NAMEOF THE TENDERER:_____

Please do not detach any papers from this booklet.

CANARA BANK
CENTRE OF EXCELLENCE
(ERSTWHILE RSTC GURUGRAM)
PLOT NO 80, SECTOR 18
GURUGRAM 122001

COMPETITIVE TENDER DOCUMENT
FOR

SUPPLY, INSTALLATION, TESTING, COMMISSIONING & MAINTENANCE OF ON GRID (SOLAR PHOTO VOLTAIC) POWER PLANT, OFF GRID (SOLAR PHOTO VOLTAIC)POWERPLANT AND SOLAR WATER HEATER AT CANARA BANK, CENTRE OF EXCELLENCE
(ERSTWHILE RSTC GURUGRAM), PLOT NO 80, SECTOR 18, GURUGRAM 122001

<u>THIS TENDER CONSISTS OF 2 BIDS</u>:

TENDER REFERENCE NO: TENDER/COE/04/2020
DATE OF TENDER ISSUE: 11.10.2020

PART I : TECHNICAL AND COMMERCIAL BID
PART II : PRICE BID

PART-I TECHNICAL AND COMMERCIAL BID

(To be submitted in sealed envelope marked "Envelope No. 1- Technical & Commercial Bid")

NOTICE INVITING TENDER (NIT)

Canara Bank, **Centre Of Excellence, (Erstwhile RSTC Gurugram), Plot No 80, Sector 18, Gurugram 122001,** invites sealed tender for the works mentioned below:

1). Name of the work: Supply of solar power with **total capacity of 130KWp from** Solar PV Power Plants (ON Grid) at Gurugram, 1 KWp OFF Grid for Street lights , Solar Water Heater (100 LD)

2). APPLICATION FEES (NON-REFUNDABLE)**:**Rs.1000/- an non – refundable feesby way of Demand Draft drawn in favour of "Canara Bank, RSTC , payable at Gurugram obtained from any scheduled Bank (in a separate sealed cover), super-scribing 'Application fee for selection of Contractor for carrying out Solar Roof top power plant at Canara Bank Regional Staff Training College (RSTC)'and the same should be submitted along with Technical Bid. The application cost will not be refunded at any circumstances. However, those who have exemption certificate from NSIC/Similar Government authorities as per provision of MSME Act will be exempted from submission of Application fee subject to the submission of valid document/certificate to that effect.

3). EMD AMOUNT:Rs.2,00,000/- by way of Demand Draft of a scheduled bank drawn in favour **of "Canara Bank" - payable at Gurugram-** or by way of Bank Guarantee obtained from any Scheduled Bank other than Canara Bank valid upto validity period of the tender in the Bank's approved format (in a separate sealed cover), super-scribing 'EMD for Tender for **INSTALLATION OF ROOF TOP AND CAR PARKING ON GRID SOLAR POWER PLANT AND STREET LIGHTS OFF GRID SOLAR POWER PLANT** and the same should be submitted along with Technical & commercial bid.However, those who have exemption certificate from NSIC/Similar Government authorities as per provision of MSME Act will be exempted from submission of EMD subject to the submission of valid document/certificate to that effect.

3). TIME OF COMPLETION: 60 days from the 14th day from the date of work order issued by the Bank.

4). CONTENTS OF THE TENDER:

PART - I

- Notice inviting tender
- Check List for Enclosures
- Appendix-I - Eligibility criteria for qualification for opening of price bid
- Appendix-II - Important terms and conditions of the contract
- General rules and instructions for the guidance of the tenderer
- Tender offer, Letter of acceptance, Form of agreement, Indemnity Bond format and Bank Guarantee format
- General Conditions of the Contract
- Safety Code
- Schedule A - Special information to the tenderers
- Schedule B – Special instructions to the tenderers
- Schedule C- Technical specifications
- Profile of the Vendor
- Technical particulars to be furnished by the Vendor
- Undertaking For Applicability Of Purchase Preference Policy
- Unpriced format of Price bid

The above form the **first envelope** under caption **"Technical and Commercial bid" including** Rs.1000/- an non – refundable feesby way of Demand Draft drawn in favour of "Canara Bank, RSTC , payable at Gurugram

PART - II

Price bid –Second Envelope

5). Concept of tender:: The tender concept is "2 Envelope Concept"
Second envelope - 2 - Price bid

Both bids should be submitted on the same date & time but in separate envelopes, sealed and super-scribed the name of the work on the envelope.

6). Submission of tender:: The original tender copy issued should be submitted in therespective envelopes.

7). Date of submission: Sealed envelopes to be submitted on or before 02.11.2020

8).DATE OF OPENING: Technical & Commercial Bid will be opened on 02.11.2020

9). **PREBID MEETING:** A prebid meeting is scheduled on 19.10.2020 at **03.00 pm at Canara Bank, Centre Of Excellence,(Erstwhile Rstc Gurugram), Plot No 80, Sector 18 , Gurugram**. The Vendor are requested to make a site visit and assess the site requirement before the pre bid meeting. During the said pre-bid meeting clarifications can be sought regarding the tender.

DIVISIONAL MANAGER **Date : 09.10.2020**
COE, Gurugram **PLACE : GURUGRAM**

Checklist for Enclosures

(Bidder should fill up YES or NO without fail)

	Bid Enclosures	YES or NO
1.	Whether the Tender is submitted in **Two covers Technical Bid andPrice Bid?**	
2.	Whether Two covers along with EMD cover in Technical Bid are put into an outer cover?	
3.	**Whether Technical Bid (Envelope- A) contains the following**	
3.1	Bidder's undertaking covering letter in the Letter Head shall be signed by the authority, stamped and submitted.	
3.2	Signed and stamped Letter of Authorization or Power of Attorney for signing the Tender document shall be submitted.	
3.3	All sections covered in the Tender document in full shall be signed by the authority, stamped and submitted	
3.4	Earnest Money Deposit (EMD) amount as specified in the Tender shall be submitted	
3.4a	In case of claiming exemption from EMD, valid document/ certificate for exemption of EMD from NSIC/Similar Government authorities shall be submitted	
3.5	Filled up Technical Bid and Profile of bidder shall be signed by the authority, stamped and submitted	
3.6	Unfilled price bid format shall be signed by the authority, stamped and submitted	
3.7	All supporting documents for proving the Eligibility Criteria shall be signed by the authority and stamped in all pages	
3.8	**Supporting documents to meet the Eligibility Criteria**	**YES orNO**
	a) All the supporting documents to meet the Eligibility Criteria as laid down in the Tender under Eligibility Criteria shall be signed by the authority and stamped	
	b) Bidder's Certificate of Incorporation or Registration	
	c) Balance Sheet and Profit & Loss accountsfor the past three year should be submitted.	
	g) Clientele list for the SPV power plants installed	
3.9	Following Test Certificates & Reports as per clause 15	
	i. SPV Modules	
	a) IEC 61215 / IS 14286 for Crystalline Modules	
	b) IEC 61730 Part 1 & 2	
	c) IEC 61701	
	d) STC performance certificate	
	ii. Balance of System (for PV Power Plants)	

	a) Power Conditioners / Inverters –IEC 61683 & IEC 60083-2(1,2,14,30), IEC 62116, IEC 62109/ Equivalent standards	
	b) Cables- IS: 1554/IEC 60502 AND IS 694/IEC 60227 or Equivalent IS standard	
	c) Switches / Circuit Breakers/ Connectors – IS/IEC 60947 Part I,II,III & EN 50521	
	d) Junction Boxes / Enclosures of Inverters- IP 65 & IEC 62208	
4.	**Whether Price Bid (Envelope-B) contains the following**	
	a) Filled Price Bid with signature and stamp in all headings shall be submitted	
	b) Whether corrections or overwriting if any is attested?	

- Checklist should be enclosed in technical bid

SIGNATURE OF THE TENDERER

APPENDIX-I - ELIGIBILITY CRITERIA FOR QUALIFICATION FOR OPENING OF PRICE BID

S.No	Criteria	Documents Required
1.	The tenderer should have minimum 5 years experience in the field of solar power plants as system integrator prior to 31.03.2020. Valid certificates and Order copies and satisfactory completion certificates prior to 31.03.2020	Valid certificates and Order copies and satisfactory completion certificates prior to 31.03.2020
2.	The Firm should be registered/ Empanelled with Central/ State statutory Bodies/nodal agencies or such other Government organizations or Registered in Public sector units.	A valid registration/ empanelment certificate related to Renewable energy sources.
3.	The firm should have minimum turnover of Rs. 3 Crores for last three financial years (ie., 2020-19, 2019-18, 2018-17)	Turnover details or Audit reports
4.	The firm should have carried out the works as follows: 1) at least two (2) completed similar works each of Capacity more than 50 KWp during **the last 3 (Three) years ending with 31.03.2020.** **OR** 2) for at least one(1) completed similar works each of Capacity more than 75 KWp during **the last 3 (Three) years ending with 31.03.2020.** Similar work means **supply and installation of solar power plants**	Order copies and satisfactory completion certificates clearly indicating the cost & nature of work handled.
4.	The firm should have Service setup at Jurisdiction (preferably Gurugram).	Details of service setup
5.	The firm must have PAN & GSTIN	Copies of the registration certificate and PAN card copy shall be enclosed.
6.	BLACKLISTING / DEBAR REDNESS CERTIFICATE Bidders who have been debarred / blacklisted in other utilities in India will not be considered. In this respect, the Bidders shall submit declaration as per Bank format enclosed on their Company Letter headed paper duly sealed & signed	In this respect, the Bidders shall submit declaration as per Bank format enclosed on their Company Letter headed paper duly sealed & signed

The tenderers are requested to submit all the documents required for stipulated eligibility criteria at the first instance itself. **Tenders which do not contains the documents required for stipulated eligibility criteria of the tender are liable to be summarily rejected without issuing any notice.**

SIGNATURE OF THE TENDERER WITH SEAL

APPENDIX II – IMPORTANT TERMS AND CONDITIONS OF THE TENDER

Time of Completion	60 days from the 14th day from the date of work order issued by the Bank.
Defect Liability period	1 year from the date of completion and handing over of the solar power plant.
Date of commencement	14th day from the date of issue of work order.
Liquidated damages for delay	The sum at the rate of 0.5 % of the Contract Value per week of delay subject to a maximum limit of 5 % of the Contract Value.
Payment terms	**No mobilization advance amount will be paid to the firms.** a) 65 % of the cost of the solar photovoltaic cells/modules/arrays, inverters against supply / delivery of equipments at site, duly unpacked and supported by necessary documents / test certificates etc, and certification of Engineer in charge. b) 30 % upon commissioning and upon handing over of the solar power plant after successful testing & commissioning at site. c) 5% at the end of the **warranty period of 1 year;** this can be released against Bank guarantee for equivalent amount in favour of the Bank for the warranty period in approved Bank's format.
APPLICATION FEES (NON-REFUNDABLE):	Rs.1000/- an non – refundable feesby way of Demand Draft drawn in favour of "Canara Bank, RSTC , payable at Gurugram
EMD	**Rs.2,00,000 by way of Demand Draft**of a scheduled bank drawn in favour of "Canara Bank" payable at Chandigarh

	or by way of Bank Guarantee obtained from any Scheduled Bank other than Canara Bank valid upto validity period of the tender in the Bank's approved format. However, those who have exemption certificate from NSIC/Similar Government authorities as per provision of MSME Act will be exempted from submission of EMD subject to the submission of valid document/certificate to that effect.
Initial Security deposit	2 % of the Contract value
Retention money	As per the clause 12 of "General conditions of the Contract".
Price variation	No IEEMA or any other price variation clause shall be applicable in this contract.
Arbitration	As per the clause 40 of "General conditions of the Contract"

Note: Request for alteration in the commercial terms of the tender will not be entertained. Tenders which do not comply the Commercial terms of the tender are liable to be summarily rejected.

SIGNATURE OF THE TENDERER WITH SEAL

GENERAL RULES AND INSTRUCTIONS FOR THE GUIDANCE OF TENDERER

1. Sealed Tenders are invited from the reputed manufacturers/dealers/also firms registered with MNRE/State Nodal Agencies as System Integrator, by Canara Bank, Admin Cell, COE Gurugram, Plot-80, Sector -18, Gurugram hereinafter known as the Employer and also as Bank, for the Supply, Installation, Testing, Commissioning and Maintenance of ON Grid system (90 Kwp (rooftop) + 40 Kwp Car Parking) , 1 Kwp street lights OFF grid system and 100 LD Solar Water heater .

Scope of work covers for Supply, Installation, Testing, Commissioning & Maintenance of ON Grid 90 kWp capacity rooftop solar power plant at top of Admin Building terace , 40 Kwp Car parkingat front side of the entrance and 100 LD Solar Water heater at the top of Canteen terrace at Canara Bank, COE GURUGRAM, Plot-80, Sector -18, Gurugram. Any deviation will not be accepted under any circumstance. Insuring the goods in transit as well as the commissioned system during 5 years comprehensive maintenance periodis the responsibility of the bidders. The comprehensive maintenance shall include preventive maintenance service visits monthly till the completion period of comprehensive maintenance. The maintenance shall include replacement of all parts or components found defective due to manufacturing defect or because of wear and tear. If the SPV (**SOLAR PHOTO VOLTAIC)** Power Plants and Solar Water heater are not functional, the same should be repaired or restored or replaced within 1 day.

2.Tender documents consisting of specifications, schedule of quantities of the various items of work to be done and the set of terms and conditions of contract to be complied with by the contractor whose tender may be accepted and other necessary documents will be send through registered post.

3. The tender concept is "TWO ENVELOPE CONCEPT" and it has to be submitted as such. It should be always be placed in sealed cover, with the name of the project written on the envelope mentioning"Technical and Commercial Bid" and "Price Bid" as the case may be and submitted in two different sealed envelopes simultaneously on the prescribed date and time mentioned in the Notice Inviting Tender (NIT) to the **DIVISIONAL MANGER**, **CENTRE OF EXCELLENCE, (ERSTWHILE RSTC GURUGRAM), PLOT NO 80, SECTOR 18, GURUGRAM 122001.**

The date for opening the price bid will be intimated subsequently only to such firms whose technical bids are found suitable. The TENDERER is requested to participate during the opening of the tender.

3.1. The two envelope are classified as,

(1). The Technical & Commercial Bid and

(2). The Price Bid.

3.2. The first envelope super-scribed as "Technical &Commercial Bid" should be submitted in a sealed envelope containing all the following details:

i). All the schedules of the tender document, tender drawings if any & technical & commercial details of the proposed system equipment with its components & all other attachments other than the Bill of Quantity (Price Bid).

ii). The tender,(i.e. in the envelope containing the Technical Bid) shall be accompanied by earnest money of Rs.2,00,000/- (Rupees Two lakhs only) and application fee of Rs 1000/- by way of Demand Draft of a Scheduled Bank issued in favour of "Canara Bank COE GURUGRAM" payable at GURUGRAM or by way of Bank Guarantee obtained from any Scheduled Bank other than Canara Bank valid upto validity period of the tender in the Bank's approved format. However, those who have exemption certificate from NSIC/Similar Government authorities as per provision of MSME Act will be exempted from submission of EMD subject to the submission of valid document/certificate to that effect.

No interest shall be allowed on the Earnest Money. Tenders without Earnest Money shall be rejected.

SUBMISSION OF THE EMD IN THE PRICE BID ENVELOPE SHALL RENDER THE TENDER BEING REJECTEDON THE GROUNDS OF NON SUBMISSION OF THE EMD.

4. PRE BID QUERIES AND CLARIFICATION TO THE TENDER:

4.1 The Vendor should carefully examine and understand the specifications, terms and conditions of the Tender and may seek clarifications, if required. The Vendor in all such cases seek clarification in writing in a word document (.doc) in the same serial order of that of the Tender by mentioning the relevant page number and clause number of the Tender. The soft copy of the pre-bid queries should be send by email to rstccodel@canarabank.com and the pre-bid query should be in the following format.

SI.NO	Page No	Tender Clause No	Tender Clause	Query

All communications regarding points requiring clarifications and any doubts shall be sent by E-mail id to rstccodel@canarabank.com on or before 11:00 AM on 19.10.2020. No oral or individual consultation shall be entertained. No queries will be entertained from the Vendors after the pre-bid meeting.

4.2 Pre-Bid meeting: A pre-bid meeting of the intending Vendor will be held as scheduled below to clarify any point /doubt raised by them in respect of this Tender document:

Date	Time	Venue
----------	03:00 PM	Canara Bank, Centre Of Excellence,(Erstwhile Rstc Gurugram), Plot No 80, Sector 18 , Gurugram.

No separate communication will be sent for this meeting. If the meeting date is declared as a holiday under NI Act by the Government subsequent to issuance of RFP, the next working day will be deemed to be the pre-bid meeting day. Authorized representatives of interested Vendors shall be present during the scheduled time.

The Bank will consolidate all the queries and discussions during the pre-bid meeting and the consolidated replies for the queries shall be made available in the Bank's website and no individual correspondence shall be made. The replies/clarification of the Bank in response to the queries raised by the bidder/s, and any other clarification / amendments / corrigendum furnished hereof will become part and parcel of the Tender document and it will be binding on the Vendors.

Non-reply to the queries raised by any of the Vendor shall not be accepted as a valid reason for non-submission of the Tender. In addition, non-reply to any query may not be deemed the version of the Vendor as reflected in the query has been accepted by the Bank.

