (MF)} \text{ (MF = 5.6788)}$$

(* Quoted capital cost means base rate quoted by the bidder plus applicable GST)

(* AMC means base rate quoted by the bidder for AMC plus applicable GST)

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 AMC contract	10 years after DLP of 5 years.
(d)	Payment terms for annual maintenance contract.	Half yearly payment after satisfactory completion of service

21. The tenderer are requested to inspect the site of the work, and acquaint himself with all local conditions, means of access to the work, nature of the work etc. before submission of tender

22. Drawings:

All required drawings for equipment lay out viz: layout of PV panels, interconnection with Power conditioning units etc., should be prepared by the tenderer and submitted to the Bank's engineer for approval before commencement of work. The Contractor shall carry out all the work strictly in accordance with the approved drawing, detailed specifications and instructions of the Bank's engineer. If in the opinion of the Bank's engineer/consultant, nominal changes have to be made to suit the site condition and with the prior approval in writing of the Employer, the Contractor shall carry out the same without any extra charge.

23. The tenderers are requested to 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 etc. before submission of tender.
24. The rates quoted in the tender shall include all charges for scaffoldings, watching and lighting by night as well as day including 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 as 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.
25. 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 College does not accept liability for any sum besides the tender amount, subject to such variations as are provided for herein.
26. 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.
27. **Terms of payment :-**

The following terms of payment, subject to statutory deductions, will apply to the contract:

- a. 60% of the quoted rates after delivery of the material at site and on submission of the following documents:
 - Manufacturer's Inspection and Test Certificates
 - 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. Balance 40% of the quoted rates against erection, testing, commissioning, handing over of the entire system and **submission of BG as per para 28.**
 - c. Taxes & other statutory deductions, if any, shall be deducted from each bill during payment.
28. **Performance Bank Guarantee(BG) :-**

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 shall be valid for five year. After five year, amount of

Bank guarantee will be reduced by ten percent (10%) of initial value every year for the next 9 (Nine) years. The contractor should submit the new bank guarantee three weeks before the expiry of the old bank guarantee to RBSC. Otherwise, RBSC will have full right to encash the existing bank guarantee.

All compensation or other sums of money payable by the Contractor to the College 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 College.

29. Taxes:

The base price quoted shall be deemed to have included all taxes (custom duty, excise duty, local levies, etc. imposed by Central/State Government /Local Bodies), **except GST**. 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 extant laws, income tax will be deducted at source and a certificate for the same will be issued to the contractor.

30. Insurance:- The Contractor shall at his own expense, arrange to effect and maintain (until the virtual completion of the contract) with an IRDA approved office the following insurance policies in the joint name of employer and himself with the employer being first (Principal, Reserve Bank Staff College) and deposit such policy or policies with the employer from time during the currency of this contract.

- a. Storage, erection, testing and commissioning policy (C.A.R. policy) for the total amount of contract.
- b. Workmen compensation policy.
- 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. 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.

31. The payment for the system will be made by RBSC, Chennai. Any dispute arising out of this contract will also be sorted out within the jurisdiction of courts situated in Chennai.

32. Training: The tenderer shall impart training to the Bank's Engineers/Technicians on the system before handing over of the system without any charge to the Bank.

33. Agreement: The successful tenderer shall execute an agreement with the Bank on non- judicial stamp paper in the format in Section II enclosed within ten days of receipt of letter of acceptance. However, the issue of letter of acceptance by the Bank shall be construed as a binding contract, as though such an agreement has been executed and all the terms and conditions shall apply on this contract

Section (IV)

Safety Code

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 double scaffolding 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 mazdoor 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 minimum height shall be one meter.
6. Every opening in the floor of a building or a working platform shall be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be one meter.
7. No floor, roof or other part of the structure shall be as over-loaded with debris or materials as to render it unsafe.
8. Workers employed should be provided with necessary protective gears such as helmets, shoes, eye- shields, gloves, face masks etc.
9. Temporary electricity supply should be taken through switchboards provided with RCCBs.
10. No paint containing lead or lead products shall be used except in the form of paste or readymade paint.
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

1. Cutting / drilling machine and other electrically operated equipment used at site shall be plugged into correctly rated electrical outlets. The power source will be given at one point near the work area. Any extension of supply to work area should be taken by the contractor using adequate length of cable and using proper protective devices. The power supply taken by the contractor should be through RCCB.
2. Only ISI marked 3 pin plug and other appliances and equipment shall be used.
3. Electrical power cables/wires used shall not have any joints and shall be properly rated.
4. All electrical appliances i.e. welding, drilling, cutting machine etc. shall be safely and securely earthed to prevent leakage current while in operation.
5. 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.
6. Two buckets of water and sand shall be kept in an easily accessible area on the site.
7. Fire extinguishers recommended and issued by fire officers shall be kept on the site.
8. Used paint drums shall be stored in specified store only after closing them properly.
9. Personal protective equipment 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.
10. 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.
11. None of the passages near lift lobby and staircases shall be used for stacking / dumping any kind of materials/waste.
12. Both the staircase doors shall be normally kept closed.
13. None of the fire extinguishers shall be removed/shifted from its designated location.
14. Power supply shall be switched off from the mains when equipment is not in use.
15. 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.

16. Any debris generated from the work shall be collected on daily basis, removed from site and stored at the designated place in proper manner.
17. Battery operated emergency light/torches shall be provided by the contractor to the workmen while working beyond office hours.

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 account shall be held to mean rates or prices so arrived at.

h) "The works" Supply, Installation, Testing and Commissioning of 2X80 KVA Uninterrupted Power Supply System at Reserve Bank Staff College, Anna Salai, Teynampet, Chennai

2. **Scope of Contract:** The contractor shall carry out and complete the said work in every respect in accordance with this contract and with the directions of and to the satisfaction of the Bank's Engineer. The Bank's Engineer may in his absolute discretion and from time to time issue further drawings and/or written instructions, details, direction and explanations which are hereafter collectively referred to as "Bank's Engineer's instruction in regard to":

- a) The variations or modifications of the design, quality or works or the addition or omission or substitutions of any work.
- b) Any discrepancy in the Drawing or between the Schedule of Quantities and/or Drawing and/or specifications.
- c) The removal from the site of any materials brought thereon by the contractor and the substitution of any other material therefor.
- d) The removal and/or re-execution of any works executed by the contractor.
- e) The dismissal from the works of any persons employed thereupon.
- f) The opening up for inspections of any work covered up.
- g) The amending and making good of any defects under clause 20 hereof.

The contractor shall forthwith comply with and duly execute any work comprised in such Bank's Engineer's instructions provided always that verbal instructions, directions and explanations given to the Contractor or his representative upon the works by the Bank's Engineer shall, if involving a variation, be confirmed in writing by the Contractor within seven days, such shall be deemed to be Employer's instructions within the scope of the Contract.

The contractor shall submit a statement of variations giving 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 him.

3. The Contract shall be executed in triplicate and the Bank's Engineer, the Employer and the Contractor shall be entitled to one executed copy each for his use. The contractor shall prepare the line diagram, system configuration drawing and Lay out plan of the site for carrying out the work. Before the issue of the final certificate to the Contractor he shall submit to the Bank's Engineer all Drawings and Specifications.