4.3 Amendment to Tender Document: At any time prior to deadline for submission of Tender, the Bank, for any reason, whether, at its own initiative or in response to a clarification requested by prospective bidder may modify the Tender document by amendment.
Notification of amendments will be made available on the Bank's website (www.canarabank.com) and will be binding on all Vendors and no separate communication will be issued in this regard.

In order to allow prospective Vendors reasonable time in which to take the amendment into account in preparing their tender, the Bank, at its discretion, may extend the deadline for a reasonable period as decided by the Bank for the submission of tender.

5. The second envelope super scribed as "Price Bid" should be sealed and submitted on the same given date and time simultaneously along with technical & commercial bid. Non submission of the same along with technical and commercial bid shall automatically render the entire tender being rejected. This envelope should contain duly filled in Bill of quantities (enclosed in the tender document) with values written in words and figures, and as detailed elsewhere in the tender documents.

6. The time allowed for carrying out of the work will be not exceeding the period specified in the NIT.

7. The contractors should quote in figures as well as in words the rate, and amount tendered by them. The amount for each item should be worked out and the requisite totals given. The rates quoted shall be all inclusive rates for the item of work described, including materials, labour, tools & plant, carriage & transport, supervision, overheads & profits, mobilising and other charges whatsoever including any anticipated or un-anticipated difficulties etc. complete for proper execution of the work as per drawings and specifications and no claim whatsoever for any extra payment shall be maintainable.

8. When a contractor signs a tender in an Indian language, the percentage above or below and the tendered amount and the total amount tendered should also be written in the same language. In the case of illiterate contractors the rates or the amounts tendered should be attested by a witness.

9. Issue of tender form / documents is as per the NIT.

10. The acceptance of a tender will rest with the Employer which does not bind itself to accept the lowest tender, and reserves to itself the authority to reject any or all of the tenders received without assigning any reason. All tenders in which any of the prescribed conditions are not fulfilled or are incomplete in any respect are liable to be rejected.

11. THE EMPLOYER RESERVES THE RIGHT TO ACCEPT THE TENDER IN FULL OR IN PART AND THE TENDERER SHALL HAVE NO CLAIM FOR REVISION OF RATES/OTHER CONDITIONS IF HIS TENDER IS ACCEPTED IN PART.

12. Canvassing in connection with tenders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable for rejection.

13. All rates shall be quoted on the proper form of the tender alone. Quoted rates and units different from prescribed in the tender schedule will be liable for rejection.

13.1 Special care should be taken to write the rates in figures as well as in words and the amounts in figures only, in such a way that interpolation is not possible. The total amount should be written both in figures and in words. In case of figures, the words `Rs.' should be written before the figure of rupees and words `P' after the decimal figures, e.g. Rs.2.15 "P" and in case of words, the word `Rupees' should precede and the word `Paise' should be written at the end, unless the

rate is in whole rupees and followed by the words `only' it should be invariably be up to two decimal places. While quoting the rate is in schedule of quantities, the word `only' should be written closely following the amount and it should not be written in the next line. However, if a discrepancy is found;

i). the rates which correspond with the amount worked out by the tenderer shall unless otherwise proved be taken as correct. (OR)

ii). if the amount of an item is not worked out by the tenderer or it does not correspond with the rates written either in figures or in words then the rate quoted by the tenderer in words shall be taken as correct. (OR)

iii). where the rates quoted by the tenderer in figures and in words tally but the amount is not worked out correctly, the rates quoted by the tenderer will unless otherwise prove be taken as correct and not the amount.

13.2 In the case of any errors or omissions in the quoted rates, and if the tender is issued in duplicate, the rates quoted in the tender marked "Original" shall be taken as correct rates.

13.3 All corrections such as cuttings, interpolations, omissions and over-writings shall be number as `c',`i',`o' and `ow' and initialed and total of such c, i, o and ow on each page certified at the end of the page with grand total at the end of the bill/schedule of quantities.

14. An item rate tender containing percentage below / above will be summarily rejected. However, where a tenderer voluntarily offers a rebate for payment within a stipulated period, this may be considered.

15. Goods and Service tax, work contract tax, or any other tax , any royalties, import duty, other duties if any, levies, cess, entry tax, Octroi, profession tax, Sales Tax, purchase tax, turnover tax, or any other tax on material or finished work in respect of this contract shall be payable by the tenderer and the Employer will not entertain any claim whatsoever in respect of the same, and nothing extra shall be paid/reimbursed for the same subsequently**with exception specified in theclause 8 of the General Conditions of the contract of this tender**.

16. The contractor shall give a list of his relatives, if any, working with the Employer along with their designations and addresses.

17. No employee of the employer is allowed to work as a contractor for a period of 2 years of his/her retirement from the employer services, without the previous permission of the employer. This contract is liable to be cancelled if either the

contractor or any of his employees is found at any time to be such a person who had not obtained the permission of the employer as aforesaid before submission of the tender or engagement in the contractor's service.

18. The tender for the works shall remain open for acceptance for a period of 90 days from the date of opening of tenders. If any tenderer withdraws his tender before the said period or makes any modifications in the terms and conditions of the tender which are not acceptable to the Employer, then the Employer shall, without prejudice to any other right or remedy, be at liberty to forfeit full value of the earnest money as aforesaid.

19. The tender for the work shall not be witnessed by a contractor or contractors who himself / themselves has / have tendered or who may and had/have tendered for the same work. Failure to observe this condition would render tenders of the contractors tendering as well as witnessing the tender liable to summary rejection.

20. It will be obligatory on the part of the tenderer to tender and sign the tendered documents for all the component parts and that, after the work is awarded, he / they will have to enter into an agreement for each component with the competent authority of the Employer.

21.Further the tenderer shall agree that until a formal agreement on stamp paper of Rs. 2000/- is prepared and signed, this tender shall constitute a binding contract between the tenderer and the Employer.

22. The tenderer, apart from being a competent contractor must associate himself with agencies of appropriate class who are eligible to tender for other related works connected directly or indirectly with the contract and employed by the employer.

22.1. The Employer does not bind itself to accept the lowest or any tender and reserves to itself the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rate quoted.

22.2 Tenderer are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the site and dimensions, the means of access to the site, and obtain all necessary informations as to risks, contingencies and other circumstances which may influence or affect their tender.

22.3 A tenderer shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed. Submission of a tender by a tenderer implies that he

has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and local conditions and other factors bearing on the execution of the work.

23. On acceptance of the tender, the name of the accredited representative(s) of the contractor who would be responsible for taking instructions from the Employer shall be communicated to the Employer.

24. Method of Evaluation of tender: All the competitive tenders will be received on the specified date and time. On the same day or on specified date & time in event of any compelling circumstances, the tender will opened in the presence of the available tenderer.

24.1 Both the envelope superscribed as " Technical & Commercial Bid" and "Price Bid " will be simultaneously accepted, but the envelope superscripted as "Technical & Commercial Bid " alone will be opened and details of EMD etc., shall be recorded, while the Price Bid shall be maintained in the safe custody of the Employer.

24.2 Incomplete offers and offers not accompanied by the mandatory documents and EMD shall be rejected.

24.3 After the technical evaluation, such of those tenderer found technically acceptable will be short listed and their envelope containing " Price Bid " shall be opened on a given date and time in presence of the short listed tenderers with prior notice to them. The tenderers are expected to attend the tender opening and their inability in participating will not in any way prevent the employer undertaking the opening of the bids.

24.4 During the course of technical evaluation if found necessary the Employer may seek supplementary price bids to bring the evaluation at par and any such price bids shall be prepared as stated in the tender and submitted in sealed envelopes superscribing "Supplementary Price Bid for the project of .....". Such supplementary price bid shall be opened simultaneously with the original price bid on the prescribed date and taken into consideration in its evaluation.

24.5 Voluntary submission of the supplementary price bid by the contractor / tenderer shall not be accepted and supplementary bids shall be limited to the details sought for by the Employer only. Any other un-related price variations furnished in supplementary price bids shall not be recognised and might be liable for rejections if undue information are furnished.

24.6 In case of other un-successful tenderers, the sealed Price bid along with EMD shall be returned treating it individually. The Employer reserves the right to accept or reject any of the offer's without assigning any reason and no dispute

or negotiation will be entertained in this regard. The Employer's decision will be final in the matter.

24.7 Social Media Policy: - No person of the bank or the contractors and third parties shall violate the social media policy of the bank.

The following acts on the part of personnel of the bank or the contractors and third parties shall be construed as violation of social media policy:

i) Non-adherence to the standards/guidelines in relation to social media policy issued by the Bank from time to time.

ii) Any omission or commission which exposes the Bank to actual or potential monetary loss or otherwise, reputation loss on account of non adherence of social media related systems and procedures."

24.8 Purchase Preference to Micro and Small Enterprises (MSEs) and Startups and Purchase Preference linked with Local Content (PP-LC) shall be applicable subject to full compliance of other terms and conditions of the Contract.The conditions of the purchasing shall be applicable as per the Government of India Guidelines on Purchase Preference.

24.9 In case the final successful tenderer withdraws his tender, the Bank shall be entitled in its right to proceed with next successful tenderer or cancel the tender as deemed fit.

24.10 Techno Economic evaluations:

Being a techno - economical project, besides the capital cost, the present value of Comprehensive AMC charges for 4 years after completion of defect liability period will also be evaluated.The present value of the AMC component per year will be calculated as per the following formula:

$$\text{Present Value} = c/(1+r)^n$$

Where 'c' is the annual AMC of each year

'r' is Marginal Cost of Fund Based Lending Rate (MCLR) (Considered at prevailing rate at the time of opening of tender)

'n' is number of years, ie., n is 1 for 1st year and 2 for 2nd year…

The above mentioned calculation is for Price comparision purpose only.

Therefore, the tenderers / contractors shall furnish the AMC charges in the price bid for for years and terms of AMC shall be furnished in the technical & commercial bid clearly furnishing the details regarding the scope of AMC, details of spares, consumables & equipments covered and also details of exclusions.

24.11 In case of quoting for very low abnormal AMC rates, Bank reserves the right to seek for the Performance Guarantee to the extent of 10% of the project cost throughout the 5 year period (1year Defect Liability period and 4 years under CMC)

24.12 The notice inviting tender, general rules & instructions for the guidance of tenderers shall form a part of the contract document. The successful tenderer/contractor, on acceptance of his tender by the Accepting Authority, shall, within 14 days from the stipulated date of start of the work sign on a stamp paper the contract consisting of :-

(a) Standard form of Agreement on stamp paper.

(b) Notice inviting tender, all the documents including tender, forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto. General Conditions, Schedules leading to Technical Specification, Special Conditions, Technical Brochures in schedules submitted by the tenderer etc.,

(c) Price Bid / Schedule Bill of Quantities.

T E N D E R - O F F E R

I/We have read and examined the Notice Inviting Tender, prequalification criterion, proforma filled in by the successful Contractor, Schedules, Specifications Applicable, Drawings and Designs, General Rules and Instructions, General Conditions of Contract, Special conditions, Schedule (Bill) of quantities in Price Bid, and all other documents referred to in the conditions of contract and all other contents in the tender document for the work.

I/We hereby tender for the execution of the work and installation of solar power (130 KWp Capacity ON Grid, 1 Kwp at OFF Grid, 100 LD Solar Water Heater) specified for the Employer within the time specified at the rates specified in the attached Price Bid viz., schedule of quantities and in accordance in all respects with the specifications, designs drawings and instructions in writing referred to in the General Rules and Instructions, General Conditions of Contract and in all respects in accordance with, such conditions so far as applicable.

I/We agree to keep the tender open for **90 (Ninety days)** from the due date of submission thereof and not to make any modifications in its terms and conditions. A sum of Rs 2,00,000.00 is hereby forwarded as earnest money in form of Demand Draft of Rs 2,00,000.00 (Name of the issuing Schedule Bank) bearing no…….. and date . .....

In the event of my / our failure to commence the work on the specified date after award I/We agree that the Bank shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely otherwise the said earnest money shall be retained by it towards security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein.

I/We hereby declare that I/We treat the tender documents, drawings and other records connected with the work as secret/confidential documents and shall not communicate information/derived there from to any persons other than a person to whom I/We am /are authorised to communicate the same or use the information in any manner prejudiced to the safety of the State / the Employer.

I/We fully understand that you are not bound to accept the lowest or any tender you mayreceive. Shri. _____, Partner/Proprietor/Authorised representative of the Company, is the person authorised to negotiate commercial, technical terms & conditions &sign on behalf of the firm any Agreement, Bills & receipts for this work.

I/We agree that until a formal agreement on stamp paper is prepared and signed, this tender with your written acceptancethereof shall constitute a binding contract between us.

Dated the: .....day of …… 2020

Signature of Contractor

Witness, Name & address:
Full Postal Address including

Pin Code NO. & Telephone NO.

1).

2).

A C C E P T A N C E

The above tender (as modified by us or negotiations as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the Employer for a sum of Rs._____(Rupees _____)

The letters referred to below shall also form part of this contract agreement:

a)

b)

c)

Dated this _____day of 2020

For & on behalf of the Employer

Signature :_____

Designation:_____

GENERAL CONDITIONS OF CONTRACT

Except where provided for in the description of the individual items in the schedule of quantities and in the specifications and conditions laid down hereinafter and in the Drawings, the work shall be carried out as per standard specifications and under the direction of the Employer.

1. DEFINITIONS / INTERPRETATIONS ::-

i). The `Contract' means the documents forming the tender and acceptance thereof and the agreement duly executed between the Employer and the Tenderer, together with the documents referred to therein including those conditions, the specifications, schedule of quantities, tender agreement, designs, drawings and instructions issued from time to time by the Engineer-in-Charge. All these documents taken together, shall be deemed to form one contract and shall be complementary to one another.

ii). In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them :-

a) The ' Firm', `Tenderer' or `Supplier' or `Contractor' or 'Contractor' shall mean the individual Kartha, or Manager of HUF, firm or Company, whether incorporated or not, undertaking the works and shall include the legal heirs/representatives of such individual or the partners composing firm and theirs legal heirs and successors, or company's authorised and constituted attorneys/agents and permitted assignees of such firm or company.

b) The `Employer' or `Bank' or 'Purchaser' means any officer of the Canara Bank, who is specifically authorised to enter into contracts in respect of the above works.

c) The `Engineer-in-Charge' means the Senior Manager, or Officer, / Engineer and/or Site Engineer who shall supervise and be in-charge of the work or any other authorised representative or person specifically deputed by the Employer wherever they are employed from time to time by the Employer.

d) “Contract Value” shall mean the final accepted rates in the Price Bid excluding AMC charges.

e) `Date of Contract' means the `Calendar date on which the Employer and Contractor have signed the Agreement on the Stamp Paper.

f) "Accepting Authority" shall mean the Deputy General Manager, GA Wing, Bangalore.

'Approval' wherever used in the specifications or schedule of Quantities shall mean, respectively, approved by or approval of the `Accepting Authority' in writing.

g) `Appellant Authority' shall mean The General Manager, GA Wing , Bangaloreof the Bank (the Employer). Who shall also be the authority to consider any extension of time or compensation as defined in clause hereunder.

h) `Notice in writing' or `written notice' shall mean a notice in writing typed or printed characters delivered to or sent by registered post to the last known address private or business address or registered office address, and shall be deemed to have been received when in ordinary course of post it would have been delivered, and/or delivered personally, or otherwise proved to have been received.

i) `virtual completion' shall mean that the work/installation is complete in all respects in the opinion of the Employer and for which the completion/clearance certificate has been issued by the Engineer -in-charge and the installation is fit for usage.

i) `Drawings' shall mean all drawings and/or design drawings furnished by the tenderer / sketches duly signed by the authorised Engineer-in-charge on behalf of the Employer before commencement or during the progress of the work.

k) `Letter of Acceptance' shall mean an intimation by a letter issued by the Accepting Authority of the Employer to tenderers that his tender has been accepted in accordance with the provisions in the said letter.

l) "Warranty period" or “Defect Liability period (DLP)” shall mean a period of 1 year from the certified date of virtual completion issued by the Engineer-in-charge and accepted by the Employer.

m) "Site" shall mean the Bank’s Centre Of Excellence,(Erstwhile Rstc Gurugram), Plot No 80, Sector 18 , Gurugramwhere the solar photo voltaicpower plant is to installed and commissioned as per tender by the employer for the firm's use.

2. SCOPE OF WORKS TO BE CARRIED OUT::

2.1 The work consists of the contractor's own designbased on technical specifications furnished. The contractor / supplier shall be responsible for its functioning according to the design criteria and its parameters. Notwithstanding the details furnished, any discrepancies shall be brought out in the technical bid highlighting the shortcomings and suggest modifications.

2.2 The work to be carried out under the contract shall, except as otherwise provided in these conditions, include all labour, materials, tools, plants, equipment and transport which may be required in preparation of and for and in the full and entire execution and completion of the works.

2.3 The descriptions given in the Schedule of Quantities shall, unless otherwise stated, be held to include wastage on material, carriage and cartage, carrying and return of empties, hoisting, setting, fitting and fixing in position and all other labour necessary and for the full and entire execution and completion as aforesaid in accordance with good engineering practice and recognized principles.

2.4 The several documents forming the Contract are to be taken as mutually explanatory of one another, detailed drawing being followed in preference to small scale drawing and figured dimensions in preference to scale and special conditions in preference to General Conditions.

2.5 In the case of discrepancy between the schedule of quantities, the specifications and/or the Drawings, the following order of preference be observed:-

a) Description in Schedule of Quantities.
b) Particular Specifications and Special condition, if any
c) Drawings prepared for the design.
d) BIS Specifications.

2.6 If there are varying or conflicting provisions made in any one or more document(s) forming part of the contract, the Accepting Authority shall be the deciding authority with regard to the intention of the document and his decision shall be final and binding on contractor.

2.7 Any error in description or quantity or rate in Schedule of Quantities or any omission there from shall not vitiate the Contract or release the contractor from the execution of the whole or any part of the works comprised therein according to drawings and specifications or from any of his obligations under the Contract.

2.8 The contractor shall forthwith comply with and duly execute any work comprised in such Employer's instruction, provided always that verbal instructions,

directions and explanations given to the contractor's or his representative upon the works by the Employer shall if involving a variation be confirmed in writing to the contractor/s within 7 days.

2.8.1 No work for which rates are not specifically mentioned in the priced schedule of quantities, shall be taken up without written permission of the Employer. Rates of items not mentioned in the priced schedule of quantities shall be fixed by the Employer as provided in clause "Variation".

2.8.2 Regarding all factory made products, they shall be manufactured as per their respective IS code updated and all test undertaken at factory.

3. The work shall be carried out at Bank' **Centre Of Excellence,(Erstwhile Rstc Gurugram), Plot No 80, Sector 18 , Gurugram**. The Intending tenderer shall visit the site and make himself thoroughly acquainted with the local site conditions, nature and requirements of works, facilities of transport condition, effective labour and materials, access and storage for materials and removal of rubbish. The tenderer shall provide in his tender cost of carriage, freight and other charges as also for any special difficulties and including police restriction for transport etc. for proper execution of work as indicated. The successful tenderer will not be entitled to any claim of compensation for difficulties faced or losses incurred on account of any site condition which existed before the commencement of the work or which in the opinion of the Employer might be deemed to have reasonably been inferred to be so existing before commencement of work. Work shall be carried out through qualified engineer/supervisor with appropriate license as per statutory rules.

4. TENDERS ::

4.1 The entireset of tender document issued to the tenderer should be submitted fully priced and also signed on the last page ofrespective chapter (this shall be acceptance of all the pages of the tender and its stipulations) together with initials on every page. Notwithstanding this, Initials / signature in every page will indicate the acceptance of the tender papers by the tenderer. (Also refer point no.15 of General Rules & Instruction for guidance of tenderers)

4.2 No modifications, writing or corrections can be made in the tender papers by the tenderer, but he may at his option offer his comments or modifications in a separate sheet of paper attached to original tender papers.

4.3 The tenderers should note that the tender is strictly on item rate basis and their attention is drawn to the fact that the rates for each and every item should be correct, workable and self-supporting.

4.4 If called upon by the Employer, detailed analysis of any or all the rates shall be submitted. The Employer shall not be bound to recognize the contractor's analysis.

4.5 The Tenderer shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the rates and prices quoted in the price bid, which rates and prices shall, except as otherwise provided, cover all his obligations under the Contract and all matters and things necessary for the proper completion and maintenance of the works.

5. SIGNING OF CONTRACT & AGREEMENT::

5.1 The successful tenderer/contractor, on acceptance of his tender by the Accepting Authority, shall, within 14 days from the stipulated date of start of the work sign the contract consisting of :-

a) Standard form of agreement on stamp paper, the notice inviting tender, all the documents including drawings, if any, forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.
b) Standard tender form consisting of::
    a. Notice inviting tender, eligibility criteria, General Rules and Instructions.
    b. General Conditions of contract and clauses of contract alongwith Annexures thereto, like specification, special conditions etc.
    c. Bill of Quantity and Price Bid.
    d. List of Approved Brands/manufacturers appended, if any

5.2 Contractor shall sign an Indemnity Bond in Bank's approved format (FORMAT ATTACHED) before starting the work, indemnifying the Bank from any damages, prosecution, other legal suits and claims arising out of any mishaps occurring at the site due to faulty work, non fulfilling safety precautions, faulty construction and for violating any statutory rules and regulations for which the contractor shall be solely responsible.

5.3 The contractor shall pay for all stamps and legal expenses, incidental thereto.

6. PERMITS AND LICENCES::

6.1 Permits and licenses for the release of materials or its purchases which are under Government control will be arranged by the contractor. It may be clearly understood that no compensation or additional charges can be claimed by the contractor for non-availability of such materials in due time on this account or according to his own requirements.

6.2 The contractor may, however, be eligible to a proportionate extension of time on this account which in the opinion of the Employer is reasonable.

7. GOVERNMENT AND LOCAL RULES::

The contractor shall conform to the provisions of all local bye-laws and acts relating to the work and to the regulations etc. of the Government and Local Authorities and of any Company whose system and design is proposed to be connected / utilised. The cost, if any, shall be deemed to have been included in his quoted rates, taking into account all liabilities and shall indemnify the Employer against such liabilities and shall defend all actions arising from such claims or liabilities.

8. TAXES AND DUTIES ::

The tendered cost must include all duties royalties, cess and sales tax or any other taxes or local charges if applicable. No extra claim will be entertained with exception herein specified below.

i). The tenderers must include in their tendered cost all duties royalties, cess, Work contract tax, Goods & Service Tax, Service tax and sales tax or any other taxes or local charges like octroi etc. No extra claim on this account will in any case be entertained. However, pursuant to the Constitution (Forty Sixth Amendment) Act, 1982, if any further new tax, royalties cess or levy is imposed by Statute, and any Central Excise Duty by the Central Government on the Main Equipmentand not on any type of sub-components or material involved in its manufacture or on installation materials like piping or electrical cabling, its switch gears etc., after the date of receipt of tenders, and the contractor there upon necessarily and properly pays such taxes / levies the contractor shall be reimbursed the amount so paid, provided such payments, if any, is not, in the opinion of the Employer (whose decision shall be final and binding on the contractor) attributable to delay in execution of work within the control of the contractor. On account of any downward revision of such taxes / levies, the benefit shall be passed on to the Employer and shall be binding on the contractor even without the claim by the Employer.

ii). The contractor shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by a duly authorised representative of the Employer and / or the Engineer-in-charge and further shall furnish such other information / document as the Employer may require from time to time.

iii). The contactor shall, within a period of 30 days of the imposition of any such further tax / levies, described above, give a written notice to the Employer that the same is given to pursuant to this condition, together with all necessary information relating thereto.

For this purpose the tenderers are requested to furnish the present tax structures separately with the Technical and commercial bid.

9. No optional items should be quoted in the tender.

10. QUANTITY OF WORK TO BE EXECUTED:

The quantities shown in the schedule of quantities are intended to cover the entire works as per the drawings / scope of work, and therefore the contractor is bound to complete the works at the same quoted rates in the event of quantity exceeding the specified bill of quantity, but the Employer reserves the right to execute only a part or the whole or any excess thereof without assigning any reason therefore.

11. OTHER PERSONS OR AGENCIES ENGAGED BY THE EMPLOYER::

The Employer reserves the right to execute any part of the work included in this contract by other agency or persons and contractor shall allow reasonable facilities and use of his facilities for the execution of such work. The main contractor shall extend all co-operation in this regard.

Wherever the work is proposed in co-ordination with other agencies, the contractor shall co-operate with the schedule of works in such a manner as worked out by the Architect / Engineer-in-charge of the Employer.

12.EARNEST MONEY, RETENTION MONEY & TOTAL SECURITY DEPOSIT::

Earnest Money Deposit: The tenderer will have to deposit the specified amount of earnest money as detailed in the notice inviting tender at the time of submission of tender.However, those who have valid registration with MSME as on the date of submission of bids are exempted from payment of EMD.However, those who have exemption certificate from NSIC/Similar Government authorities as per provision of MSME Act will be exempted from submission of EMD subject to the submission of valid document/certificate to that extent.

No interest will be paid on the earnest money. The earnest money of unsuccessful tenderers will be refunded without any interest soon after the decision to award the work is taken or after the expiry of the validity period of the tender.

The successful tenderer to whom the contract is awarded will have to deposit as initial security deposit (including the Earnest Money) a further sum to make up 2% of the value of the accepted tender. The initial Security Deposit will have to be made within 14 days from the date of acceptance of tender, failing which the Employer at his discretion, without prejudice to any other rights/remedies

available under the terms of this Contract may revoke the letter of acceptance and forfeit the Earnest money deposit furnished along with the tender. The initial Security Deposit will not yield any interest & shall be held at Bank's end for the duration of the contract period. It shall be refunded to the contractor without any interest within fourteen days after the issue of certificates of virtual completion, after deducting any sum due from the contractor on any account under this contract.

Apart from the initial security deposit made as above, retention money shall be deducted from progressive running bills @ 8% of the gross value of each running bill until the total security deposit, i.e., the initial Security Deposit plus the retention money equals:

a) 10% on the first rupees one lakh of the tendered cost of work.
b) 7.5% on the next rupees one lakh of the tendered cost of work.
c) 5% on the remaining amount of the tendered cost of work.

50% of the retention amount is refunded to the contractor on completion subject to the following.

(i) Issue of virtual completion certificate by the Bank's Premises Department/ Architect
(ii) Contractor's removal of his materials, equipment, labour force, temporary sheds/ stores etc, from the site (excepting for a small presence required if any for the defect liability period and approved by the Bank).

The remaining 50 % of the retention amount will be refunded to the contractor, after deducting any sum due from the contractor on any account under this contract, 14 (fourteen) days after the end of defects liability period provided he has satisfactorily carried out all the work and attended to all defects in accordance with the conditions of the contract.

No interest is allowed on retention money.

A part of the Security Deposit if and as decided by the bank can also be furnished in the form of a bank guarantee from a Bank other than Canara Bank.

13 CONTRACTOR TO PROVIDE EVERY THING NECESSARY::

i). The contractor shall adhere to central/ state government for the proper execution of the work according to the intent and meaning of the design parameters, technical specifications, drawings and schedule of quantities. Based

on the details furnished in the Notice Inviting Tender The contractors should undertake their own assessment and design the plant and system required. If the contractor finds any discrepancies furnished it shall immediately brought to the notice of the Employer.

ii). The tenderer shall take full responsibility for adequacy, suitability and safety of all the design, works and methods of design / installation.

iii). The employer shall on no account be responsible for the expenses incurred by the contractor during the progress of work at site, towards any incidental expenditure like medical amenities to the workers at site, security arrangement etc. The employer shall not be responsible for the safety of the workers at site either on account of the works executed by the contractor or on account of the works executed by any other agency involved at that time.

iv). The Employer on no account shall be responsible for storage of materials or loss or pilferage or theft either in respect of the material stored or material already built and paid for by theEmployer.

v). The contractor shall at all times give access to workers employed by the Employer.

vi). All tools, equipment's and other required facilities for execution of work shall be provided by the contractor.

vii). Any facilities available at site shall be utilized only with prior permission of the Employer or the in-charge of the site / building owner and cannot be taken as granted and for such services utilises the Employer is entitled to charge at his discretion.

13.2 No extra charges shall be paid over and above what has been quoted for any of the above or for similar such services.

14. TIME OF COMPLETION, EXTENSION OF TIME & PROGRESS CHART::

i). Time of Completion: 60 days from the 14th day from the date of work order issued by the Bank..

The entire work is to be completed in all respects within the stipulated period. The work shall be deemed to commence from the date of issue of purchase order from

the date of acceptance letter or date of handing over site, whichever is earlier. Time is the essence of the contract and shall be strictly observed by the contractor.

The work shall not be considered as complete until the Employer have certified in writing that the work has been virtually completed and defect liability period shall commence from the date of such certificate.

ii). EXTENSION OF TIME::

(a) The time allowed for execution of the Works by the Contractor as specified or the extended time in accordance with these conditions shall be the essence of the Contract. If the contractor commits default in the execution of the work as aforesaid, the Employer shall without prejudice to any other right or remedy available in law be at liberty to forfeit the earnest money absolutely.

(b) Request for extension of time, to be eligible for consideration, shall be made by the contractor to the accepting authority in writing within fourteen days of the happening of the event causing delay. The contractor shall also, if practicable, indicate in such a request the total period for which extension is desired, overlapping period, if any, with earlier events causing delays.

(c) In such case the authority may give a fair and reasonable extension of time for completion of work. Such extension shall be communicated to the contractor by the Employer in writing, within 3 weeks of the date of receipt of such request. Non application by the contractor for extension of time shall not be a bar for giving a fair and reasonable extension by the Employer and this shall be binding on the contractor.

(d) The decision of the Employer for an extension of time for completion hereunder (which decision shall be final and binding on the contractor) shall be promulgated on completion of the work or at the conclusion of such events based on which the extension of time was sought by the contractor, and the Employer shall then, in the event of an extension being granted, determine and declare the final completion date. The provision in clause with respect to payment of Liquidated Damages shall, in such case, be read and construed as if the extended date fixed by the Employer were substituted for and the damage shall be deducted accordingly.

iii). Progress of Work :

During the period of work, the contractor shall maintain proportionate progress on the basis of a programme chart submitted by the contractor or prepared by the Engineer in charge whoever is responsible for such programme of work. Contractor

shall plan for procurement of materials, equipments well in advance and reflect the same in a progress chart so that there is no delay on the part of the contractor in completion of the project. Maintenance and production of such records as and when required shall be the responsibilities of the contractor.

15. LIQUIDATED DAMAGES::

Time is the essence of the contract. Thus the tenderer shall be aware and take note that non-supply or commissioning of the equipment / system will affect the Banks committed programs and thus the loss by way delayed services / completion of relatedworks etc, are invaluable and cannot be easily assessed. Therefore, it is part of the agreed terms that in the event of any delay in completion of the work, the Bank is liable to charge the tenderer without the necessity of providing for any details of such losses suffered by the Bank.

14.1 If the contractor fails to maintain the required progress in terms of the contract or to complete the work and clear the site on or before the contract or approved extended date of completion, he shall, without prejudice to any other right or remedy of the Employer on account of such breach, pay as agreed compensation the amount calculated at the rates stipulated below or such smaller amount as may be fixed by the employer on the contract value of the work for every completed week that the progress remains incomplete.

14.2 For this purpose the term `Contract Value' shall be value at the contract rates of the work as ordered / accepted and the Contract value does not include the AMC cost.

If the Contractor fails to complete the works within the time for completion stated in the tender or within any extended time under Clause 14.ii **hereof,** the Contractor shall pay the Employer the sum at the rate of 0.5 %of the Contract Value per week of delay subject to a maximum limit of 5 % of the Contract Value as "Liquidated damages" **for the period during which the said works shall so remain incomplete or the Employer may deduct aforesaid sum towards such damages from any monies due to the Contractor.**

15.3 The Employer shall have the right to adjust, / set-off againstany sum payable to the contractor under this or any other contract with the Employer anywhere in India/outside India.

16. TOOLS, STORAGE OF MATERIALS, PROTECTIVE WORKS AND SITE OFFICE REQUIREMENTS::

The contractor shall provide, fix up and maintain his establishment in an approved position at site and clear away on completion of the works and make good all works disturbed. The contractor shall not fix or place any placards or advertisement of any description or permit the same to be fixed or placed in or upon any hoarding, gantry, building structure other than those approved by the Employer. No fixtures or materials to be placed in such a manner that can be considered dangerous to the installation and to the persons working orpassing by or visiting the site.

16.1**Storage of materials** :The contractors shall make use of existing facilities with due permission of the Employer for storage of materials at site, but watch & ward arrangements for the safety of materials shall be the responsibility of the contractor.**Additional covered space required if any, shall be arranged at the tenderer's own cost in the open space identified/ear marked by the Bank.**

17. NOTICE AND PATENTS OF APPROPRIATE AUTHORITY AND OWNERS::

17.1 The contractor shall conform to the provisions of any Acts of the Legislature relating to the work, and to the regulations and bye-laws of any authorities, and or other Companies (Indian or International), and / or Statutory Authorities, with whose system and design or technical know-how are/were proposed to have connection with this work. So also the contractor shall before making any variations from the drawings or specification that may be associated to so conform, give the Employer written notices specifying the variations proposed to be made and the reasons for making them and apply for instruction thereon. The Employer on receipt of such intimation shall give a decision within a reasonable time.

17.2 The contractor shall arrange to give all notices required for by the said Acts, regulations or Bye-laws to be given to any authority, and to pay to such authority or to any public officer all fees that may be properly chargeable in respect of the work and lodge the receipts with the Employer.

17.3 The contractor shall indemnify the Employer against all claims in respect of patent rights, royalties, damages to buildings, roads or members of public in course of execution of work and shall defend all actions arising from such claims and shall keep the Employer aloof and indemnified in all respects from such actions, cost and expenses.

18. CLEARING SITE AND SETTING OUT WORKS::

18.1 The site of work shown shall be cleared of all obstructions, waste materials, rubbish of all kinds. All material damages on the place of work on the walls, ceiling or flooring or any other connected equipments, materials or installations shall be re-done to maintain the originality and leveled at the contractors own cost.

18.2 The contractors shall set out the works and shall be responsible for the true and perfect setting out the works and for the correctness of the positions, levels, dimensions and alignment of all parts thereof. If at any time, any error shall appear during the progress of any part of the work, the contractor shall at his own expenses rectify such error, if called upon to the satisfaction of the Employer.

19. FIXING, FASTENING OF EQUIPMENTS::

19.1 The contractor is to fix the equipments on the floor by means of appropriate method so that such equipments fixed on to the floor shall not fall by its own or by natural movements of wind, air normal human operations and shall adopt the best engineering traditions and use appropriate tools in such operations.

19.2 The contractor while fixing any material or equipment to be suspended from the ceiling, shall use fasteners of suitable strength to hold the weight of the suspended system/equipment or material and such fasteners shall be fixed by means of power drills. The contractor shall not chip the ceiling unless ordered & approved by the Engineer- in-charge.