4. 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 the same to the Bank's Engineer, who shall decide which is to be followed.

5. **Authorities, notices and patents:** 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 any water, electricity supply and other companies and/or authorities with whose system the structure 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 architect 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 within ten days receive such instructions 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 17 hereof.

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

6. **Setting out of work:** The contractor shall set out the works and shall be responsible 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 or 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 Bank's Engineer.

7. **Materials and Workmanship to conform to description:** 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 contract and the Contractor shall furnish to the Employer 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.

8. **Contractor's superintendence and representative on the works:** The Contractor shall give all necessary personal superintendence during the execution of the works and so 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 to work. Any directions, explanations, instructions or notice given by the Bank's Engineer to such representative shall be held to be given to the Contractor.

9. **Dismissal of workmen:** The Contractor shall on the request of the Bank's Engineer immediately dismiss from the works any person employed thereon by him who may, in the opinion of the Bank's Engineer, be incompetent or misconduct himself and such persons shall not be again employed on the works without the permission of the Bank's Engineer.
10. **Access to works:** The Employer, shall at all reasonable times, have free access to the works and/or to 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 necessary for Inspections and examination and test of the materials and workmanship. No person not authorised by the Employer except the representatives of public authorities shall be allowed on the works at any time.
11. **Bank's Engineer:** The term Bank's Engineer shall mean the person appointed and paid by the Employer to inspect the works. The Contractor shall afford the Bank's Engineer every facility and assistance for inspecting the works and materials and for checking and measuring time and materials.

The Bank's Engineer, or the Employer shall have power to give notice to the Contractor or to his representative of non-approval or any work or materials and such work shall be suspended or the use of such materials shall be discontinued. The work will from time to time be examined by the Assistant 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 a stage of the works or after the same is completed. Subject to the limitations of this clause the Contractor shall take instructions only from the Bank's Engineer.

12. **Assignment and Subletting:** 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 not undertaking shall relieve the Contractor from the full and entire responsibility of the Contract or from active superintendence of the works during their progress.
13. No alteration, omission or variation shall vitiate this contract but in case the Bank's Engineer thinks proper at any time during the progress of the works to make any alterations in, or addition to, or omissions from the works or any alteration in the kind of 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. Stipulations, specifications or Contract Drawings without the previous consent in writing of the Employer and the value of such extras alterations, additions or omission shall, in all cases, be determined by the Employer in accordance with the provisions of Clause 17 hereof, and the same shall be added to, or deducted from the Contract Amount, as the case may be accordingly.

14. Schedule of Quantities: 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 17 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.

15. Sufficiency of Schedule of Quantities: 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.

16. Measurement of works: The Bank's Engineer may, from time to time, intimate to the contractor that he requires the works to be measured, and the Contractor shall forthwith attend or send a qualified agent to assist Assistant Engineer 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 Bank's Engineer or a person approved by him shall be taken to be correct measurement of the works. Such measurements shall be taken in accordance with the Mode of Measurements detailed in the Specifications.

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

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

17. Prices for extra : The Contractor may, when authorised and shall, when directed, in writing by the 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 authorisation or direction. A verbal authority or direction by the Bank's Engineer shall, if confirmed by them in writing within seven days, be deemed to have been given in writing.

No claim for an extra shall be allowed unless it shall have been executed under provisions of clause above hereof with the concurrence of the Employer herein mentioned. Any such extra in herein referred to as authorised 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 in similar character and executed under conditions as the work priced therein.
- (a) (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 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 quoted 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 omissions or additions relative the amount of the whole of the Contract works or to any part thereof shall be such that in the opinion of the Bank's engineer, the net rate or price contained in the priced Schedule of Quantities or tender or for any item of the works involves loss or expenses beyond that reasonably contemplated by the contractor or is by reason of such omission or addition rendered unreasonable or inapplicable, the Bank's Engineer shall fix such other rate or price as in the circumstances he shall think reasonable and proper, with the prior approval in writing of the Employer.
- (d) Where extra work cannot be properly measured or valued, the Contractor shall be allowed day work prices as the net rates stated in the tender or the Priced Schedule or Quantities or, if not so stated, then in accordance with the local day work rates and wages for the district provided that in either case vouchers specifying the daily time (the workmen's names) and materials employed be delivered for verification to the Bank's Engineer 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 measurements" stated in the Appendix or if not stated then within six months of the completion of the Contract works as defined in Clause 21 hereof.

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

Where in any certificates (of which the Contractor has received payment) the Bank's Engineer has included the value of any unfixed materials included 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.

- 19. Removal of improper work:** 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 Bank's Engineer are not in accordance with the Specifications, the substitutions of proper materials, and the removal and proper re-execution of any work executed with materials or workmanship not in accordance with the drawings & specifications or instructions and the contractor shall forthwith carry out such order at his own cost. In case of default on the part of Contractor to carry out such order, the Employer shall have the power to employ any pay 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.
- 20. Defects after virtual completion:** Any defect, shrinkage, settlement or other fault which may appear within the "Defects Liability Period" stated in the Appendix hereto, or, if none stated them within twelve months after the virtual completion of the works, arising in the opinion of the Employer from materials of workmanship not in accordance with the contract, shall upon the direction 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, shrinkage settlements or other faults, and all damages loss and expenses consequent thereon are incidental thereto shall be made good and borne by the Employer or may be deducted by the Employer, upon the Bank's Engineer's Certificate in writing, from any money 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 32 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 materials supplied by any sub-contractor employed on the works who has been nominated as provided under clause 12 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 provision of this clause 2 hereof. The contractor shall remain liable under the provisions of this clause the signing of any certificate or the passing of any accounts by the Employer.
- 21. Certificate of virtual completion and defects liability period:** The works shall not be considered as completed until the Bank's Engineer has certified in writing that they have been virtually completed. The defects liability period shall commence from the date of such certificates.
- 22. Nominated Sub-Contractor:** All Specialists, Merchants, Tradesmen and others executing any work of supplying and fixing any goods for which the 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 or 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 the Contractor shall make reasonable objection are (save where the Architect and the Contractor shall otherwise agree) who will not enter into contract providing.

- (a) That the nominated sub-contractor shall indemnify the contractor against the same obligation in respect of the sub-contract 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-contractors his servants or agents or any misuse by him or them or 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 of his receipt of the Employer's Certificate provided that before any Certificate is issued the Contractor shall upon request furnish to the Bank proof that all nominated sub-contractors accounts included in previous certificates have been duly discharged; in default whereof the Employer may pay the same upon a Certificate of the Bank and deduct the amount thereof from any sums due to the Contractor. The exercise of this power shall not create private of contract as between Employer and Sub-Contractor.

23. Other persons employed by Employer: The Employer reserves the right to use premises and any portion 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 material for the execution of such work except by special arrangement with the Employer. 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.

24. Insurance in respect of damage to person and property: The Contractor shall be responsible 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 of either, whether such injury or damage arises from carelessness accident or any other clause whatever in any 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 road, streets, foot-paths, bridges or ways as well as 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 it 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 or 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 to and perfect in every respect and so as to make good or otherwise satisfy all claims for damage to the property of third parties.