19.3 The contractor shall not puncture the existing civil structures like beams, columns and shall not undertake any type of activity which could affect the structural stability. He shall be responsible for any damages and costs in its rectification.

20. CONTRACTOR IMMEDIATELY TO REMOVE ALL OFFENSIVE MATTERS ::

All waste materials and other matters of any offensive nature shall be taken out once the works are completed. The contractor shall keep the works free from dangerous materials like industrial gases, welding machines and any such devices or material of toxic and poisonous nature shall not carry within the site or building any material which are explosive in nature. Any such offensive

materials which are essentially required in course of work shall be undertaken with due written permission of the Employer provided such materials are permissible under Law.

21. ACCESS ::

Any authorised representatives of the Employer shall at all reasonable times have free access to the works and / or to the workshops, factories or other places where materials or equipments are being prepared or constructed for the work and also to any place where the materials are lying or from where they are being obtained, and the contractor shall extend necessary facility to the Employer or their representatives for inspection examination and testing of the quality & workmanship of the materials.

22. MATERIALS, WORKMANSHIP, SAMPLES, TESTING OF MATERIALS::

22.1 All the works specified and provided for in the specifications or which may be required to be done in order to perform and complete any part thereof shall be executed in the best and most workmanlike manner with materials of the best and approved quality of the respective kinds in accordance with the particulars contained in and implied by the specifications and as represented by the drawings or according to such other additional particulars, and instructions as may from time to time be given by the Employer during the execution of the work, and to his entire satisfaction. The works shall be executed with best workmanlike manner confirming BIS Specifications, Indian Electricity Act & Rules, Statuatory norms prescribed by local bodies like SEBs,DBHVN,HAREDA etc.

22.2 If required by the Employer, the contractor shall have to carry out tests on materials and workmanship in approved material testing laboratories or as prescribed by the Employer at his own cost to prove that the materials etc. under test conform to relevant I.S. standardsor as specified in the specifications. The necessary charges for sample material, transporting, testing etc. shall have to be borne by the contractor.

22.3 All material must be the best of their kind available and the contractors must be entirely responsible for the proper and efficient carrying out of the work. Samples of all the materials to be used must be submitted to the Employer when so directed by the Employer.

22.4 Should the work be suspended by any reason, the contractor shall take all precautions necessary for the protection of work and at his own expenses shall make good any damages arising from any of these causes.

23. REMOVAL OF IMPROPER WORK::

23.1 The Employer shall during the progress of the work have power to order in writing from time to time the removal from the work within such reasonable time or times as may be specified in the order of any materials which in the opinion of the Employer are not in accordance with specification or instructions, the substitution or proper re-execution of any work executed with materials or workmanships not in accordance with drawings and specifications or instructions.

23.2 In case the contractor refuses to comply with the order the Employer shall have the power to employ and pay other agencies to carry out the work and all expenses consequent thereon or incidental thereto as certified by the Employer shall be borne by the contractor or may be deducted from any money due to or that may become due to the contractor.

24. CONTRACTOR'S EMPLOYEES::

24.1 The contractor shall employ technically qualified and competent supervisors for the work who shall be available (By turn) throughout the work and shall participate during site meetings and be available to take and comply with instructions of the Employer. In case of electrical works as per statutory Acts & Rules of Electricity Board and Electrical Inspectorate, the persons so employed shall have the requisite supervisory permit or wireman permit for appropriate nature of work undertaken.

24.2 No Child Labour :

No labour below the age of eighteen years shall be employed on the work. In case of electrical works, the labour employed by the tenderer or their sub-contractor should be authorized person as permitted by the Chief Electrical Inspectorate office of the respective state Government. The Employer shall not be responsible for any deviation and the tenderers shall indemnify the Employer from any legal action or in any way directly or indirectly.

24.3 LABOUR LEGISLATION::

The tenderer shall comply with the provisions of the payment of Wages Act, 1936, Minimum Wages Act, 1948, Employees Liability Act, 1938, Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947, Maternity Benefits Act, 1961, and the Contractors Labour (Regulation and Abolition) Act 1970, or the modifications thereof or any other laws relating thereto and the rules made there under from time to time.

24.4 The tenderer shall, notwithstanding the provisions of any contract to the contrary, cause to be paid fair wage to labour indirectly engaged on the work, including any labour engaged by his sub-contractors in connection with the said work, as if the labour had been immediately employed by him.

24.5 The tenderer shall indemnify and keep indemnified the Employeragainst payments to be made under and for the observance of the laws aforesaid and the Contractors' Labour Regulations without prejudice to his right to claim indemnify from his sub-contractors. The laws aforesaid shall be deemed to be a part of this contract and any breach thereof shall be deemed to be a breach of this contract.

24.6 COMPLIANCE OF LABOUR REGULATIONS:

i) The Tenderer shall at his own expense arrange for all the safety provisions for the safety of all workers and employees directly or indirectly employed on the work by the tenderer or his sub- contractors as mentioned in the Safety Code of this tender.

ii) The Tenderer shall be fully responsible for compliance at his own expense all the labour regulations and rules to be observed by him and his sub-contractors and by the Employer as Principal Employer of workers. The Tenderer shall fully indemnify the Employer against any action by the state and/or Central Government for any default or alleged default by the Tenderer, Sub-contractor of any of such rules and regulations. If, due to any default of the tenderer or his sub-contractors, the Employer has to incur any expenditure for compliance of the rules and regulations or for any other reason connected with such default, the Employer shall be entitled to recover from the tenderer all such expenditure in full from any payment due to the tenderer.

25. DISMISSAL OF WORKMEN::

The contractor shall on request of the Employer immediately dismiss or take of from the works any person employed thereon by him, who may in the opinion of the Employer be unsuitable or incompetent or who may misconduct himself. Such discharge shall not be the basis of any claim for compensation or damages against the Employer or any of their officers or employee.

26. ASSIGNMENT::

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 underlet the contract or any part, share or interest therein nor, change in

constitution and no subletting shall relieve the contractor from the full and entire responsibility of the contract or from active superintendence of the work during their progress.

27. DAMAGE TO PERSONS AND PROPERTY INSURANCE ETC ::

27.1 Damages to persons : THE Tenderer shall be responsible for all injury to the work or workmen to persons, animals or things and for all damages to the structural and/or decorative part of property which may arise from the operations or neglect of himself or of any sub-contractor or of any of his or a sub-contractors employees, whether such injury or damage arise from carelessness, accident or any other cause whatsoever in any way connected with the carrying out of this contract.

27.2 The clause shall be held to include interalia, any damages to buildings whether immediately adjacent or otherwise, and any damage to roads, streets, footpaths or ways as well as damages caused to the buildings and the works forming the subject of this contract by rain, wind or other inclemency of the weather.

27.3 The tenderer shall indemnify the employer and hold harmless in respect of all and any expenses arising from such injury or damages to persons or property as aforesaid and also in respect of any claim made in respect of injury or damage under any acts of compensation or damage consequent upon such claim.

27.4 Damages to property: The Tenderer shall reinstate all damage of every sort mentioned in this clause, so as to deliver the whole of the contract works complete and perfect in every respect and so as to make good or otherwise satisfy all claims for damages to the property or third parties.

27.5 The tenderer shall effect the insurance necessary and indemnify the employer entirely from all responsibility in this respect. The insurance must be placed with a company approved by the employer and must be effected jointly in the name of the contractor and the employer and the policy lodged with the latter. The scope of insurance is to include loss or damage to the work and workmen due to carelessness, accident including fire, earthquake, floods, etc., damage or loss to the contract itself till this is made over a complete state. Insurance is compulsory and must be effected from the very initial stage. The contractor shall also be responsible for anything which may be excluded from damage to any property arising out of incidents, negligence or defective carrying out of this contract.

27.6 THE employer shall be at liberty and is hereby empowered to deduct the amount of any damages, compensations, costs, charges and expenses arising or

occurring from or in respect of any such claim or damages from any sums due or to become due to the contractor.

27.7 If the tenderer or his working people or servants shall break, deface, injure or destroy any part of building in which they may be working, or any building, road, road curb, fence, enclosure, water pipe, cables, drains, electrical cables or telephone post or wires, trees, grass or grass land, or cultivated ground contiguous to the premises on which the work or any part is being executed, or if any damage shall happen to the work while in progress, from any cause whatever or if any defect, or other faults appear in the work within twelve months after a certificate final or otherwise or its virtual completion shall have been given by the Employer as aforesaid arising out of defect or improper materials or
workmanship the tenderer shall upon receipt of a notice in writing on that behalf make the same good at his own expense or in default the Employer/Engineer-in-Charge cause the same to be made good by other workmen and deduct the expense from any sums that may be then or at any time thereafter may become due to the tenderer, or from his security deposit, or the proceeds of sale thereof or of a sufficient portion thereof.

27.8 i) TRANSIT INSURANCE ::

Wherever specifically agreed to, the firm will insure at his cost the goods for all transit risks including 60 days storage risk from the date of the delivery of the goods at the final destination.

INSURANCE:

In his own interest the contractor shall insure the works and keep them insured until the virtual completion of the contract against loss or damages by fire and/or earthquake, flood. The insurance must be placed with a company approved by the Employer, in the joint names of the employer and the contractor for such amount and for any further sum if called to do so by the employer and lodge receipts of premiums paid with the employer within 21 days from the date of issue of letter of acceptance unless otherwise instructed.

Contractor shall strictly follow labour laws in force and obtain the necessary license for doing the work. He will be required to take care of the safety & security of the personnel employed and occupants of the flats, third parties, office equipments, building and other loose furniture's within the working area, during execution of the works. Contractor will be required to obtain Insurance policy "**Erection All Risk Policy (EAR)" for the entire duration of the works till settlement of final bills as**

per clause 27 of this contract document. Any damage to the articles, building shall be made good by the contractor at his cost.

27.9 The contractor in case of rebuilding or reinstatement after fire shall be entitled to extension of time for completion as the employer may deem fit.

28. ACCOUNTS RECEIPTS & VOUCHERS::

The contractor shall, upon the request of the Employer furnish them with all the invoices, accounts, receipts and other vouchers that they may require in connection with the works under this contract. If the contractor shall use materials less than what is required under the contract, the value of the difference in the quantity of the materials that was required to use and that actually used shall be deducted from his dues. The decision of the Employer shall be final and binding on the contractor as to the amount of materials the contractor isrequired to use for any work under this contract.

29. MEASUREMENT::

29.1 Before taking any measurement of any work the contractor shall give reasonable notice to the representatives of the Employer or the site engineer if any, and measurements particularly concealable in nature shall be jointly taken and recorded and such statement of measurement shall be enclosed along with the bill or running bills. In the event of such measurement taken directly by the contractor the details shall be recorded and routes be marked for inspection of the engineer-in-charge.

29.2 Any deviation or discrepancies observed by the engineer-in-charge shall be brought to the notice of the contractor or their representatives and during such inspection and measurement if the contractor fails to be present the certification of the engineer-incharge shall be final and binding on the contractor and the contractor shall have no right to dispute the same.

30. PAYMENT TERMS, ADVANCE PAYMENT & ITS RECOVERY ::

30.1 Payment Terms:
i). All bills shall be prepared by the contractor in the form agreed or furnished by the Employer.

ii). No mobilization advance amount will be paid to the firms. Payments to the contractor will be regulated as below:

a) 65 % of the cost of equipments against supply / delivery of equipments at site, duly unpacked and supported by necessary documents / test certificates etc, and certification of Engineer in charge.

b) 30 % upon installation, commissioning and upon handing over of the solar power plant after successful testing&commissioning at site.

c) 5% at the end of the warranty period of 1 year; this can be released against Bank guarantee for equivalent amount in favour of the Bank for the warranty period in approved Bank's format.

(iii) All such interim payments accepted by the Contractor shall be regarded as payments by way of advances against final payment only. These shall not preclude bad, unsound and imperfect or unskilled work to be rejected, removed, taken away and reconstructed or re-erected.

(iv) All such payments other than initial advance payment are subject to deductions of security deposit as detailed in the tender elsewhere.

30.2 Any certificate given by the Engineer-in-charge relating to the work done or materials delivered forming part of such payment, may be modified or corrected by any subsequent such certificate(s) or by the final certificate and shall not by itself be conclusive evidence that any work or materials to which it relates is/are in accordance with the contract and specifications.

30.3 Any such interim payment, or any part thereof shall not in any respect conclude, determine or affect in any way powers of the Engineer-in-charge/employer under the contract or any of such payments be treated as final settlement and adjustment of accounts or in any way vary or affect the contract.

30.4 Pending consideration of extension of date of completion interim payments shall continue to be made as herein provided.

30.5 All the payments, interim or otherwise other than the initial advance, are subject to statutory deductions of Income Tax & its Surcharge, Sales tax deductions as notified by respective Local State Government/Authority and any such instructions conveyed from time to time. From the interim bills, the retention money as detailed elsewhere in this tender shall also be deducted.

30.6 The final bill shall be submitted by the contractor within 1 (one) month from the date of completion of work or from the date of certification of virtual completion certified by the branch-in-charge.

30.7 FINAL PAYMENT::

(1) The Tenderer shall submit the final bill in the same manner as specified in interim bills within one month of physical completion of the work or within 15 days of the date of the final certificate of completion furnished by the Engineer-in-Charge whichever is earlier. No further claims shall be made by the tenderer after submission of the final bill or on acceptance of the final payment and these shall be deemed to have been waived and extinguished.

(2) In the event of any dispute, payments of those items of the bill in respect of which there is no dispute and of items in dispute, for quantities and rates as approved by Engineer-in-Charge, shall be made by the employer within the period specified herein under, the period being reckoned from the date of receipt of the bill by the Engineer-in-Charge.

a) If the gross amount of the work done under the contract items, plus that of additional deviated items is upto Rs.2 lakhs - 30 days.

b) - do - exceeds Rs. 2 lakhs & is upto Rs.20 lakhs - 45 days
c) - do - exceeds Rs.20 lakhs /- 60 days

31. VARIATION / DEVIATION::

The Engineer-in-Charge with the specific approval of the Employer shall have power to make alteration in, omissions from, additions to or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and the tenderer shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the Engineer-in-Charge. Such alterations, omissions, additions or substitution shall form part of the contract as if originally provided therein and any altered , additional or substituted work which the tenderer may be directed to do in the manner specified above as part of the works, shall be carried out by the tenderer on the same conditions in all respects including price on which he agreed to do the main work exceptas hereafter provided.

(a) No work which radically changes the original nature of the contract shall be ordered by the Engineer-in-Charge as a deviation.

(b) In the event of any deviation being ordered which in the opinion of the tenderer changes the original nature of the Contract, he shall within fifteen days of having been so ordered bring this to the notice of the Employer with the reasons

but nevertheless carry it out and the disagreement as to the nature of work and the rate to be paid therefore shall be resolved in accordance with Clause under caption "SETTLEMENT OF DISPUTES AND ARBITRATION".

c). The tendered rates, shall hold good for any increase or decrease in the tendered quantities upto variation of 15 % and as stipulated elsewhere for legitimate completion of works as per original design or scope of work and on account of any modification or alteration suggested and where the variation is for the respective item is beyond 15 %, the rate for the respective item may be reviewed on mutually agreed terms.

32. SUBSTITUTION ::

Should the contractor desire to substitute any materials and workmanship, He must obtain the approval of the Employer in writing for any such substitution well in advance. In respect of Materials whose makes are not specified in the tender, specific approval of the Employer has to be obtained in writing before their usage.

33. PREPARATORY WORK FOR UTILISATION OF THE FACILITY AFTER COMPLETION:

33.1 The whole of the work will be thoroughly inspected by the contractor and deficiencies and defects set right. On completion of such inspection the contractor shall inform the Employer that they have completed the work and it is ready for inspection.

33.2 On completion the contractor shall clean all the area and its surroundings, equipments etc. and will leave the entire area clean and ready for immediate usage to the satisfaction of the Employer.

34. CLEARING SITE ON COMPLETION::

34.1 On completion of the works the contractor shall clear away and remove from the site all constructional materials, plant & equipments, tools, surplus materials, scraps, rubbish and temporary works of every kind and leave the whole of the site and the works clean and in a workmanlike condition to the satisfaction of the Employer.

34.2 In the event of failure to clear the site as required the Employer have the right to undertake the same engaging other agency and the same shall be at the cost of the contractor and liable for deductions in the payments due to the contractor and the contractor shall not dispute such payments.

35. CONCEALED WORKS ::

The contractor shall give due notice to the Employer wherever any work is to be buried or concealed in the building in the earth, flooring, walls or otherwise becoming inaccessible later on, in order that the work may be inspected and correct dimensions or measurements taken before such burial. In default whereof the same shall, in the opinion of the Employer be either opened up for measurement at the contractors expenses or no payment may be made for such materials. Should any dispute or difference arise after the execution of any work as to measurements etc. or other matter which cannot be conveniently tested or checked, the notes / certification of the Engineer-in-charge shall be accepted as correct and binding on the contractor.

36. ESCALATION ::

The rate quoted shall be firm throughout the tenure of the contract (including extension of time, if any granted) and will not be subject to any fluctuation due to increase in cost of materials, labour, sales tax, octri etc. unless specifically provided in these documents.

37. IDLE LABOUR ::

Whatever the reasons may be, no claim for idle labour, additional establishment cost of hire and labour charges of tools and plants would be entertained under any circumstances.

38. SUSPENSION OF WORKS ::

38.1 Subject to other provisions contained, the Employer may without prejudice to his any other rights or remedy against the tenderer in respect of any delay in commencing, completing or during the progress of work or inferior workmanship, may serve notice in writing absolutely determine and cancel the contract in any of the following cases;

i) If the contractor having been given by the Employer a notice in writing to rectify, reconstruct or replace any defective work or that the work is being performed in any inefficient or otherwise improper or un-workman like manner shall comply with the requirement of such notice for a period of seven days thereafter.

ii) If the contractor being a company shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver or a manager

on behalf of a creditor shall be appointed or if circumstances shall arise which entitle the court or the creditor to appoint a receiver or a manager or which entitle the court to make a winding up order.

iii) If the contractor has without reasonable cause failed to commence the work or has suspended the progress of the work or has failed to proceed with the work with due diligence so that in the opinion of the Employer (which shall be final and binding) he will be unable to secure completion of the work by the date for completion and continues to do so after a notice in writing of seven days from Employer.

iv) If the contractor fails to complete the work within the stipulated date or items of work with individual date of completion, if any stipulated, on or before such date (s) of completion and does not complete them within the period specified in a notice given in writing in that behalf by the Engineer-in-charge.

v) If the contractor persistently neglects to carry out his obligations under the contract and/or commits default in complying with any of the terms and conditions of the contract and does not remedy it or take effective steps to remedy it within 7 days after a notice in writing is given to him in that behalf by the Engineer-in-charge.

vi) If the contractor commits any acts mentioned in terms of tender hereof: And when the contractor has made himself liable for action under any of the cases aforesaid, the Employer shall have powers ::

a) To determine or rescind the contract of which termination or rescission notice in writing to the contractor under the hand of the Employer shall be conclusive evidence. Upon such determination or rescission, the security deposit of the contractor shall be liable to be forfeited and shall be absolutely at the disposal of Employer.

b) In any such event the contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of the contract. And in case action is taken under any of the provisions aforesaid, the contractor shall not be entitled to recover or be paid any sum for any work thereto or actually performed under this contract unless and until the Engineer-in-charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified; Provided further that any of the recoveries to be made when the excess cost incurred by the Employer is more than the Security Deposit to be forfeited, such recoveries

shall be limited to the amount by which the excess cost incurred exceeds the Security deposit so forfeited.

38.2 In any case in which any of the powers conferred upon the Employer hereof, shall have become exercisable &the same shall not be exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercisable in the event of any future case of default by the contractor and the liability of the contractor for compensation shall remain unaffected.

39. TERMINATION OF CONTRACT BY EMPLOYER ::

39.1 If the contractor::

(a) at any time makes default in proceeding with the works or any part of the work with due diligence and continues to do so after a notice in writing of 7 days from the Engineer-in-Charge; or

(b) commits default in complying with any of the terms and conditions of the Contract and does not remedy it or take effective steps to remedy it within 7 days after a notice in writing is given to him in that behalf by the Engineer-in-Charge; or

(c) fails to complete the works or items of work with individual dates of completion, on or before the date(s) of completion, and does not complete them within the period specified in a notice in writing is given to him in that behalf by the Engineer-in-Charge; or

(d) shall offer or give or agree to give to any person in Bank service or to any other person on his behalf any gift or consideration as an inducement or reward for favouring him in relation to the obtaining or execution of this or any other Contract for the Employer or;

(e) shall enter into a Contract with the Bank in connection with which commission has been paid or agreed to be paid by him or his knowledge, unless the particulars of any such commission and the terms of payment thereof have been previously disclosed in writing to the Accepting Authority/Engineer-in-Charge; or

(f) shall obtain a Contract with the Employer as a result of wrong tendering or other unethical methods of competitive tendering; or

(g) being an individual, or in a firm, any partner thereof shall at any time be adjudged insolvent or have a receiving order or order for administration of his

estate made against him or shall take any proceedings for liquidation or composition (other than a voluntary liquidation for the purpose or amalgamation or reconstruction) under any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or composition or arrangement for the benefit of his creditors or purport so to do, or if any application be made under any Insolvency Act for the time being in force for the sequestration of his estate or if a trust deed be executed by him for benefit of his creditors; or

(h) being a company, shall pass a resolution or the Court shall make an order for the winding up of the company or a receiver or manager on behalf of the debenture holders or others shall be appointed or circumstances shall arise which entitle the Court or debenture holders to appoint a receiver or manager; or

(i) shall suffer an execution being levied on his goods and allow it to be continued for a period of 21 days; or

(j) assigns, transfers, sublets (engagement of labour on a piece-work basis or of labour with materials not to be incorporated in the work, shall not be deemed to be subletting) or otherwise parts with or attempts to assign, transfer sublet or otherwise parts with the entire works or any portion thereof without the prior written approval of the Accepting Authority;

39.1.2 The Accepting Authority may, without prejudice to any other right or remedy which shall have accrued or shall accrue thereafter to the Employer, by a notice in writing cancel the contract as a whole or only such of items in default from the tenderer.

39.1.3 The Engineer-in-Charge shall on such cancellation by the accepting authority have powers to, for which the contractor shall hereby unconditionally agree ::

(a) to take possession of the Site and any materials, constructional plant, implements, stores, etc., thereon; and/or

(b) to carryout the incomplete work by any means at the risk and cost of the Tenderer.

39.2 On cancellation of the Contract in full or in part, the Engineer-in-Charge shall determine what amount, if any, is recoverable from the contractor for completion of the works or part of the Works or in case the Works or part of the Works is not to be completed, the loss or damage suffered by the Employer. In determining the amount, credit shall be given to the contractor for the value of the

work executed by him up to the time of cancellation, the value of contractor's materials taken over and incorporated in the work.

39.3 Any excess expenditure incurred or to be incurred by the Employer in completing the Works or part of the Work or the excess, loss or damages suffered or may be suffered by the Employer as aforesaid after allowing such credit shall without prejudice to any other right or remedy available to Employer in law be recovered from any money due to the Tenderer on any account, and if such moneys are not sufficient the Tenderer shall be called upon in writing and shall be liable to pay the same within 30 days.

39.4 If the Contractor shall fail to pay the required sum within the aforesaid period of 30 days, the Engineer-in-Charge with the approval of the Employer shall have the right to sell any or all of the Contractor's unused materials, constructional plant, implements, temporary buildings, etc. and apply the proceeds of sale hereof towards the satisfaction of any sums due from the Contractor under the Contract and if thereafter there be any balance outstanding from the Contractor, it shall be recovered in accordance with theprovisions of the Contract.

39.5 Any sums in excess of the amounts due to the Employer and unsold materials, constructional plant, etc., shall be returned to the Contractor, provided always that if cost or anticipated cost of completion by the Employer of the Works or part of the Works is less than the amount which the Contractor would have been paid had he completed the Works or part of the Works, such benefit shall not accrue to the Contractor.

40. SETTLEMENT OF DISPUTES AND ARBITRATION ::

40.1 It shall be an inseparable part of the contract that in matters regarding quality of materials, workmanship, removal or rejection of improper work, interpretation of the drawings and specifications, measurements of materials and/or items of work, mode of procedure and carrying out of the work, the decision of the Engineer-in-Charge which shall be given in writing, shall be final, conclusiveand binding on the tenderer.

40.1(A). If the tenderer considers any work demanded of him to be outside the requirements of the contract, or considers any drawings record or decision given in writing by the Engineer-in-Charge on any matter in connection with or arising out of the contract or carrying out of work, to be unacceptable, he shall promptly within 15 days request the Employer in writing for written instruction or decision. Thereon, the Employer shall give his written instructions or decision within a period of two months from the receipt of the tenderer's letter.

(B) Upon receipt of such written instructions or decision the tenderer shall promptly proceed without delay to comply with such instructions or decisions. If the Employer fails to give his instructions or decision in writing within a period of two months after being requested or if the tenderer is dissatisfied with the instructions or decision of the Employer, the Contractor may within 30 days appeal to the designated Appellant Authority of the Employer who shall afford an opportunity to the tenderer to be heard and to offer evidence in support of his appeal. If he is dissatisfied with this decision, the tenderer shall within a period of thirty days from receipt of the Appellant Authority of the decision shall indicate his intention to refer the dispute to Arbitration, failing which the said decision shall be final and conclusive and not referable to adjudication by the Arbitrator.

40.3 All disputes or differences in respect of which decisions have not been final, binding and conclusive as above shall be referred for adjudication by the arbitration by a Sole Arbitrator appointed as follows :

40.4 Within one month of receipt of notice from any party to the contract for appointment of the Arbitrator the Appellant Authority, in charge of the work at the time of such appointment shall send to the tenderer a panel of three names of persons who shall not presently be connected with the work. The tenderer shall within fifteen days of receipt of this list select and communicate to the Appellant Authority the name of one person from the list who shall then be appointed as the sole arbitrator by the Appellant Authority.

40.5 If tenderer fails to communicate his selection of name, within the stipulated period, the Appellant Authority shall without delay select one person from the list and appoint him as Sole Arbitrator. If the Appellant Authority fails to send such a list within one month as stipulated, the tenderer shall send a similar list to the Appellant Authority within 15 days. The Appellant Authority shall then select one person from the list and appoint him as the Sole Arbitrator within 30 days of the receipt of the list. If the Appellant Authority fails to do so the tenderer shall communicate to the Appellant Authority the name of one officer from the list who shall then be the Sole Arbitrator.

40.6 If the Arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever another sole Arbitrator shall be appointed in the manner aforesaid. Such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor.

40.7 IT is term of this contract that the party invoking arbitration shall give a list of disputes with amounts claimed in respect of each such dispute along with the notice for appointment of arbitrator and giving reference to the rejection by the Appellant Authority of the appeal and a copy of his notice(s) of intention to refer the dispute to arbitration of such disputes as mentioned in Part (ii) above failing which the notice for appointment of the Arbitrator shall not be treated as notice for appointing the arbitrator.

40.8 It is also a term of this contract that no person other than a person appointed by Appellant Authority, in charge of the work as aforesaid should act as arbitrator and if for any reason that is not possible, the matter shall not be referred to arbitration at all.

40.9 It is also a term of the contract that if the tenderer does not make any demand for appointment of arbitration in respect of any claims in writing as aforesaid within 90 days of receiving the intimation from the Employer that the final bill is ready for payment, the claim of the contractor shall be deemed to have been waived and absolutely barred and the Employer shall be discharged and released of all liabilities under the contact in respect of these claims. No party shall be entitled to bring any claim to arbitration if the arbitrator has not been appointed before the expiry of sixty days after defect liability period.

40.10 The arbitration shall be conducted in accordance with the provisions of the Indian Arbitration Act, 1996, or any statutory modification or re-enactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceeding
under this clause.

40.11 The arbitrator may from time to time with the consent of the parties enlarge the time for making and publishing the award.

40.12 It is also a term of the contract that any fees TA, DA and other charges are payable to the Arbitrator shall be paid by both the parties equally.

40.13 It is also a term of the contract that the Arbitrator shall be deemed to have entered on the reference on the date of first hearing. The venue of the arbitration shall be such a place as may be fixed by the Arbitrator in his sole discretion. The fees, and charges of the Arbitrator shall, if required to be paid before the award is made and published, be paid half and half by each of the parties. The cost of the reference and of the award (including the fees, if any, of the Arbitrator) shall be in the discretion of the Arbitrator who may direct to and by whom and in what manner, such costs or any part thereof shall be paid and fix or settle the amount of costs to be so paid.

40.14 The award of the Arbitrator shall be final and binding on both the parties.

41. RIGHT TO AUDIT/TECHNICAL EXAMINATION ::

The Employer shall have the right to cause an audit and technical examination of the works and the final bills of the contractor including all supporting vouchers, abstract, etc., to be made even after payment of the final bill and if as a result of such audit and technical examination any sum is found to have been overpaid inrespect of any work done by the tenderer under the contract or any work claimed to have been done by him under the contract and found not to have been executed, the tenderer shall be liable to refund the amount of over-payment and it shall be lawful for the Employer to recover the same from him in the manner prescribed in clause 47 or in any other manner legally permissible and if it is found that the tenderer was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under payment shall be duly paid by the Employer to the tenderer, without any interest thereon; Provided that the tenderer shall not be entitled to payment of any sum paid short where such payment has been agreed upon between the Employer on the one hand and the tenderer on the other under any term of the contract permitting payment for work after assessment by the Engineer-in-Charge.

42. LIEN ::

(a) Whenever any claim or claims for payment of a sum of money arises out of or under the contract against the contractor, the Employer shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from the security, if any deposited by the tenderer and for the purpose aforesaid, the Employer shall be entitled to withhold the security deposit, if any, furnished as the case may be and also have a lien over the same pending finalisation or adjudication of any such claim. In the event of the security being insufficient to cover the claimed amount or amounts or if no security has been taken from the contractor, the Employer shall be entitled to withhold and have a lien to retain to the extent of such claimed amount or amounts referred to above, from any sum or sums found payable or which may at any time thereafter become payable to the contractor under the same contract or any other contract with the Employer pending finalisation or adjudication of any such claim.

(b) Any sum of money due and payable to the contractor (including the security deposit returnable to him) under the contract may be withhold or retained by way of lien by the Employer or any other contracting person or persons through Engineer-in-Charge against any claim of the Employer or such person or persons in respect of payment of a sum of money arising out of or under any other contract made by the contractor with the Employer or with such other person or persons.

(c) It is an agreed term of the contract that the sum of money or moneys so withheld or retained under the lien referred to above by the Employer will be kept withheld or retained as such by the Employer till the claim arising out of or under the contract is determined by the arbitrator (if the contracts governed by the arbitration clause) or by the competent court, as the case may be and that the tenderer will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to above and duly notified as such to the tenderer. For the purpose of this clause, where the tenderer is a partnership firm or a limited company, the Employer shall be entitled to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner/limited company as the case may be, whether in his individual capacity or otherwise.

43. EXTERNAL INSPECTION & AUDIT :-

(i) All works under or in course of execution or executed in pursuance of the Contract shall at all times be open and accessible to the inspection of the Quality Control Organisation of the Employer or any designated auditor / officials of the Employer and of the Chief Technical Examiner's Office under Central Vigilance Commission.

(ii) IF it shall appear to the Engineer-in-Charge or to the Engineer in charge of Quality Control or any designated auditors / officials of the Employer or to the Chief Technical Examiner, that any work has been executed with unsound, imperfect, or unskillful workmanship, or with materials or articles provided by him for the execution of the work which are unsound or of a quality inferior to that contracted or otherwise not in accordance with the contract, the contractor shall, on demand made in writing within the defect liability period from the Engineer-in-Charge specifying the work, materials or articles complained of notwithstanding that the same may have been passed, certified and paid for earlier, forthwith rectify, or remove and reconstruct the work so specified in whole or in part, as the case may require and provide other proper and suitable materials or articles at his own charge and cost.

(iii) In the event of the contractor failing to do so within a period specified by the Engineer-in-Charge in his demand aforesaid, the contractor shall be liable to pay compensation at the same rate as under the clause of defects after completion for this default.

(iv) In such case the Engineer-in-Charge may not accept the item of work at the rates applicable under the contract but may accept such items at reduced rates as the Employer or the competent authority may consider reasonable during the preparation of on account bills or final bill if the item is so acceptable without detriment to the safety and without substantially affecting the utility of the item

and the structure or he may reject the work outright without any payment and/or get it and other connected and incidental items rectified, or removed and re-executed at the risk and cost of the contractor. Decision of the Engineer-in-Charge to be conveyed in writing in respect of the same shall be final and binding on the tenderer.

44. FORCE MAJEURE

The bidder shall not be liable for forfeiture of its performance security, liquidated damages or termination for default, if and to the extent that it"s delay in performance or other failure to perform its obligations under the contract is the result of an event of Force Majeure. For purposes of this Clause, "Force Majeure" means an event beyond the control of the Bidder and not involving the bidder's fault or negligence and not foreseeable. Such events may include, but are not limited to, Acts of God or of public enemy, acts of Government of India in their sovereign capacity, acts of war, acts of CANARA Bank either in fires, floods, strikes, lock-outs and freight embargoes. If a Force Majeure situation arises, the Bidder shall promptly notify Bank in writing of such conditions and the cause thereof within twenty calendar days. Unless otherwise directed by Bank in writing, the Bidder shall continue to perform its obligations under the Contract as far as it is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event. In such a case, the time for performance shall be extended by a period not less than the duration of such delay. If the duration of delay continues beyond a period of three months, CANARA Bank and the bidder shall hold consultations with each other in an endeavor to find a solution to the problem. Notwithstanding above, the decision of Bank shall be final and binding on the bidder.

SIGNATURE OF TENDERER WITH SEAL

SAFETY CODE

Safety Norms to be followed by the Contractor

1. Safety Clause

i) The contractor should take all precautionary measures in order to ensure the protection of his own personnel moving about or working on the bank premises, and should conform to the rules and regulations of the bank.
ii) The Contractor should abide by all bank regulations in force from time to time and ensure that the same are followed by his representatives, agents or sub contractors or workmen.
iii) The contractor should ensure that unauthorized, careless or inadvertent operation of installed equipment which may result in accident to staff and / or damage to equipment does not occur.
iv) The Contractor should indemnify and keep the purchaser indemnified and harmless against all actions, suits, claims, demands costs charges or expenses arising in connection with any accident, death or injury, sustained by any person or persons within the bank premises and any loss or damage to bank property sustained due to the acts or omissions of the contractor irrespective of whether such liability arises under the workmen's compensation act or the fatal accidents act or any other statute in force from time to time.