An insurance policy covering third party liability shall be taken by the contractor to cover the loss/disablement of human life (persons not belonging to the contractor). This shall also cover the risk of damages to other's materials/equipment/properties including those, if any of the banks during construction/erection/commissioning of the said contract work at site. The value of third party liability for compensation for loss of human life or full /partial disablement shall be of required statutory value for full and partial disablement and shall nevertheless cover such compensation as may be awarded by a court of law. Cover for damage to other's equipment/property shall be as approved by the bank. The sub-contractors of the contractor shall not be holders or beneficiaries in the policy nor shall they be named in the policy. The bank shall be the principal holder of the policy along with the contractor. The bank reserves the exclusive right to assign the policy.

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 expenses 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 Architect 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 status 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, in the joint names of the Employer and the Contractor against such risks and deposit such policy or policies with the Architect from time to time during currency of the Contract.

The Contractor shall be responsible for any liability which may be executed from the Insurance Policies above referred to and also for all other damage to any person, animal or property arising out of the incidental to the negligent or defective carrying out of this Contract transit, storage, erection, testing & commissioning policy. 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 expense arising of 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.

25. 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 reworks, against loss or damage by fire with an office **in the joint names of the employer and the contractor (the name of the former being placed 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 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.

- 26. Date of commencement and completion:** The Contractor shall be allowed admittance to the site on "Date of Commencement" stated in the Appendix hereto, or each later date as may be specified by the Employer and he shall thereupon and forthwith begin the works and shall regularly proceed with and complete the same (except such painting or other decorative work as the bank may desire to delay) or before the "Date of Completion" stated in the Appendix subject nevertheless to provisions for extension of time hereinafter contained.
- 27. Damages for non-completion:** If the Contractor fails to complete the works by the date stated in the Appendix or within any extended time under Clause 26 and 20 here 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 money due to the Contractor.
- 28. Delay and extension of time:** If in the opinion of the Employer the works be delayed (a) by force major or (b) by reason of any exceptionally inclement weather or (c) by reason of proceedings taken or threatened by or dispute with adjoining or neighbouring owners or public authorities arising otherwise than through contractor's own default or (d) by the works or delays of other contractor or Tradesmen engaged or nominated by the Employer and not referred to in the schedule of quantities and/or specifications or (e) by reasons of Bank's Engineer instruction as per clause 17 hereof (f) by reason of civil commotion, local combination of workmen or strike or lockout affecting any of the building trades or (g) in consequence of the Contractor not having received in due time necessary instructions from the Bank for which he shall have specifically applied in writing or (h) from other causes which the Bank may certify as beyond the control of contractor or (i) in the event, the value of the work exceed the value of the Priced Schedule of Quantities owing to variation, the Bank may make a fair and reasonable extension of time for completion shall as soon as may be given written notice thereof to the bank but the Contractor shall nevertheless constantly use his endeavours to prevent delay and shall do all that may reasonably has required to the satisfaction of Bank to proceed with work.

29. Contractor's failure to comply with Employers instruction: If the Contractor after receipt of written notice from the Employer requiring compliance within 10 days fails to comply with such further drawings and/or Bank's instructions 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 as a debt or may be deducted by him from any moneys due to the Contractor.

30. Termination of Contract by the Employer: 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 supervisions of the court and the Official Assignee or 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 Architect that he is able to carry out and fulfill the Contract and to give security therefore, if so required by the Architect.

Or if the Contractor (whether an individual, first 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 Contractors.

Or shall assign to sublet this Contract without the consent in writing of the Employer first had and obtained.

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

- (i) Has abandoned the Contract, or
- (ii) Has failed to commence the works, or has without any lawful excuse under these conditions suspended the progresses of the works for fourteen days after receiving from the Bank notice to proceed or
- (iii) Has failed to proceed with the work 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 receiving from the Bank written notice that the said materials or work were condemned and rejected by the Bank's Engineer under these conditions' or
- (v) Has neglected or failed persistently to observe and perform all of any of the acts, matter or things by the 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, the whole of which shall continue in force as fully as if the Contract has not been so determined, and so if the works subsequently execute had been executed by or on behalf of the Contractor.

And further, the Employer by his agents or servants may enter upon and taken possession of the works and all plant, tools scaffoldings, sheds, machinery, steam and other power utensils 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 own servants and workmen in carrying on and completing the work or by employing any other Contractor or other person or persons to complete the works, and the Contractor shall not in any way interrupt or do any act matter or thing to prevent or hinder such other 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 Bank 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 fourteen 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 and certify in writing under his hand what of the said plant and materials so taken possessions or by the Employer and the expenses or loss which the Employer shall have been put to in procuring the works to be completed and the amount. If any, owing the Contractor and the amount which shall be so certified shall thereupon be paid by the Employer to the Contractor or by the Contractor to the Employer, as the case may be, and the Certificate of the Bank shall be final and conclusive between the parties.

31. Termination of Contract by Contractor: If this payment of the amount payable by the Employer under Certificate of the Bank's Engineer 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 interferes with or obstructs the issue of any such Certificate, or if the Employer shall repudiate the Contract, or if the works be stopped for three months under the order of the Architect or the Employer or by any injunction or other order of any court of to Law, then and in any of the said cases the Contractor shall be in 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 or 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.

32. Certificates and Payments: The Contractor shall be paid by the Employer from time to time by installments under interim Certificate to be issued by the Bank's Engineer on account of the works executed work to the approximate value named in the Appendix as 'Value of work for Interim Certificate' has been executed in accordance with this Contract, subject, however, to a retention of the percentage of such value named in the Appendix as "Total Retention Money" after which time the installments shall be up to the full value of the work subsequently so executed and fixed in the building. And when the works have been virtually completed, the Contractor shall be paid by the Employer in accordance with the Certificate to be issued by the Bank's Engineers the sum of money named in the Appendix as "installment after Virtual Completion" being a part of the said Total Retention Money. And the Contractor

shall be entitled to the payment of the Final Balance in accordance with the final Certificate 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 as after expiration of such period as the works shall have been finally completed and all defects made good according to the true intent and meaning hereof whichever shall last happen provided always or at or after their completion shall not relive the Contractor from his liability under clause 21 and 36 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 with in the Certificate and in case of the all defects and insufficiencies in the works or materials which a reasonable examination would not have disclosed.

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

33. **Delayed Payment:** Any amounts payable by the Employer to the Contractor shall, if not paid within the 'period of honoring Certificates' names 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 sum ought to have been paid by the Employer until the payment.
34. The decision, opinion, direction Certificate (except for payment) with respect to all or any of the matters under Clauses 2(a,b), 4,5, 14, 20 (a,b,c,d and 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, shall be subject to the right of Arbitration and review under the Clause 35 hereof in the same way in all respects (including the provisions as to opening the reference).
35. **Settlement of disputes by Arbitration:** All disputes and differences of any kind whatever arising out of or in connection with the contract or the carrying out of the works (whether during the progress of the works or after the completion and whether before or after the determination abandonment or breach of the contract) shall be referred to and settled by the Bank who shall state its decision in writing. Such decision may be in the form of a final certificate or otherwise. The decision of the Bank with respect to any of the excepted matters shall be final and without appeal as stated in Clause 33 hereof. But if either the Contractor be dissatisfied on any matter on which a decision is taken by the Bank as above, except any of the expected matter the Contractor may within 28 days after receiving notice of such decision give a written notice to the other party requiring that the matters in dispute be arbitrated upon. Such written notice shall specify the matters, which are in dispute or difference of which such written notice has been given. If both the parties agree, a single arbitrator would be appointed for the purpose. In case no agreement could be reached on the appointment of single arbitrator, both the parties will nominate one person each as an arbitrator on their behalf. The two arbitrators nominated by the parties shall nominate one more person to act as third arbitrator or umpire.