2. EMS Requirements

i) The contractor shall ensure industrial safety methods in executing his work at bank premises.
ii) The contractor shall ensure that all wastes generated by his activities / work are moved to the respective dump sites or taken for re-cycling at bank.
iii) The contractor has to give prior information whether any hazardous chemical is used in his work and if so, the operational control to be exercised.
iv) The contractor has to ensure that all his material handling equipments / transport vehicles are emission tested.
v) The contractor has to ensure that his activities are in tune with the Canara Bank EMS Policy (to be incorporated as part of Contract)
vi) The contractors' staff shall be competent to operate emergency appliances like fire extinguishers.
vii) The contractors' staff shall be competent in the areas wherein the contract is awarded by evaluating through skill matrix by concerned official

3. OTHER SAFETY MEASURES

i) Adequate and appropriate tools shall be issued.
ii) The instruments are used to be conformed to Indian Standards.
iii) Suitable scaffolds shall be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except in the case of short

duration work, which can be done safely from ladders. When a ladder is used, it shall be of rigid construction made either of good quality wood or steel. The steps shall have a minimum width of 450 mm and a maximum rise of 300 mm. Suitable hand holds of good quality wood or steel shall be provided and the ladder shall be given an inclination not steeper than ¼ to 1 (¼ horizontal and 1 vertical).

iv) Ensure adequate lighting at work place.

v) Contractor should follow the terms and conditions/instructions of bank from time to time.

vi) Activities other than the specified activities as per the contract clauses, which are assigned to you, are not permitted at our premises.

vii) Ensure the Suitable guards are provided to the hand operating machine.

viii) Suitable lifting machineries and tackles are to be used to handle the materials.

ix) Any loss incurred to bank because of your activities shall be charged on your account.

x) The equipment's & materials stored at our premises are on your own risk.

xi) Before start of work, proper shut down (if necessary) is to be undertaken for safety

xii) Before start of any work, appropriate Work Permits shall be obtained.

xiii) Off cuts and wastes generated during the course of your work, must be suitably disposed identified areas.

xiv) The renewal of permit will be issued only on the basis of performance of compliance of the said rules, regulations, conditions and safety norms.

xv) The contractor shall engage qualified supervisors at the work site whenever men are engaged for work.

xvi) First aid box with adequate medicine are to be provided in the work area.

xvii) Disobeying or not following the conditions / precautions / procedures shall result in penalty. In serious cases, stoppage of work or cancellation of permits may be done.

xviii) The display board containing the details of nature of work, maximum number of staff working per shift, period of work, site in charge name and phone number and main office phone numbers is to be placed at prominent place.

xix) Staffs under your control are to be insured during the work period.

xx) All personnel of the contractor working within the plant site shall be provided with safety helmets. All welders shall wear welding goggles while doing welding work and all metal workers shall be provided with safety gloves. Persons employed on metal cutting and grinding shall wear safety glasses.

xxi) Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites of work shall be so stacked or placed as to cause danger or inconvenience to any person or the public.

4. Demolition

Before any demolition work is commenced and also during the process of the work.

i) All open areas adjacent to the work site shall either be closed or protected.
ii) No electric cable or apparatus, which is liable to be a source of danger over a cable or apparatus used by the operator, shall remain electrically charged.
iii) All practical steps shall be taken to prevent danger to persons employed from the risk so over loaded with debris or materials as to render it unsafe.

5. Personal Safety Equipment's

All necessary personal safety equipment as considered adequate by the Engineer should be kept available for the use of the person employed on the site and maintained in a condition suitable for immediate use, and the contractor should take adequate steps to ensure proper use of equipment by those concerned.

i) Those engaged in welding works shall be provided with welder's protective eyesight lids.
ii) Stonebreakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
iii) When workers are employed in sewers and manholes, which are in use, the contractor shall ensure that the manhole covers are opened and are ventilated at least for an hour before the workers are allowed to get into manholes and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public.
iv) The contractor shall not employ men below the age of 18 years. Women of any age shall not be engaged for the work of painting with products containing lead in any form. Whenever men above the age of 18 years are employed on the work of lead painting the following precautions should be taken.
v) Suitable facemasks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint dry rubbed and scraped.
vi) Overalls shall be supplied by the contractor to the workmen and adequate facilities shall be provided to enable the working painters to wash during the cessation of work.
vii) When the work is done near any public place where there is risk of accidents all necessary equipments should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision should be made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.

6. All the Indian Electricity rules 1956 on Electrical Safety should be strictly followed while execution of the Electrical works

7. These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person responsible for compliance of the safety code shall be named therein by the contractor.

   To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the contractor shall be open to inspection by the Labour Officer, Engineers of the Department or their representatives.

   Notwithstanding the above clause from (1) to (7), there is nothing in these to attempt the contractor from the operation of any other Act or Rule in force in the Republic of India.

SIGNATURE OF THE TENDERER WITH SEAL

FORM OF AGREEMENT

This agreement made the _____day of the month of _____in the year 2020 BETWEEN, Canara Bank a body corporate constituted under the Banking Companies (Acquisition and Transfer of undertakings Act, 1970, having its Head office, 112, J C Road, Bangalore) represented by its duly constituted attorney (hereinafter referred to as the Employer / Bank) on the ONE PART; and

*Sri_____S/D/o_____ ___ resident of _____the sole proprietor of M/s_____ having office at the following address _____

* M/s. _____ the partnership firm having an administrative/principal office at_____ represented by its Managing/duly authorised partner.

* M/s. _____ company/body corporate incorporated under the provisions of the Companies Act 1956 having its registered office at the following address _____, duly represented at _____ duly represented by its constituted and authorised Managing Director, Shri_____ and (hereinafter called the Tenderer which term shall also be called the Supplier or
the Contractor) on the other part

WHEREAS THE Employer / Bank is desirous that to undertake the work of Supply of solar power (130 KWp) from Solar Rooftop Plants at COE GURUGRAM, Buildingas detailed in the notice inviting tender and their office mentioned and called for invitation to tender and the tender opened on _____ furnished by the tenderer for the supply, installation and performance of such works has been accepted by the Employer on the terms and conditions as set out therein and interalia others.

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this agreement words and expression shall have the same meanings as are respectively assigned to them in the conditions of contract hereinafter referred to.
2. The following documents not inconsistent with these presents shall be deemed to form and be read and construed as part of this agreement viz;

a) Notice inviting Tender
b) General Rules and Instructions for the guidance of tenderers.

c) The Tender offer, Letter of Acceptance, Letters from & to the tenderer, if any, leading to and prior to acceptance letter.
d) General Conditions of contract along with Annexures thereto.
e) Safety Code
f) Schedules A to E consisting of Technical Specifications, Special Conditions, Questionnaire, tender drawings if any, etc.
[Note : * Strike off whichever is not applicable]
g) Schedule of quantities including Prices and tendered amount known as Price - Bid.
h) The details submitted in technical bid, design, technical brouchers, drawings and such other details etc.
3. In consideration of the payments to be made by the Employer to the tenderer, the tenderer hereby covenants and agrees with the Employer to carry out the Supply of solar power from ON Grid Rooftop Solar PV Power Plants, OFF GRID power plantand Solar Water heater through Vendor at COE GURUGRAM Building, complete and perform the works in conformity in all respects and subject to all terms and conditions/rules as mentioned in the General Conditions as also in the aforesaid documents which shall from part of this agreement.
In witness whereof the parties hereto have hereunto set their respective hands and seals the day and year first above written.

Signed, sealed and delivered by the said tenderer,_____
_____
_____ to the Employer_____in the presence of:

Signature of Tenderer (with seal)

Signature of Authorised representative
of the Employer / Accepting Authority.

Witness (Signature, Name & Address):

1).

2).

DRAFT FORMAT OF INDEMNITY BOND

(TO BE SUBMITTED BY THE SUCCESSFUL CONTRACTOR IN STAMP PAPER)

THIS DEED OF INDEMNITY BOND is made on this --------- day of -------- month of year two thousand Eighteen **(__.__.2020)** By M/s ---------- duly represented by one of its partners ----------, aged -- years, son of Sri ---------- , residingat ---------- ----------, Gurugram.

* M/s. _____ the partnership firm having an administrative/principal office at_____ represented by its Managing/duly authorised partner.

* M/s. _____ company/body corporate incorporated under the provisions of the Companies Act 1956 having its registered office at the following address _____, duly represented at _____ duly represented by its constituted and authorised Managing Director, Shri_____ and (hereinafter called the Tenderer which term shall also be called the Supplier or
the Contractor) on the other part

Whereas My Company was short listed for issue of tenders and my company became successful in securing the subject work through competitive tendering and the work of Supply of solar power from Solar Rooftop Plants through Vendor at COE Gurugram ,Plot -80, Sector -18, Gurugram has been awarded in favour of my Firm/ company by Canara Bank, COE Gurugram .

And whereas for undertaking the furnishing work, my company has entered into contract agreement on __.__.2020.

Now this Deed Witnessed that in pursuance of the aforesaid contract agreement dt.__.__.2020 **and in consideration of Canara Bank having agreed to make payments on the running bills claimed by my company based on the works completed by my company in respect of Supply and Installation of _____ KWp capacity Rooftop Solar PV Power Plantin COE,GURUGRAMbuilding _____ and referred to above,** I hereby undertake to indemnify and keep harmless the Canara Bank from any damages, prosecution, other legal suits and claims arising out of any mishaps occurring at the site due to faulty work, faulty construction and for violating rules and regulations for which I shall be solely responsible.

[Note : * Strike off whichever is not applicable]

BANK GUARANTEE FORMAT FOR EARNEST MONEY DEPOSIT

To

WHEREAS _____(Name of Tenderer) (hereinafter called "the Tenderer" has submitted its Tender dated _____ (Date) for the execution of (Name of Contract)_____(hereinafter called "the Tender") in favour of Canara Bank hereinafter called the "Employer";

KNOW ALL MEN by these presents that we, _____ Bank, a body corporate constituted under the Banking Companies (Acquisition & Transfer of Undertakings) Act, 1970 having its Head Office at _____ amongst others a branch at _____ (hereinafter called "the Bank" are bound unto the employer for the sum of Rs_____ (Rupees_____only) for which payment well and truly to be made to the said Employer, the Bank binds itself, its successors and assigns by these presents;

THE CONDITIONS of this obligation are:
(a) If the Tenderer withdraws its Tender during the period of Tender validity specified in the Tender; or
(b) If the Tenderer having been notified of the acceptance of his Tender by the Employer during the period of Tender validity;

(i) Fails or refuses to execute the Agreement, if required; or
(ii) Fails or refuses to furnish the performance security or security Deposit, in accordance with clause _____ of conditions of Contract / Tender.

We undertake to pay to the Employer up to the above amount upon receipt of his first written demand without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

Notwithstanding anything contained herein,

1) our liability under this Bank guarantee shall not exceed Rs_____(Rupees_____only)
2) The bank Guarantee is valid upto _____ and

3) We are liable to pay the guaranteed amount or any part therof under this Bank guarantee only and only if you serve upon us a written claim or demand on or before _____(mention period of the Guarantee as found under clause (ii) above plus claim period)

Dated _____day of _____2020

SIGNATURE OF THE BANK

Undertaking Letter in Your Letter Head with Technical Bid

To, Divisional Manager
Canara Bank,
SUBJECT: RFP – / /19-20 DT:

Dear Madam/Sir,

This has reference to your above RFP published in your banks web site and eprocure website.

We hereby state that we M/s _____ have submitted the above offer documents duly filling at the appropriate places without making any alterations , corrections , omissions in the offer issued by the bank or downloaded from the web site.

Signature & Name of the Bidder with seal

Authorization letter format

To

The Divisional Manager,
COE GURUGRAM

Dear Madam/Sir,

SUB: Authorization Letter for attending the Bid Opening

REF: YOUR RFP NO: - _____ Dt _____.

This has reference to your above RFP for supply of _____. Mr. Miss/Mrs. _____ is hereby authorized to attend the bid opening of the above RFP _____ DT: _____ on _____ on behalf of our organization.

The specimen signature is attested below:

_____ Specimen Signature of Representative

_____ _____
Signature of Authorizing Authority Signature of Attesting Authority

_____
Name of Authorizing Authority

Schedule- A

SPECIAL INFORMATIONS TO THE TENDERERS

1. The Work has to be carried out at the Canara Bank premises Centre of Excellence (erstwhile Rstc Gurugram), plot no 80, sector 18, Gurugram 122001

2. **DETAILS OF THE SPV CAPACITY TO BE INSTALLED:**

Location	Capacity
Admin Terrace (Including front yard, Staircase roof, etc)	90 kWp
Car parking (front side of the Entrance)	40 kWp
Meter Room & Guard Toilet Terrace	1 kWp (Off Grid)
Total	**131 kWp**

At Canteen terrace 100 LD Solar Water (FTC) heater to be installed . **Tenderers are advised to visit the site and familiarize with site conditions before quoting.**

3. Tenderers are advised to go through the specifications and the schedule of work and clarify doubts if any, with the Bank's Engineer before quoting.

4. The contractor shall furnish full details of the materials he intends to use on the work like make, model no., printed literature/ catalogue showing all details, reference to any national/ international approvals etc. In case of any deviations from the specifications/ stipulations contained in the tender, the same shall be separately listed out by the contractor and enclosed with the tender (in technical bid). Failure to furnish the above details may result in rejection of tender summarily.

5. **Warranty:** The offer must include comprehensive on-site warranty(DLP)for a period of 1 year with free maintenance from the date of handing over of the Solar power plant system. The offer must also include comprehensive AMC of 4 years from the date of completion of defect liability period. The firm shall be fully responsible for the warranty in respect of proper design, quality and workmanship of all equipments, accessories like covered by the offer. However the failure of the components due to other electrical faults will not be covered by the offer. The firm must warrant all equipments, accessories, spare parts etc., against any manufacturing defects during the warranty period. During the warranty period the firm shall maintain the equipment and repair/ replace all the defective components at the installed site at no additional charge of whatsoever nature to the Bank.

6. A copy of the BOQ (without the price)in respect of both main work with the words “quoted” written shall be enclosed in the technical bid in order to indicate that all items have been quoted for in the price bid.

7. Relevant type/factory test certificates, data sheets shall be furnished in respect of Modules, Inverters, Cables and other related accessories etc.

SIGNATURE OF THE TENDERER WITH SEAL

Schedule B
SPECIAL INSTRUCTIONS TO THE TENDERER

1) This specification shall be read in conjunction with General conditions of contract as applicable for this project.
2) The tenderer shall design the equipment considering the site conditions. After award of contract no claim for extra payment will be entertained.
3) All Civil alteration works shall be provided by the tenderer. The equipment shall be designed keeping in view the provisions of the statutory regulations and safety codes in force in the locality of installation. All such minor civil works like chipping, grouting, drilling, etc for fixing mounting structure and other accessories are to be executed by the supplier.
4) Within next day of placement of order, the Contractor should start the work.
5) The following drawing/ documents shall be submitted for approval before commencement of work.
    1. Module test certificate from ETDC/any other Govt test centers have to be produced on sample basis.
    2. Contractor will submit his layout design for SPV module including its structural details to Engineer in Charge for approval prior to start of work.
    3. Design/Drawings of the mounting structure, the design for the mounting structure shall have the certification from a recognized Lab/Institution for the purpose.
    4. GA of ACDB, DCDB, Array Junction Box, Main Junction Box, Overall layout, cable routing layout, Module interconnection drawings, bill of materials etc., for approval.
6) The following drawings/ documents shall be submitted for records before handing over.
    1. As built drawings.
    2. A screen printed/laminated circuit and cabling diagram. The same should also be provided in the manual.
    3. Interconnection diagram of the modules of the panels on SPV module/panels shall also be provided for ready reference of the maintenance staff.
    4. Installation, Operation and Maintenance Manual. Regarding number of copies etc., refer to relevant articles.

7) The tenderer shall indicate price for supply, Installation, testing, erection and commissioning of the SPV System. The quoted price shall include charges on account of all taxes, duties, packing, forwarding, transport, insurance etc. The quoted price shall remain firm and binding and shall not be subjected to any escalation whatsoever on any account during entire period of supply, installation, testing & commissioning.

8) SPV System shall be guaranteed for a period of 5 year of trouble free operation after commencement of regular operation and shall include free servicing, repair and replacement of parts by the Contractor. And, 5 years of warranty would be provided on inverter from the date of commissioning.
PV modules will have a limited performance generation warranty as described by the module manufactures over a period of 25 years, which should not be less than 90 % at the end of 10 years and 80 % at the end of 25 years.

9) Workmanship and performance warranty:
1. The materials used shall be new and best of its kind available and shall conform to standards as mentioned in the technical specification.
2. The supplier shall guarantee satisfactory performance of system as per relevant guidelines.
3. The guarantee shall also cover faulty design/ materials/ workmanship. All rectification or replacement under guarantee shall be done by the supplier free of cost.
4. The conditions regarding guarantee of equipment shall also be governed by the relevant clauses of general commercial conditions.

10) The tenderer shall fill up the price data sheet and submit in a separate cover along with the tender.

11) The tenderer shall furnish a Time Bar Chart showing breakup of time required for various activities viz., submission and approval of drawings, raw material procurement, engineering, various shop activities, order placement for bought out items and their delivery to shop, assembly, testing, inspection, dispatch, erection and commissioning.

12) The tenderer shall furnish the procedure proposed for conducting performance guarantee test; for review by Employer.

13) The tenderer shall ensure installation of all electrical equipment by approved licensed electrical Contractors and subsequent approval by electrical inspector and other competent authority, if necessary.