The arbitrator or Arbitrators, as the case may be, shall have power to open up, review and revise any certificate, opinion, decision, requisition or notice, save in regard to the

excepted matters, referred to in the preceding clause, and to determine all matters to dispute which shall be submitted to arbitration and of which notice shall have been given as aforesaid.

The arbitrator or Arbitrators, as the case may be, shall make his or their award within one year (or such further extended time as may be decided by him or them as the case may be with the consent of the parties) from the date of entering on the reference. In case during the arbitration proceedings the parties mutually settle or compromise their dispute or difference, on the parties filing their joint memorandum of the settlement or compromise, the Arbitrator or the Arbitrators as the case may be, shall make an award in terms of such settlement or compromise.

Upon any such reference, the decision on the cost incidental to the reference and Award respectively shall be in the discretion of the arbitrator or Arbitrators as the case may be, who may determine the amount thereof or direct the same to be taxed as between the party and party, and shall direct by whom and to whom and in what manner the same shall be borne and paid.

This submission shall be deemed to be a submission to arbitration within the meaning of the Indian Arbitration and Conciliation Act, 1996 or any statutory modification thereof.

The award of the arbitrator or Arbitrators, as the case may be, shall be final and binding on the parties. It is agreed that the Contractor shall not delay the carrying out of the works by reason of any such matter, question or dispute being referred to arbitration, but shall proceed with the works with all due diligence and shall until the decision of the Arbitrator or Arbitrators, as the case may be, is given, abide by the decision of the Bank. No award of the Arbitrator or Arbitrators, as the case may be, shall relieve the Contractor of his obligations to adhere strictly to the Bank's instructions with regard to the actual carrying out of the works. The Employer and the Contractor hereby also agree that arbitration under this Clause shall be a condition precedent to any right of action under the Contract.

36. Right of technical scrutiny of final bill: 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 of otherwise any sum is found to have been overpaid or over certified it shall be lawful for the employer to recover the sum.

37. Employer entitled to cover compensation paid to workman: If, for any reason, the Employer is obliged, by virtue of the provisions of the Workmen's Compensation Act, 1923, or any statutory modification 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 the 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 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.

38. **Abandonment of works:** If at any time after the acceptance of the tender, the Employer shall for any reasons whatsoever not requires the whole or any part of the works to be carried out, the Bank shall give notice in writing to the Contractor who shall have no claim to any payment of compensation or other-wise whatsoever on account of any profit or advantage which he might have derived from the execution of the whole works.
39. **Return of surplus materials:** Notwithstanding anything to the contrary contained in any or all the clauses of this Contact, where any material for the execution of the Contract is procured with the assistance of the Employer by purchase 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 Bank having due regard to the conditions of the materials, the price to be determined not be exceed the purchase price thereof inclusive of octroi duty and other such levies paid by the Contractor in respect thereof, in the even of breach of the aforesaid condition, the Contractor shall in addition to being liable to action for contravention of the terms of licenses or permit and/or criminal breach of trust, be liable to Employer for all moneys, advantages or profits resulting or which in the usual course would have resulted to his by reason of such breach.
40. **Right of employer to terminate contract in the event of death of Contractor or individual:** 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.
41. **Non-disclosure Clause:** -The Contractor shall not disclose directly or indirectly any information, materials and details of the Bank's infrastructure/systems/equipment etc., which may come to the possession or knowledge of the Contractor during the course of discharging its contractual obligations in connection with this agreement, to any third party and shall at all times hold the same in strictest confidence. The Contractor shall treat the details of the contract as private and confidential, except to the extent necessary to carry out the obligations under it or to comply with applicable laws. The Contractor shall not publish, permit to be published, or disclose any particulars of the works in any trade or technical paper or elsewhere without the previous written consent of the Employer. The Contractor shall indemnify the Employer for any loss suffered by the Employer as a result of disclosure of any confidential information. Failure to observe the above shall be treated as breach of contract on the part of the Contractor and the Employer shall be entitled to claim damages and pursue legal remedies.
42. **Sexual Harassment of women at work place**
- a) The contractor shall be solely responsible for full compliance with the provisions of “the Sexual Harassment of women at work place (Prevention, Prohibition and Redressal) Act, 2013”. In case of any complaint of sexual harassment against its employee within the premises of the Bank, the complaint will be filed before the

Internal Complaints Committee constituted by the contractor/Agency and the contractor.

- b) Any complaint of sexual harassment from any aggrieved employee of the Service Provider against any employee of the Bank or any employee of any other firm working in the Bank shall be taken cognizance of by the Regional Complaints Committee constituted by the Bank.
- c) The contractor shall be responsible for any monetary compensation that may need to be paid in case the incident involves the employees of the contractor, for instance any monetary relief to Bank's employee or other firm's employee, if sexual violence by the employee of the contractor is proved.
- d) The contractor shall be responsible for educating its employees about prevention of sexual harassment at work place and related issues.
- e) The contractor shall provide a complete and updated list of its employees who are deployed within the Bank's premises.

Section VI

SPECIAL CONDITIONS

1. The workmen will not be allowed to stay within the premises.
2. The electric power required for the work can also be similarly drawn from the supply available at site free of cost.
3. Permission, if any, required from the local bodies shall be obtained by the Contractor.
4. The intending tenderer can obtain any clarifications regarding the Tender drawings, specifications etc. from the department on any Bank's working day.
5. The tenderer may please note that, the work has to be carried out during the day time or as per the Bank's instructions. Therefore, the entire work involved shall be carried out with least disturbance to the staffs/occupants of the office/ colony and also day-to-day cleaning has to be done by the contractor. The wall/slab/column should be cut by chase cutter only.
6. The contractor shall prepare three copies of **as done drawing** after completion of the work and shall submit along with the final bill.
7. **One number of As done drawing should be framed under the glass and shall be kept near the PCU.**
8. The entire materials for the work shall be brought to the working area through the staircase and no freight lift will be available for lifting materials.
9. The debris/dust or any wastage generated out of the above work shall be cleaned as frequently as required and as instructed by the Bank's Engineer.
10. All dismantling work and work generating noise shall be done during the day time and holidays and day time work shall have to be done on restricted hours. Contractor has to make availability of supply during the Evening & night time. Contractor shall take into account the above facts while quoting the rates.
11. The tenderer shall remove all the debris collected at site (from the Bank's premises) on everyday basis. The staircase and passages used by the laborers shall be cleaned properly, as per the entire satisfaction of Bank's Engineers.
12. The contractor shall depute qualified supervisor during execution of the work. No work shall be carried out at site in unsupervised manner.
13. The tenderer shall use only approved brands of materials.

Section VII

Appendix herein referred

1.	Defects Liability Period	Five years for entire system except Solar PV modules. For Solar PV modules 25 years from the date of handing over the
2.	Period of Final Measurement	3 month from the date of final commissioning.
3.	Date of Commencement	10 th day from the date of work order.
4.	Date of Completion	12 weeks from 10 th day of date of work order.
5.	Rate of liquidated damages for non-completion of work.	0.25% of the contact value per week of delay subject to a maximum of 10% of the contract
6.	Value of works for interim certificates	As per the payment terms and conditions
7.	Period for honoring certificates	One month for interim bills and 3 months for final bill.
8.	Interest for delayed payment	3% per annum

Seal & signature of Contractor

SECTION VIII

Check List of the Conditions

Design, Supply, Installation, Testing and Commissioning of 50 KWp Grid Interactive SPV based Rooftop Solar Power System for Reserve Bank Staff College, Chennai

Sr. No.	Description	Bank's Terms and conditions	Acceptance of Bank's terms and conditions (YES/NO)
1	Validity	90 days from opening of tender part-I	
2	EMD	₹ 56,000/-	
3	Terms of payment	As per applicable clause in Part I of the tender	
4	Technical	As per specifications in Part I of the tender.	
5	Guarantee Period	Five years for entire system except Solar PV modules. For Solar PV modules 25 years from the date of handing over the	
6	Service after sales during AMC	Quoted rates shall include the cost of repairs/maintenance including replacement of any material / assembly / equipment / spares / labour if found necessary and bi-monthly visit.	
7	Completion period	12 weeks from 10 th day of work order	
8	Liquidated damages	0.25% of the contact value per week of delay subject to a maximum of 10% of the contract	
9	Penalty during DLP	Rs.250/- per day subject to maximum of 2% of the contract value, if the defect in the system is not rectified within the period of 4 days	
10	Penalty during AMC period	Rs.250/- 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 4 days	

Place :

Date :

Seal & Signature of Contractor

Section - IX

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, and subsequent upkeep and maintenance as defined.

Generation of 50 KWp of Solar Energy based, conversion of the same to AC power with a guaranteed annual generation of 67500 KWh per year with a tolerance of 10% of total annual generation (considering the weather conditions in Chennai) during the first five years of operation at Bank'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. **Capacity of each PCU/inverter should not be less than 10 KWp. The location of solar panels shall be at the terraces of administration and old hostel building. The successful bidder shall design the system with the sufficient number of solar panels, PCUs and other accessories in such a way that total capacity of installation will be not less than 50 KWp.**
- b) Design, Supply and installation of Module mounting structure / super structure on identified locations. The successful tenderer shall design their SPV Panel structure with Hot dipped galvanised 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.
- 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) provided by the Bank 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, as per site requirement, on prefabricated GI cable trays including supply of cable trays, their installation, hangers, supports, cable terminations and all fixing accessories.
- e) **Earthing:** Supply and installation of GI Pipe (Class B) Earthing systems with an earth electrode minimum 2.5 m long and 50 mm dia as per IS 3043. 25x3 mm GI earth strip shall be provided from earthing station to the entire system. Earthing stations shall be provided with testing point for every pits as per relevant IS, including required earthing chamber of size 450x450mm with brick plaster and CI/ MS cover, cutting of roads / paved areas & making good the damages as in original shape. Body earth, lighting arrester earth, DC earthing etc should be provided with double earth pit for each. Earth flats should be run from each pit to the point of connection. GI flats should

be painted and may shall be run through PVC pipe. GI flats should be laid at a minimum depth of 50cm while taking through ground.

- f) Testing and commissioning of the entire system including synchronizing with power grid and operation as required. The installation shall include the electrical switchgears, cabling, terminations, cable trays, inverters, metering and connecting the system to the electrical grid.
- 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) The bidder must take approval/NOC from the concerned local supply authority/any other statutory authority as applicable for above cited grid tied solar plant towards connectivity, technical feasibility and synchronization of SPV plant with LT distribution network and submit the same to the Bank before commissioning of SPV plant.

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.
- b) Provision of necessary switchgear in the LT distribution panel for connecting the solar energy based AC power to Bank's Power grid. However, the termination of cable to the switchgear shall be in the scope of the successful tenderer.

7.1 Minimal technical requirements / standards for spv items / systems

7.1.1 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: IEC 61215 / IS14286. In addition, the modules must conform to IEC 61730 Part 1- requirements for construction & Part 2 - requirements for testing, for safety qualification or Equivalent IS 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.

7.2 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	
	Standard Description	Standard Number
Charge Controller / Maximum peak power transfer (MPPT) units	Environmental Testing	IEC 60068-2 (1,2,14,30) / Equivalent BIS Std.
Power Conditioners/ Inverters including (Maximum peak power transfer) MPPT and Protections	Efficiency Measurements	IEC 61683 / IS 61683
	Environmental Testing	IEC 60068-2 (1, 2, 14, 30) / Equivalent BIS Std.
	procedure of is landing prevention Measures	IEC 62116
Cables	General Test and Measuring Method PVC insulated cables for working voltage up to and including 1100 V and UV resistant for outdoor Installation	IEC 60227 / IS 694 IEC 60502 / IS 1554 (Pt. I & II)
Switches/Circuit Breakers /Connectors	General Requirements connectors – safety A.C. /D.C.	IEC 60947 part I,II, III / IS 60947 Part I,II,III EN 50521
Junction Boxes /Enclosures for Inverters/Charge Controllers/Luminaries	General Requirements	IP 65(for outdoor)/ IP 21(for indoor) as per IEC 529

7.3. Authorized Testing Laboratories / Centers

7.3.1 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.

7.3.2 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.

7.4. 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) Country of origin (separately for solar cells and module)
- v) I-V curve for the module
- vi) Peak Wattage, I_m , V_m and field factor (FF) for the module
- vii) Unique Serial No. and Model No. of the module
- viii) Date and year of obtaining IEC PV module qualification certificate
- ix) Name of the test lab issuing IEC certificate
- x) Other relevant information on traceability of solar cells and module as per ISO 9000 series.

7.5 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.

7.6. 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. A three dimensional pictorial view of the same shall also be depicted in the drawings. The contractor shall submit all equipment information, which should include but not limited to the following and obtain approval:

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

7.7 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.

7.8.1 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.

7.8.2 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.

7.9 TRAINING

The contractor shall include in his tender cost of training of Bank's technical staff. Initial training of operating and maintenance personnel shall be provided at site to ensure competence in the operation and maintenance of the system provided. The training programme shall include but not limited to the following elements:

A) Operating Training

- (i) System description including electrical, electronic and mechanical sub-system and their functions.
- ii) System operating procedures.
- iii) System operating characteristics.
- iv) System limitations.
- v) On-site system operation.

B) Maintenance Training

- i) System description including electrical, electronic and mechanical sub-systems and their functions.
- ii) System and component trouble-shooting
- iii) On-site inspection, operation and maintenance
- iv) Schedule of maintenance, safety checks and procedures.

7.10 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:

7.10.1 Solar PV Modules:

- a) The solar photo-voltaic module of $\geq 230\text{Wp}$ power output under STC to be provided with high efficiency of more than 14% multi or mono crystalline silicon solar cells.
- b) The solar cell shall have surface anti-reflective coating to help to absorb more light in all weather conditions.
- c) 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.
- d) 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.
- e) 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.

7.10.2 Module Mounting Structures:

- f) 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.
- g) The structure shall be designed to allow easy replacement of any module & shall be in line with the site requirements.
- h) 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.
- i) 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.