14) Packing: Packing and transportation of solar panels, Charge Controller, and Mounting Structure shall be made such that the equipment is not damaged, while transporting, loading and unloading.

15) Quality and Workmanship: All the units of the system shall be manufactured in accordance with international quality management systems ISO 9001-2000(or latest ISO), for which the manufacturer shall be duly accredited. A quality plan describing the quality assurance system followed by the manufacturer would be required to be submitted. The manufacturer shall

also be accredited for the compliance of ISO 14001 (latest issue) pertaining toenvironmental requirements.All wiring shall be neatly secured in position and adequately supported Metal panel or cover holes through which the wires or cables pass shall be bushed.All materials and workmanship shall be of professional quality to ensure the requirements.

SIGNATURE OF THE TENDERER WITH SEAL

Schedule C
Technical specifications of SPV Power Plant

TECHNICAL SPECIFICATIONS

SCOPE OF WORK:

The scope of work covers:

Supply of solar power from Solar Rooftop Plants at COE, GURUGRAM Buildingwith following features.

1. The system shall feed the solar energy to the load. The surplus power to be feeded into the grid.
2. Net- Metering and Grid connectivity of the roof top solar PV system under this scheme shall be in accordance with the prevailing guidelines of the concerned EB / SEB. Obtaining permission from local authority, liaison and approval has vests with the Contractor only. Any charges in this matter shall be borne by the Contractor. Application Charges, Statutory Charges against receipts shall be borne by the Bank on production of original receipts and a copy of all permissions. If any statutory permission for solar power plant from authority/authorities is not obtained & if any penalty is imposed on bank, such penalty will be recovered from the contractor only.
3. In case of grid failure/, the standby inverter shall create a captive grid and SPV power keeps feeding to this captive grid and the deficit power is taken from the DG set.
4. In case of low solar irradiation or cloudy weather, the deficit power is taken from the grid .
5. System configuration must conform to Indian grid system (tt-n; 3-phase, neutral & earth).

The important Technical specifications to be taken care during various stages likedesign, construction, commissioning and maintenance have been enumerated below.

1. Solar Photo Voltaic Modules

i. Solar photo voltaic module array shall consist of high efficiency Solar Modules utilizing Mono / Multi Crystalline high power Silicon Solar Photovoltaic cells.

ii. Solar photovoltaic module capacity shall not be less than 330 Wp at STC.

iii. Solar module shall be laminated using lamination technology using established polymer (EVA) and Tedlar / Polyester laminate. Anti-reflection coating to be applied on cells to improve light absorption and to increase cell performance.

iv. The modules shall be connected in suitable series / parallel combination to meet the voltage / current requirements of the Inverter units.

v. Solar Photovoltaic module efficiency shall be minimum 15% and power tolerance shall be in the range of 0 to +3%.The temperature co-efficient of power for PV modules should be less than or equal to -0.45% per deg C.

vi. The rated output power of any supplied module shall not have negative tolerance.

vii. Module shall be made of high transmissivity glass front surface giving high encapsulation gain and hot butyl rubber edge sealant for module protection and mechanical support.

viii. All materials used must have a proven history of reliable and stable operation in external outdoor applications.

ix. Solar modules shall be designed to operate and perform in relative humidity up to 85% with temperatures between -40 Deg C and +85 Deg C and with stand gusts up to 200 km/h from back side of the panel.

x. The Solar PV modules and production processes employed in the manufacture of the offered module shall be in accordance with the requirements of IEC 61215 Ed 2, IEC 61730 Part 1 & 2, IEC 61701 for operation in corrosive atmosphere.

xi. SPV Modules shall be certified by NABL/IECQ accredited test centre. Copy of the above IEC Certifications must be provided along with offer. Undertaking from manufacturer/supplier that the modules being supplied are as per above shall also accompany the offer.

xii. The module frame must be made of corrosion resistant materials, which is electrolytically compatible with the structural material used for mounting the module.

xiii. Module Junction box shall of Flame proof / Explosion proof type be designed for long life outdoor operation in harsh environment and shall be IP 65 or better.

xiv. Degradation of power generated should not be exceeding 20% of the min. rated power over a 25 year period.

xv. Efficiency of solar PV system shall be guaranteed to 90% for up to 10 years & 80% for up to 25 years.

xvi. The PV modules shall be equipped with bypass diode to minimize power drop caused by shades.

xvii. The solar modules shall have suitable encapsulation and sealing arrangements to protect the silicon cells from the environment. The arrangement and the material of encapsulation shall be compatible with the thermal expansion properties of the Silicon cells and the module framing arrangement / material. The encapsulation arrangement ensures complete moisture proofing during life of the solar modules.

xviii. Each module must have low iron tempered glass front for strength and superior light transmission. It also must have tough multilayered back

sheet for environment protection against moisture and high voltage electrical insulation.

xix. The fill factor of modules shall not be less than 0.70.

xx. The Max. System Voltage of the modules used shall be 1000-V DC.

xxi. Each PV module shall have an RF identification tag (RFID) fixed inside the module laminate, but able to withstand harsh environmental conditions, containing following information.

- Name of manufacturer of PV Module
- Name of manufacturer of Solar cells
- Month & Year of manufacture (separately for Solar cells & module)
- Country of origin (separately for Solar cells & module)
- I-V Curve for the module
- Peak wattage Im, Vm and FF for the module
- Unique serial no. and model of the module
- Date and year of obtaining IEC PV module qualification certificate
- Name of the test lab issuing IEC certificate
- Any other relevant information on traceability of solar cells and module as per ISO 9000 series.

xxii. Modules shall be North-South oriented.

xxiii. MCB of suitable rating to be provided for connecting / disconnecting Solar array and PCU for maintenance purposes.

xxiv. The Solar PV Modules shall meet all the requirements of latest MNRE guidelines.

Mechanical Features

- Solar Photovoltaic Module shall be made of toughened, low iron content, high transmissivity front glass.
- Anodized Aluminum Frame shall be provided around the module.
- The module shall be encapsulated with Ethyl Vinyl Acetate (EVA).
- Silicon edge sealant shall be provided around laminate.
- The back surface shall be Tedlar /Polyester trilaminate.
- Weather proof (IP 65) terminal box shall be provided for the module output terminations.
- The module shall be Resistant to water, abrasion, hail impact, humidity & other environmental factors for the worst situation at site.
- Bypass diode arrangement shall be provided.
- All nuts and bolts shall be made of very good quality stainless steel (SS 304 minimum)

Marking

Each module shall carry the following clear indelible markings as minimum:

- Name, monogram of manufacturer
- Type or module number
- Module serial number
- Polarity of terminals
- Maximum system voltage for which module is designed
- Date and place of manufacture

2. Module Mounting Structure

i. Module Mounting Structure should be as per MNRE specifications and supply & installation shall be in scope of contractor.

ii. The structure shall be designed in accordance with the latitude of the place of installation. The array mounting structure shall be designed to allow easy replacement of any module and shall be in line with site requirement. Structure shall be designed for simple mechanical and electrical installation. It shall support SPV modules at a given orientation, absorb and transfer the mechanical loads to the ground properly.

iii. The array structure shall have tilt arrangement to adjust the plane of the solar array for optimum tilt.

iv. The array structure shall be made of hot dip galvanized MS angles/anodized aluminum of size not less than 50 mm x 50 mm x 6 mm size. The minimum thickness of galvanization shall be at least 120 microns. All nuts & bolts shall be made of very good quality stainless steel. The minimum clearance of the lowest part of the module structure and the developed ground level shall not be less than 500 mm.

v. Leg assembly of module mounting structure made of different diameter galvanized tubes are accepted. The work should be completed with supply, fitting fixing of clamps, saddles, nut & bolts etc. While quoting the rate, the contractor may mention the design & type of structure offered. All nuts & bolts shall be made of very good quality stainless steel.

vi. The array structure shall be so designed that it will occupy minimum space without sacrificing the output from SPV panels at the same time it will withstand wind speed up to maximum of 200 km/hr.

vii. The contractor shall specify installation details of the PV modules and the support structures with appropriate diagrams and drawings after receiving the offer.

viii. The structure layout drawings along with shading calculation and detailed design shall be submitted to banker for approval after receiving the offer.

ix. PCC ARRAY FOUNDATION BASE: The legs of the structures made with GI angles will be fixed and grouted in the PCC foundation columns made with 1:2:4 cement concrete. The minimum clearance of the lowest part of any module structure shall not be less than 500 mm from ground level. While

making foundation design, due consideration shall be given to weight of module assembly, maximum wind speed of 200 km/hr and seismic factors for the site.

x. The contractor can visit the site before quoting the rate for civil works. After taking in to consideration all aspects of the site, condition of roof etc., the contractor shall quote for civil works. No extra claim shall be entertained at post project stage.

xi. The foundation design of module structure design shall be submitted to banker for approval. The work will be carried out as per designs approved by bank. The contractor shall specify installation details of the PV modules and the support structures with appropriate diagrams and drawings. Such details shall include, but not limited to, the following;

1. Determination of true south at the site;
2. Array tilt angle to the horizontal, with permitted tolerance;
3. Details with drawings for fixing the modules;
4. Details with drawings of fixing the junction/terminal boxes;
5. Interconnection details inside the junction/terminal boxes;
6. Structure installation details and drawings;
7. Electrical grounding (earthing);
8. Inter-panel/Inter-row distances with allowed tolerances; and
9. Safety precautions to be taken.

xii. The array structure shall support SPV modules at a given orientation and absorb and transfer the mechanical loads to the rooftop columns properly. All nuts and bolts shall be of very good quality stainless /galvanized steel.

xiii. Incase of any defects arising in the building during guarantee period of Five year, the contractor shall rectify the same at their own cost.

3. DC Combiner Box/Array Junction Box

The junction boxes shall be dust proof, vermin and waterproof and made of FRP/powder coated Aluminium.

The terminals shall be connected to copper bus bar arrangement of proper sizes. The junction boxes shall have suitable cable entry points fitted with cable glands of appropriate sizes for both incoming and outgoing cables and earthing provision shall be available. Suitable markings shall be provided on the bus bar for easy identification and cable ferrules shall be fitted at the cable termination points for identification. Each main junction box shall be fitted with appropriate rating blocking diode. The junction boxes shall be of reputed make and conform to IP65 standards and IEC 62208. Door shall be of hinged door
with EPDM rubber gasket to prevent water entry.

The junction boxes shall have suitable arrangement for the Following:

- Combine groups of modules into independent charging sub-arrays that shall be wired to the controller.
- Provide arrangement for disconnection for each of the groups.

- Provide a test point for each sub-group for quick fault location.
- To provide group array isolation.
- The rating of the JB's shall be suitable with adequate safety factor to inter connect the Solar PV array.
- Suitable capacity MOVs shall be provided within the box to protect against lightning

Fuse Protection on Strings: DC fuses rated from 2A to 25A from leading manufacturers to be used in the combiner box to provide over-current protection. Fuses to be provided with indication.
Surge Protection Device: Surge Protection devices or SPD to be provided to protect the combiner/junction box from any power surge and voltage spike. SPD to be used should meet Type 2 regulations, and to be typically rated between 600 to 1000V.
Input Glands/ Connectors: The combiner/ array junction box offered is to be provided with IP 67 rated Cable Glands or MC 4 connectors at the input side to lead the array strings into the box.

4. Grid Interactive Inverter/PCU

i. The Power Conditioning Unit comprises the Inverter(s) and associated MPPT, control, protection, data logging devices etc.
ii. Solar array shall produce DC energy output which shall be supplied to the DC bus for inverting to AC voltage. Maximum Power Point Tracking (MPPT) system shall be an inherent feature of the system and shall be used to extract maximum energy from solar array to produce 415 VAC 3 ph 50 Hz output. The output shall be synchronized with the station's grid power.
iii. The system shall generate power for use during the day-light hours directly by the captive load.
iv. The peak efficiency of PCU shall not be less than 97% & shall be designed to meet the Solar PV Array capacity control which will extract maximum energy from solar array and provides 415V AC +/-10%, 50HZ, to synchronize (and not export) with local utility grid in Indian ambient conditions.
v. The efficiency of PCUs used at INSOLATION levels of 10% to 90% shall not be less than 90%.
vi. Output of Inverter shall be 3 phase, 415 v +/- 10%, 50 Hz sine wave with < 3% total harmonic distortion (THD). Additionally, it will provide protection features such as over current, short circuit, over temperature as a minimum.
vii. PCU shall be of very high quality having high peak efficiency of 97% and above. The PCU should be completely compatible with the SPV array voltage and local grid / DG supply voltage.
viii. Switching shall be MOSFET / IGBT based.
ix. Idle current shall be less than 4% of rated capacity.
x. The PCU shall be string type inverters to reduce the DC power losses & can have the flexibility to increase the capacity of the plant.

xi. The PCU shall be designed for continuous, reliable power supply as per specifications.
xii. The PCU shall be capable of complete automatic operation and shall be capable to synchronize independently & automatically with the grid supply and DG Supply. The idea for installing SPV unit is to be utilize whatever power is available and directly feed into the system irrespective of whether grid supply is 'ON' or DG is 'ON' on SOLAR FIRST basis. In case of Grid failure, PCU shall be capable of synchronizing with DG Set.
xiii. The PCU shall have a built-in data logging facility to remotely monitor and control plant performance through external PC.
xiv. The PCU shall have internal protection arrangement against any sustained fault The dimension, weight, foundation details etc. of the PCU shall be clearly indicated in the detailed technical specification provided by the contractor.
xv. It has user friendly LED / LCD Graphical display for programming and viewing of the Solar system parameters and protection status.
xvi. The operating temperature range shall be -20 to +50 deg C
xvii. Housing cabinet – IP-20(Minimum) for indoor, IP-65(Minimum) for outdoor
xviii. Power factor shall be greater than 0.9
xix. Cooling shall be forced air cooling through cooling fan.
xx. The system shall be capable of automatic operation with automatic wake-up in the morning and providing supply to the load after synchronizing with Grid/DG supply.
xxi. When the generated power is below a low, preset value or the solar insolation is below a set value for a pre-determined amount of time, the inverter shall be disconnected from the grid and shall be operated in a "sleep mode". In this mode, the inverter power stage components shall be switched off, thereby keeping the stand by losses to a bare minimum.
xxii. Unique MPPT algorithm shall adjust the DC Link operating voltage to ensure that maximum power is extracted from the solar array in an efficient manner.
xxiii. Automatic "Sleep Mode" shall be provided to reduce standby losses.
xxiv. The system shall be designed to minimize both conducted and radiated RFI emissions.
xxv. The capacity of the Inverter shall be chosen based on the PV system wattage. However, the total Peak output Power rating of all the PCU's at operating temperatures of 45 deg C shall not be less than 100 KW.
xxvi. Overload protection shall be min. 150% for one minute.
xxvii. The inverter must have a DC disconnect switch / device.
xxviii. MCB of suitable rating to be provided for connecting / disconnecting Load and PCU.
xxix. The inverter must have an integrated MODBUS RS-485 interface for connectivity.

xxx. Potential free contact shall be provided for the 'Solar system operation status' for remote monitoring.

xxxi. The PCU shall meet all the requirements of latest MNRE guidelines.

5. **Indications**
   - Inverter on
   - Grid on
   - Inverter under voltage / over voltage
   - Inverter over load
   - Inverter over temperature
6. **Protections**
   - Over voltage at input
   - Over current at output
   - Over / under output voltage
   - Over / under grid frequency
   - Over temperature
   - Short circuit
   - DC reverse polarity
   - Protection against lightning
   - Surge voltage protection
7. **Remote Monitoring**
   - DC power input
   - DC input voltage
   - DC input current
   - AC power output
   - AC voltage
   - AC current
   - AC frequency
   - Power factor
   - Energy harvested daily / monthly / yearly
   - Inverter status
   - Total power generated/operation time

   The PCU including MPPT and protection shall conform to IEC 61683 / IS 61683, IEC
   60068 – 2 / equivalent BIS standards.
8. **Data Monitoring of Solar Power Plant**
   The system performance monitoring and solar generation data is recorded using a datalogger. The Monitoring system shall comprise of the following main components:
   - PCU logs the inverter performance data and transmits the same to the Data logger.

- Data monitoring system logs irradiance (solar insulation) and ambient temperature. Necessary sensors required for the same shall be provided by the Contractor and sensor outputs interfaced to the Solar monitoring system
- Data logger gathers information and monitors the performance of the inverter. It also supports measurements from the external sensors. The data can be acquired through Ethernet port (RJ45) and shall be available to connect to Bank network.
- The data acquisition system shall have a real-time clock and data storage capacity for recording data round the clock for min. one year.
- The monitoring of the Solar system and logging / viewing of system data shall be done through a PC with HMI software to be supplied by the Contractor.
- PC Data logging software enables automatic long-term storage of measured data from SPV Plant. It allows visualization, monitoring, commissioning and service of the installation.
- The software package shall be preferably windows based.
- The Solar system data shall be logged in chronological order, date wise. The periodicity of data logging shall be configurable.
- Event logging shall be adjustable repetition from 01 second to 600 Seconds, with storage capacity up to 03 Years with 10 minute logs.
- The system shall be capable of providing graphical trends for viewing the system parameters on real time as well as historic basis. It shall be possible to generate reports based on the logged historic data which shall be exportable in MS Excel / PDF formats.
- System shall have provision for remotely viewing the System status on local LAN /INTRANET of bank.