- j) Galvanized Steel Structural must be considered for all type structural steel proposed for the power system.
- k) The array structure shall be grounded properly using earthing kit.
- l) Design drawings with material selected shall be submitted for prior approval of Bank.

7.10.3 Pcu / Mppt/Inverter:

- a) 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.
- b) 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.
- c) 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.
- d) 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.
- e) The inverter should be capable of operating under ambient temperature 0- 55 deg C, Humidity 0-95% RH

- f) 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 (Plant Manager & PC for remote monitoring through LAN) and hardware **except PC**, required for interfacing the system are to be supplied.
 - i) Maximum Power Point Tracker (MPPT) shall be integrated into the PCU to maximize energy drawn from the Solar PV array. The details of working mechanism of MPPT shall be furnished. 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 shall be provided (PC shall be provided by Bank)

7.10.4 Junction box and distribution boards:

- a) 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.
- b) 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.

7.10.5 Cables and hardware:

- a) 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.
- b) 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.
- c) Cable Routing/ Marking: All cable/wires are to be routed in a GI cable tray and suitably tagged and marked with proper manner by good quality ferrule or by other means so that the cable easily identified.

- d) The Cable should be so selected that it should be compatible up to the life of the solar PV panels i.e. 25years.

7.10.6 Instrumentation, measurement and monitoring:

The scope of work shall include for supply and installation of pyranometer, temperature probes for recording the solar panel temperature, anemometer for measuring the wind speed. All these instruments shall be integrated and the data should be logged for viewing on the PC screen. Necessary software also shall be provided for the same.

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

Metering and Instrumentation for display of systems parameters and status indication to be provided.

PV array energy production: Digital Energy Meters to log the actual value of AC/DC voltage, Current & Energy generated by the PV system provided. Energy meter along with CT/PT should be of 0.2 accuracy class shall be provided

Solar Irradiance: An integrating Pyranometer (Class II or better) provided, with the sensor mounted in the plane of the array. Readout integrated with data logging system.

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

Wind Speed: An integrated 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. Time disabled.
- h. Time Idle
- i. Temperatures (°C).
- j. Inverter Status.

7.10.7 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).

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

- a) **Earthing:** The structure of the PV arrays will be grounded properly using adequate number of earthing. All metal casing / shielding of the system shall be thoroughly grounded to ensure safety of the solar systems.
- b) **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.
- c) All wiring/cables should be in proper conduit or suitable casing and wires should not be hanging loose.
- d) All connections are to be made through suitable cable/lug/terminals; crimped properly & with use of Cable Glands.
- e) Switches / Circuit Breakers / Connectors-safety IS/ IEC 20947 part I, II & III, EN 50521
- f) Fuses to be provided to protect against short circuit conditions.
- g) Details of solar power system design and layout for all systems shall be submitted along with Technical bid (Part-I)
- h) All the components of the systems viz. PV modules, Electronics, etc. should have type approval / test certificates **as per MNRE guide lines**
- i) All components and materials used in the system should be of good quality & conform to the BIS / IEC standards / specifications, wherever available / applicable.
- j) Each system should have number plate with name & logo of the manufacturer and the month / year of installation.
- k) Operation and Maintenance / Instruction Manual (with Do's and Don'ts) to be provided with each system.
- l) Danger boards should be provided as and where necessary as per IE Act. /IE rules as amended up to date.

7.10.9 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.
- d) To facilitate identification, each item of equipment shall have a name plate of corrosion resistant metal attached in a conspicuous location.

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**.

Section X

Factory Acceptance Test

1. Solar PV Modules: The Solar PV modules shall be tested at the factory at the description of the Bank in the following manner:

- i) **Physical Inspection:** The PV modules shall be inspected for its physical parameters such as dimensions, material and workmanship etc.
- ii) **Performance Parameter:** The Solar PV modules shall be tested at the factory on a sun simulator at Standard Temperature Conditions (STC) for the following Parameters:
 - a) Open Circuit Voltage (Voc)
 - b) Short Circuit Current (Isc)
 - c) Max. Power (Pmax.)
 - d) Voltage at Max. Power (Vmax.)
 - e) Current at Max. Power (Imax.)
 - f) Fill Factor
 - g) Module efficiency

2. Power Conditioning Unit: The power conditioning unit shall be inspected for the display of parameters as mentioned in the tender either at factory of OEM/Integrator or at site.

Details of similar qualifying works executed during the last 5 years

Sr. No.	Name and address of the firm	Capacity of installation	Value of the work	Whether works completed in time or not (give date of start & and date of completion)	Completion period as per work order	Fax /phone number &contact person of the firm

(Attach sheet if required)

Date:

Signature of Tenderer:

Place

CLIENT's CERTIFICATE REG. PERFORMANCE OF CONTRACTOR

Name & address of the Client

Details of Works executed by Shri /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 countersigned.

Proforma for Bank Guarantee In Lieu Of Earnest Money Deposit

(To be submitted on non-judicial stamp paper of appropriate value purchased in the name of the issuing Bank)

This deed of guarantee made this ___ day of ___ two thousand ___ between ___ (Name of Banker) having its registered office at ___ (place) and one of its local offices at

___ (hereinafter referred to as the Surety), and Reserve Bank of India, a Corporation

Constituted by the Reserve Bank of India Act, 1934, having its Central Office at Central Office Building, Shahada Bhagwat Singh Road, and _____ INDIA (hereinafter referred to as the Bank).

WHEREAS _____ (Tenderer's name hereinafter referred to as 'Tenderer') a Company

registered under _____ and having its registered office at ___ is bound to deposit with the Bank by way of earnest money INR ___ (INR _____ only) in connection with its Design, Supply, Installation, Testing and Commissioning of 50 KWp Grid Interactive SPV based Rooftop Solar Power System for Reserve Bank Staff College, Chennai and the specifications and terms and conditions enclosed therein.

WHEREAS the tenderer as per clause No. ___ Section II of Instructions to tenderers and

Special conditions has agreed to furnish a Bank Guarantee valid up to ___ instead of deposit of earnest money in cash.

NOW THIS WITNESSETH:

1. That the Surety in consideration of the above Tender made by the Tenderer to the Bank hereby undertakes to guarantee payment on demand without demur to the Bank the said amount of INR ___ (INR ___ only) within one week from the date of receipt of the demand from the Bank on presentation of this deed of guarantee, which the Tenderer is bound to deposit with the Bank by way of earnest money in connection with his Tender.
2. This guarantee shall not be affected by any infirmity or irregularity on the part of the Tenderer or by the dissolution or any change in the constitution of the Bank, Tenderer or the Surety. The Bank shall be eligible to make any claim under this guarantee if the Tenderer after submitting his Tender, rescinds from his offer or modifies the terms and conditions thereof in a manner not acceptable to the Bank or expresses his unwillingness to accept the order after the Bank has decided to place order with the Design, Supply, Installation, Testing and

Commissioning of 50 KWp Grid Interactive SPV based Rooftop Solar Power System for Reserve Bank Staff College, Chennai The Banks' decision in this regard shall be final and binding.

3. The Surety shall not and cannot revoke this guarantee during its currency except with previous consent of the Bank in writing.
4. Notwithstanding anything contained in the foregoing, the Surety's liability under the guarantee is restricted to INR_____ (INR _____ only).
5. This guarantee shall remain in force and effective up to_____ and shall expire and become ineffective on intimation thereof being given to the Surety by the Bank in which event this guarantee shall stand discharged.
6. The Surety will make the payment pursuant to the demand notice issued by the Bank, notwithstanding any dispute that may exist or arise between the Tenderer and the Bank or any other person.
7. Any forbearance, act or omission on the part of the Bank in enforcing any of the conditions of the said tender or showing of any indulgence by the Bank to the tenderer shall not discharge the Surety in any way and the obligations of the Surety under this guarantee shall be discharged only on the intimation thereof being given to the Surety by the Bank.
8. Notwithstanding anything contained hereinabove, unless a demand or claim under this guarantee is made on the Surety in writing on or before_____, the Surety shall be discharged from all liabilities under guarantee thereafter.
9. The Surety has the power to issue this guarantee under its Memorandum and Articles of Association and the person who is hereby executing this deed has the necessary powers to do so under the Power of Attorney granted to him by the Surety.

SIGNED AND DELIVERED

For and on behalf of above named Bank.

For and on behalf of

(Banker's Name and Seal)

Branch
Manager
(Banker's seal)

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.

The firm is considered financially sound to be entrusted with the contract for works estimated to cost Rs.28.00 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.**

Details of Service Set up.

S. No.	Details of service Centre	
1	Address of Service Centre	
2	Contact numbers	
3	Staff strength	
4	Whether spares parts of the PV system have been stocked	

Date:

Signature of the Contractor with company seal

Place:

Schedule of Technical Deviations if any

We confirm that all technical terms and conditions and specifications of the Bank except for deviations listed below are acceptable to us.

Sr. No.	Section No.	Clause No.	Deviation proposed

Date:

Signature of the Contractor with company seal

Place:

A. SCHEDULE OF TECHNICAL INFORMATION

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 for the proposal indicating the ratings and quantity of major components viz. SPV Modules, nos. of arrays, & DC distributions, PCUs etc.	
iii)	Enclose the proposed layout of the SPV module showing the spacing between arrays, walk way width etc.	
iv)	Confirm the minimum guaranteed annualized (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. B
v)	Confirm the area required by the bidder for SPV panels along with its structure, maintenance, ways to provide a generating capacity of 50 KWp as required in the tender.	Length in Metre _____ Width in Metre _____ 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 total quantum of AC power to be from the installed SPV Modules	_____ kVA
viii)	Confirm the location of meters to be provided for continuous measurement of AC power generated.	

ix)	Please confirm the acceptance test procedures to be adopted during FAT for the SPV Modules. Also the standard to be followed.	
x)	Please confirm the acceptance test procedure to be adopted on completion of the work for the major Components and the complete system at site.	
xi)	Test certificate for SPV submitted as per clause 7.3 indicating the requirement indicated in clause 7.10.1.	
xii)	RFID facility available as per tender clause 7.4 of tender	
xiii)	Type Test certificate submitted as per clause 7.7	
xiv)	Invertor/PCBs/MPPT METERING REQUIREMENTS INDICATED IN CLAUSE 7.10.3	

Date:

Signature of the Contractor with company seal

Place:

B. SCHEDULE OF TECHNICAL DATA TO BE FURNISHED BY THE CONTRACTOR

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 50 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 230Wp)	
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 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	
ii.	Location of meters	
iii.	Manufacturer's name & address	
iv	Confirm compliance with laid down specification	

Date:

Signature of the Contractor with company seal

Place:

Design, Supply, Installation, Testing and Commissioning of 50 KWp Grid Interactive SPV based Rooftop Solar Power System for Reserve Bank Staff College, Chennai

Details of Major equipment to be provided for 50 KWp Rooftop Solar Power Plant

(To be filled by the bidder)

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	Other related items viz. control & power cables, cable trays, surge diverters, earthing etc. for the complete work as required & specified	Lot
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Date:

Signature of the contractor with company seal

Place:

Design, Supply, Installation, Testing and Commissioning of 50 KWp Grid Interactive SPV based Rooftop Solar Power System for Reserve Bank Staff College, Chennai

GUARANTEED ENERGY GENERATION FOR 25 YEARS

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

Signature of the contractor with company seal

Format for undertaking for product & maintenance support

(To be submitted by the tenderer)

NAME OF WORK: Design, Supply, Installation, Testing and Commissioning of 50 KWp Grid Interactive SPV based Rooftop Solar Power System for Reserve Bank Staff College, Chennai

Pursuant to a contract awarded by Reserve Bank Staff College (RBSC) for the full scope of work as contained under the tender document for the above mentioned work or part thereof,

we.....
.....
.....

.....(*full name of the firm with address*), hereby undertake the complete responsibility for providing full product support and also maintenance support for the entire period of the designed life of the equipment so supplied and installed by us, promptly and expeditiously.

Further, in case any of the component(s), materials or parts used in the system so provided goes out of production, then we will make available the blue prints, drawings of the spare parts and specifications of materials at no cost to the RBSC, as and when required in connection with the equipment to enable the RBSC to procure spare parts from other sources.

Thanking You

Yours faithfully,

(Signature of the Contractor / Firm with Company's Seal)

Undertaking

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

NAME OF WORK: Design, Supply, Installation, Testing and Commissioning of 50 KWp Grid Interactive SPV based Rooftop Solar Power System for Reserve Bank Staff College, Chennai

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 RBSC in investigation of failure/malfunctioning of any part or system as and when called for by RBSC 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 RBSC 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 RBSC.
 - 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.

DECLARATION OF COUNTRY OF ORIGIN

(To be furnished by the tenderer)

Design, Supply, Installation, Testing and Commissioning of 50 KWp Grid Interactive SPV based Rooftop Solar Power System for Reserve Bank Staff College, Chennai

This is to certify that

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

c) 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

d) 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*)

FORMAT FOR POWER OF ATTORNEY FOR SIGNING OF PROPOSAL

(On Non-Judicial Stamp Paper of appropriate value)

Know all men by these presents, 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 ofas 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 Design, Supply, Installation, Testing and Commissioning of 50 KWp Grid Interactive SPV based Rooftop Solar Power System for Reserve Bank Staff College, Chennai including signing and submission of all documents and providing information / responses to 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.

Note:

Power of Attorney should be properly stamped and notarized Power of Attorney furnished shall be irrevocable.

Signature/(s) of
the Bidder
Name/(s)

Stamp/Seal of the Bidder

(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).

Proforma of Bank Guarantee for Security Deposit

(To be submitted on Non-judicial stamp paper of appropriate value purchased in the name of the issuing bank)

No. _____ Date _____

To:

The Principal,
Reserve Bank Staff College,
Teynampet,
Chennai.

Dear Sir

In consideration of your agreeing to accept the security deposit of INR (INR only) furnish able to you by Messer's____ (hereinafter referred to as "the Contractor") in terms of their contract with you for Design, Supply, Installation, Testing and Commissioning of 50 KWp Grid Interactive SPV based Rooftop Solar Power System for Reserve Bank Staff College, Chennai as per their Tender dated and your Special Conditions of Contract and other tender documents relating thereto subject to the conditions and alterations mutually agreed upon the set forth or referred to in your Contract dated_____in the form of guarantee from us in the manner

hereinafter contained, we____(Name of the Bank) do hereby covenant and agree with you as follows:

1. We undertake to indemnify you and keep you indemnified from time to time to the extent of INR____INR(_____only) against any loss or damage caused to or suffered by or that may be caused to or suffered by you by reason of any breach or breaches on the part of the Contractor of any of the terms and conditions contained in the said Contract and in the event of the Contractor making any default or default in carrying out any of the work under the said Contract or otherwise in the observance and performance of any of the terms and conditions relating thereto in accordance with the true intent and meaning thereof, we shall forthwith on demand pay to you such sum or sums not exceeding in total the said sum of INR__(INR _____only) as may be claimed by you as your losses and/or damages, costs, charges or expenses by reason of such default on the part of the Contractor.

2. Notwithstanding anything to the contrary, your decision as to whether the Contractor has made any such default or defaults and the amount or amounts to which you are entitled by reasons thereof will be binding on us and we shall not be entitled to ask you to establish your claim or claims under this Guarantee but will pay the same forthwith on your demand without any protest or demur.
3. This guarantee shall continue and hold good until it is released by you on the application by the Contractor after expiry of the relative guarantee period of the said Contract and after the contractor had discharged all his obligations under the said Contract and produced a certificate of due completion of the work under the said contract and submitted a "No Demand Certificate", provided always that this guarantee shall in no event remain in force after the day of__without prejudice to your claim or claims arisen and demanded from or otherwise notified to us in writing before the expiry of six months from the said date which will be enforceable against us notwithstanding that the same is or are enforced after the said date.
4. Should it be necessary to extend this guarantee on account of any reason whatsoever, we undertake to extend the period of this Guarantee on your request till such time as may be required by you. Your decision in this respect shall be final and binding on us.
5. You will have the fullest liberty without effecting this guarantee from time to time to vary any of the terms and conditions of the said contract or extend the time of performance of the Contractor or to postpone for any time or from time to time any of your rights or powers against the Contractor and either to enforce or forbear to enforce any of the terms and conditions of the said Contract and we shall not be released from our liability under this guarantee by the exercise of your liberty with reference to matters aforesaid or by reason of any time being given to the Contractor or any other forbearance, act or omission on your part or any indulgence by you to the Contractor or by any variation or modification of the said contract or any other act, matter or things whatsoever, which under the law relating to sureties would but for the provisions hereof have the effect of so releasing us from our liability hereunder provided always that nothing herein contained will enlarge our liability hereunder beyond the limit of INR _____ (INR _____ only) as aforesaid.
6. This guarantee shall not in any way be affected by your taking or varying or giving up any securities from the Contractor or any other person, firm or company on its behalf or by the winding up, dissolution, insolvency or death as the case may be, of the Contractor.

7. In order to give full effect to the guarantee herein contained you shall be entitled to act as if we were your principal debtors in respect of all your claims against the Contractor hereby guaranteed by us as aforesaid and we hereby expressly waive all our rights of surety-ship and other rights, if any, which are in any way inconsistent with any of the provisions of this guarantee.
8. Subject to the maximum limit of our liability as aforesaid, this guarantee will cover all your claim or claims against the contractor from time to time arising out of or in relation to the said contract and in respect of which your claim in writing is lodged on us before expiry of six months from the date of expiry of this guarantee.
9. Any notice by way of demand or otherwise hereunder may be sent by special courier, telex, fax or registered post to our local address as aforesaid and if sent by post, it shall be deemed to have been given when the same has been posted.
10. This guarantee and the powers and provisions herein contained are in addition to and not by way of limitation of or substitution for any other guarantee or guarantees heretofore given to you by us (whether jointly with others or alone) and now existing uncanceled and that this guarantee is not intended to and shall not revoke or limit such guarantee or guarantees.
11. This guarantee shall not be affected by any change in the constitution of the contractor or us nor shall it be affected by any change in your constitution or by any amalgamation or absorption thereof or therewith but will ensure to the benefit of and be available to and enforceable by the absorbing or amalgamated company or concern.
12. Any forbearance, act or omission on the part of the Bank in enforcing any of the conditions of the said tender or showing of any indulgence by the Bank to the Tenderer shall not discharge the Surety in any way and the obligations of the Surety under this guarantee shall be discharged only on the intimation thereof being given to the Surety by the Bank.
13. This guarantee is irrevocable during the period of its currency and shall not be revoked without your previous consent in writing.
14. We further agree and undertake to pay you without demur the amount demanded by you in writing notwithstanding any difference or dispute or controversy that may exist or arise between you and contractor or any other person.
15. Notwithstanding anything contained herein above our liability under this guarantee is restricted to INR (INR____only). Unless a written claim is lodged on us for payment under this guarantee within six months from the date of expiry, including extensions if any, of this guarantee all your

rights under the guarantee shall be forfeited and we shall be deemed to have been released and discharged from all liabilities there under, irrespective of whether or not the original guarantee is returned to us.

16. We have power to issue this guarantee in your favour under the Memorandum and Articles of Association of our Bank and the undersigned has full power to execute this Guarantee under the Power of Attorney granted to him by the Bank.

SIGNED AND DELIVERED

(For & on behalf of the above named Bank)

For & on behalf of (Banker's Name & Seal)

BRANCH MANAGER

(Banker's Seal)

Address _:



**Reserve Bank Staff College
Estate Cell**

FINANCIAL BID - PART-II – BILL OF QUANTITY (Format)

Design, Supply, Installation, Testing and Commissioning of 50 KWp Grid Interactive SPV based Rooftop Solar Power System for Reserve Bank Staff College, Chennai (All rates should be quoted exclusive of GST)

Sl. No	Description of the Item	Qty	Unit	Rate	Amount
1.	Design, Supply, Installation, Testing and Commissioning of 50 KWp Grid Interactive SPV based Rooftop Solar Power System. The system shall have guaranteed operation of AC energy output of 67500 Kilo watt hour (Kwh) per year with a tolerance of 10% of total annual generation (Considering the weather conditions in Chennai) 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 earth strip/cabling, data loggers along with PC based 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.	1	Per Job		

2.	<p>Annual Maintenance Contract Charges</p> <p>Comprehensive annual maintenance charges for periodic maintenance/servicing of complete system 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 five-year defect liability period/warranty of entire unit. The rate shall include for all the taxes, duties, levies, insurance, transportation etc.</p>	Per annum		
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Note: - The bidders are advised to quote only base rate for items in Financial Bid (Part II), ie; the rates for the items in Financial Bid (Part II) should be quoted exclusive of GST. However, all the items in the price bid will be subjected to GST @ applicable rates, and the entire value (ie, the base rate quoted by the successful bidder for item referred at serial number 1of price bid plus applicable GST thereon) will be taken as the total contract value of the work. No change in quoted rates will be accepted. Further, the AMC rates quoted shall be automatically multiplied by the NPV factor as indicated at para 20 of Part 1.

(Note:- The price bid format given above is only for illustrative purpose. Bidders are requested not to upload price bid alongwith part-1 tender documents. Price should be submitted online, only through MSTC portal.) Submission of price-bid alongwith Part -1 tender documents will lead to disqualification of tender.

Place:

Date:

Seal and Signature of the Contract