9. POWER CONTROLLING UNIT (OFF GRID)

i)Main Features of the PCU:

- PCU should be a combined unit comprising of inverter, charge controller, visual display and necessary protections of an approved make registered with MNRE.
- It should be Industrial grade bi-directional Inverter
- It should have Integrated PV Charger Controller.
- It should be rated for continuous operation at full load.
- It should have Programmable battery management parameters.
- It should have Temperature compensated battery charging.
- It should Automatic re-start after over load triggered shutdown.
- It should have Continuous battery life and state of health monitoring.
- It should have Integrated data and fault logging
- It should have Communication with external SCADA/network/PC

- PCU should have provision for PCU by-pass arrangement so as to cater load directly through grid, in case of PCU failure.
- There should be emergency stop switch on the front panel of PCU.
- Switching elements MOSFET and Type of Charger is two stage MPPT (for battery bank >96V) / Two stage PWM (for battery bank < 96V), with settable bulk & float level of battery bank in both the cases.

- PCU should have these features : Battery nom. Volt 24V, 48V, 96V, 120V, Inverter Output Voltage : 230V +/- 2% for single phase, Inverter Output Frequency: 50 +/- 0.5 Hz, Inverter THD : 90%,
  Operating Ambient : Temperature 0 to 50 deg C, Humidity: 95% max (Non condensing), Enclosure: Free standing,(IP 21, Epoxy powder coated), Cooling : Temperature controlled fan forced.
  Protections: 1. Short Circuit, 2. Overload, 3. Over Temperature, 4. Over Voltage, 5. Lightning,6. Phase imbalance (in case of three phase output) 7. Reverse polarity.

ii)**OPERATION**

The MPPT/ PWM Charger should be a DC-DC converter which should power the DC bus from the PV array, as per following:
Two Stage Linear Type Zero Drop PWM charger :
These solar chargers are two stages type. The full available PV current is pushed into battery/DC bus until the battery voltage reaches to a predefine Bulk voltage level (V1). After that a low frequency PWM charging is activated to charge the battery and remains in this stage until battery voltage comes below to another predefined Float voltage level (V2). All these voltages are settable according the type of battery. Efficiency of the charger should be > 98%. Suggestive voltage settings for tubular platted lead acid battery: Bulk Voltage = 2.42V/cell Float Voltage = 2.35V/cell .

The microprocessor control circuit should automatically adjust the DC-DC converter to ensure that it should always match to the PV array under varying conditions and transfers the maximum possible power. The battery bank should get charged from this DC bus, the charging rate and other parameters being controlled by the supervisory circuit.

A bidirectional inverter should sit between the DC and the AC bus. The DC power should be converted to AC. The PCU should have the provision for connecting to a dedicated load. If the grid is absent or goes out of range the inverter should not interrupt supply. If PV power is available it should be directed to the load and the excess power shall be used for charging the batteries. So the power from the Solar is not wasted. The Inverter should be

programmed for solar priority mode of operation. This means that the maximum use be made of the solar energy.

Grid power should be used only when the batteries are over discharged or sufficient solar energy is not available from the PV array. If disengaged from the grid battery should keep supplying the power to the dedicated load, ensuring uninterrupted supply.

The PCU should have following feature:

- If the load connected to PCU is more than the solar power being generated at any instance, during sunny hours then the load should first consume maximum solar power & balance power required by the connected load should be drawn from the grid power.
- There should be emergency stop switch on front panel.
- There should be provision of bypass arrangement available in PCU. Bypass means that power supply from the grid to the connected load can be bypassed from the PCU, in case PCU goes out of order.

10. AC Distribution Board (ACDB)

An AC distribution box shall be provided between the Inverter and the existing LT Panel of bank. This panel shall have provision for protection, connection and disconnection of
individual inverters from the AC system.

The AC Box will be used to combine AC power coming from the inverters.

- The AC Box shall be dust, vermin & water proof & made of FRP / ABS plastic.
- The junction boxes shall have suitable cable entry points fitted with cable glands of appropriate sizes for both incoming and outgoing cables.
- Suitable markings shall be provided on the bus bar for easy identification and cable ferrules shall be fitted at the cable termination points for identification.
- It should have the facility to protect from over currents & isolate the AC box from the main AC line.
- The AC Box should have surge protection devices, to protect inverters from surges in the AC line.
- For service & emergency safety requirements, the circuit breakers / load-break switches must have facility for remote operation.
- The Solar Power should be exported to the LT Panel bus bar through a Energy Meter. The Energy meter should have Modbus RS- 485 communication interface.

11. DC Distribution Board (DCDB)

DC Distribution panel board shall be provided to receive the DC output from the array field, with analog measurement panel for voltage, current and power from different MJBs so as to check any failure in the array field. DC DPBs shall have enclosure of dust & vermin proof. The bus bars shall be made of copper of desired size. Suitable capacity MCBs along with necessary surge arrestors shall be provided for controlling the DC power output to the PCU/Inverter. DCDB shall be fabricated by CRC Sheet/ FRP / ABS plastic to comply with IP 65 protection.

12. Cables and Accessories

1.1. Cables should be FRLS PVC insulated Copper Conductor armoured Cables of 1100 V
1.2. grade and shall conform to IS: 1554 / IEC 60502 AND IS 694 / IEC 60227.
1.3. Cable should be Bright Annealed 99% pure Copper Conductor. Conductor shall be of electrolytic copper confirming to IS: 8130
1.4. Cables shall be UV and weathering resistant.
1.5. Voltage drop & losses to be kept to minimum. On DC side voltage drop to be max 1%.
1.6. Cables shall be laid on prefabricated GI cable trays and through suitable HDPE pipes.
1.7. All interfaces between panel integral cable and extension cable must be done using MC4 equivalent connectors only.

13. Earthing and Lightning Protection

Earthing Protection

Each array structure of the PV yard should be grounded/ earthed properly as per IS:3043 -1987. In addition the lighting arrester/masts should also be provided inside the array field. Provision should be kept for shorting and grounding of the PV array at the time of maintenance work. All metal casing/shielding of the plant should be thoroughly grounded in accordance with Indian Electricity Act/IE Rules. Earth Resistance shall be tested in presence of the representative of bank as and when required after earthing by calibrated earth tester. PCU, ACDB and DCDB should also be earthed properly. Earth resistance shall not be more than 5 ohms for individual pit and shall be less than 1.0 Ohms for Grid in line. It shall be ensured that all the earths are bonded together to make them at the same potential. The earthing conductor shall be rated for the maximum short circuit current, and shall be 1.56 times the short circuit current. The area of cross -section of conductor shall not be less than 1.6 sq mm in any case. The earthing pits shall be made at locations approved by bank.

Lightning protection

There shall be the required number of suitable lightning arrestors (ESE) installed in the array area. Lightning protection shall be provided by the use of metal oxide arrestors and suitable earthing such that induced transients find an alternate route to earth. Protection shall meet the safety rules as per Indian Electricity Act2003/IE rules.

13. **FIRE EXTINGUISHERS** This control room shall be provided with Portable fire extinguisher for fire caused by electrical short circuits. Apart from this Sand buckets shall be placed in relevant areas mandated by BIS. The installation of Fire Extinguishers should confirm to TAC regulations and BIS standards. The fire extinguishers shall be provided in the control room housing the PCUs as well as on the roof top where the PV arrays have been installed.

14. **Net Metering (Net Meter & Solar Meter) Bidirectional & Unidirectional CT operated Multifunction Energy Meter in IP 65 Box having all parameters like (V, A, F, PF, kW,kVA,kVAR,kWh,kVAh,kVARh,Run hours, On hours, Interrupts, RPM, % Unbalance (V,A), Phase angle, THD, Neutral current, % Load, Maximum Demand(kW,kVA), MD reset, Bidirectional (Import-Export) Class Accuracy 0.5 complete with all accessories for making suitable arrangements of Net metering with existing Electricity Discom system.**

15. Finish & Painting

Corrosion Resistance: All surfaces of the equipment including frame modules, covers, chassis, brackets, etc., shall be treated to prevent corrosion.

The ACDB/DCDB shall be Galvanised iron / powdered coated/Weather proof paint.

Colour scheme shall be as follows: Siemens Gray

Name Plate: A name plate, anodized shall be suitably fixed to the modules of the glass, iron structure and charge controller with the following:

Name Plate for SPV Panel and Mounting Structure:

Name of the User

Manufacturer’s name and identification mark

Name of the Item

Model No.

Serial No. of the unit

Year of manufacture

Name Plate for PCU:

Name of the user

Manufacturer’s name and identification mark

Name of the Item

Model No.

Type of unit

Serial No. of the unit
Year of manufacture
Rating and voltage of the PCU/Inverter
Input voltage
Output Voltage and Current
On the front top of the PCU,ACDB/DCDB cabinet, an anodized, screen printed or any other arrangement ensuring better life expectancy designation plate in "Bold" letters showing "130 kWp SPV POWER PLANT ON Grid and 1 Kwp off grid ".

16.TOOLS, SHACKLES

After completion of installation & commissioning of the power plant, necessary tools & shackles are to be provided free of cost by the supplier for maintenance purpose.

17.Documentation

Supplier shall provide 02 sets of Operation & Maintenance Manual in English for the complete system with Block diagram, detailed description of all the system components,mounting of PV Module, electronics used, working, starting and shutdown procedures,maintenance and trouble-shooting instructions, DO's & DONT's, Name & address of contactperson or Centre to be contacted in case of complaints/ failure. Warranty Card & Service entry card shall be provided with the SPV Power Plant systems.
Supplier shall provide 02 sets of the As-built Detailed Wiring diagrams, Array layout andtermination schedules. Approval of Bank needs to be obtained on the content of Manual,

18.Installation of Components and Materials

Description:

1. Supply and installation of Module mounting structure/ super structure for mounting at roof top.
2. The PV modules shall be installed with necessary tilt with the most effective orientation. Tilt angle to be optimized to obtain maximum generation.
3. Supporting structure material shall be compatible with the PV panel mounting frame.
4. Each module can be mounted on a mounting structures fabricated from hot dipgalvanized MS, using appropriate clamps and trapezoidal sheet holders, rail trackconnectors, screws and fixtures. The structure shall be non-corrosive and longlasting. Each structure will carry multiple modules to form a row. The structure shallbe capable of withstanding a wind speed of 200Km/Hr. after grouting and installationand shall be designed to cater very rough climatic conditions. The contractor shall furnishdesign calculations to confirm the wind speed withstand capability of the structure.The same will be reviewed by the

banker's engineer's and in case of anyshortcomings in the design the contractor shall make suitable changes so as to make theentire structure capable to withstand against wind speed specified as above. Themounting structure shall be guaranteed for at least 5 years.

5. Supply and installation of power conditioning unit (PCU) consisting of Solar Charge Controller/ Inverter.
6. The installation shall include the electrical wiring, cabling, terminations, cable trays, micro/ string inverters, metering and hooking up the system to the including synchronization with plant main LT Panel grid / DG set.
7. Installation of inverter should be in a ventilated area and proper inter-spacing is to be provided.
8. Laying of power/ control copper cables from PV power to plant room, Main LT panel including within terraces.
9. Supply and installation of cables on prefabricated GI cable trays and / or within suspended ceiling spaces including installation, cable trays, hangers, supports, cable terminations all fixing accessories (terrace to plant room inclusive of PVC sleeve/ other accessories etc. wherever required)
10. Supply and installation of earthing system with testing joint for every pit (grounding) system including cutting of roads / paved areas / PCC floor etc and making as good as in original shape. Prior to execution, design shall be submitted by contractor for approval by bank.
11. Supply and installation of lightening arrester, required as per statutory norms/guidelines as approved by bank.

19.Testing and commissioning

Pre-commissioning tests of all electrical equipment. Specific points to be considered during commissioning are:

1. Continuity checking and insulation resistance measurement of cables.
2. Proper crimping, lugging and glanding of cables before final terminations.
3. Checking of all electrical terminations for any loose contacts.
4. Proper earthing of electric equipment & solar array to be ensured.
5. At junction box in solar array, voltage levels to be checked (between positive & negative terminal, positive to earth and negative to earth) in consultation with inverter OEM.
6. Inverter to be checked in testing mode and after No Fault indication is displayed on LCD it is to be connected to grid/battery.

20.Annual Generation Guarantee

Vendor shall give minimum annual power generation guarantee for Total capacity of solar power plants installed x Average generation of solar power – calculate for per annum 1,44,000 Kwh for firstyear (Calculated on the basis of average 4 KWH per KWp installed for 300 days) and for
subsequent years as per following –

2nd Year : 99% of 1st Year Generation (1,42,560 Kwh)
3rd Year : 98.5% of 1st Year Generation (1,41,840 Kwh)
4th Year : 98% of 1st Year Generation (1,41,120 Kwh)
5th Year : 97.5% of 1st Year Generation (1,40,400 Kwh)
In case of short fall, Vendor will compensate for the less power generated as per prevailing rate of State electricity board for first five years. The power generation trend after first 5 years must be mentioned.
Vendor may monitor the performance of system installed. In case Vendor finds that installed system will not meet assigned minimum annual guarantee, it is up to Vendor to upgrade the system to meet the minimum requirement at his own cost.

21.LT Panel & AC Distribution Box - Interconnection

The Inverter / Power conditioning unit converts DC energy produced by solar array to 3 phase AC power. The AC power output of the inverter shall be fed to the AC Distribution Box (metering panel & isolation panel) which also houses energy meter. The 415 V AC output from the AC distribution box is fed to the owner's LT panel for feeding the building load. The AC power from the Solar Inverter shall be synchronized with the station's supply grid and power is fed into the building load on continuous basis. The connectivity / interfacing of the AC power output from the Solar Inverter to the existing grid power shall be designed and carried out by the contractor. First preference for drawing power shall be from Solar Inverter, the balance power shall be automatically drawn from the grid supply. Contractor shall finalize the scheme of interconnection to LT Panel / load after discussion with bank.

22. Integration Of Solar Power With Grid

The output power from SPV would be fed to the inverters which converts DC produced by SPV array to AC and feeds it into the consumer load and the surplus power to be feed into the grid after synchronization. In case of grid failure, or low or high voltage, solar PV system shall be out of synchronization and shall be disconnected from the grid. Once the DG set comes into service PV system shall again be synchronized with DG supply and load requirement would be met to the extent of availability of power. 4 pole isolation of inverter output with respect to the grid/ DG power connection need to be provided.

23. Grid Islanding

i. In the event of a power failure on the electric grid, it is required that any independent power-producing inverters attached to the grid turn off in a short period of time. This prevents the DC-to-AC inverters from continuing to feed power into small sections of the grid, known as "islands." Powered islands present a risk to workers who may expect the area to be unpowered, and they may also damage

grid-tied equipment. The Rooftop PV system shall be equipped with islanding protection. In addition to disconnection from the grid (due to islanding protection) disconnection due to under and over voltage conditions shall also be provided.

ii. A manual disconnect 4pole isolation switch beside automatic disconnection to grid would have to be provided at utility end to isolate the grid connection by the utility personnel to carry out any maintenance. This switch shall be locked by the utility personnel.

24.Reverse power protection for DG set

Since the solar power to get synchronized with EB power and DG power, there shall be a possibility of reversal flow of power from solar plant to DG set during lightly loaded time on bank holidays. This will lead to motoring of DG set. To prevent this 3- phase 4-wire Reverse Power Relay along with 1250-800/5A class 0.5, 15 VA copper wound resin cast CT to be fixed in the DG incomer of the existing Main MV panel of the bank building. This is to prevent the reverse flow of power from solar plant to DG set on lightly loaded condition during bank holidays. The CT will be fixed on Y-phase and 415V AC supply will be given from R and B phases through a 6A DP MCB, 10 Ka control. The relay will be flush mounted on the front fascia of the panel.

25. BATTERY BANK

I. The Batteries shall be low maintenance Tubular Lead Acid. The batteries should be conform to as per relevant BIS std.
II. Capacity of the battery bank shall not be less than 96 V, 100 Ah @ C10 rate or Bank approved specifications .
III. DOD shall be at least 75 % ie., of the rated capacity of the battery should be between fully charged & load cut off conditions.
IV. Battery terminal shall be provided with covers and suitable carrying handle shall be provided.
V. Bidder shall mention the design cycle life of batteries at 80%, 50% and 20 % depth of discharge at ambient temperature up to 45 degree Centigrade.
VI. The batteries shall be designed for operating in ambient temperature of site.
VII. The self discharge of batteries shall be less than 3% per month at 20 deg C and less than 6% per month at 30 deg C.
VIII. The tenderer will submit the certificate from the battery manufacturer that he has provided the batteries for the project with clearly indicating the capacity.
IX. Battery Rack: Battery rack for the battery bank of 12V cells should be of Metallic suitable for battery mounting & duly painted. Placement of battery should be such that maintenance of the battery could be carried out easily. The nonreactive acid proof mat should be provided to cover the entire floor space of the battery room.Connector should also be provided.

26.ACCEPTANCE CRITERIA

Final acceptance of the integrated system will be given only after validating the performance of the system as in Installation, Testing and Commissioning of clause above.

27.GURANTEE

The Solar Panel of the system shall be guaranteed for any manufacturing defect or inferior components for a period of TEN years from the date of commissioning. All other components of the system shall be guaranteed for any manufacturing defect or inferior components for a period of FIVE years from the date of commissioning.

28.TRAINING

The supplier shall provide training to at least 3 departmental operators on the O & M aspects of the system

SIGNATURE OF THE TENDERER WITH SEAL

BIDDER PROFILE DATA

S NO	Particulars	Vendor
1	Name of the Company	
2	Year of incorporation	
3	**Registered office**	
	Address	
	Office Telephone Number	
	Fax Number	
	Contact Person	
	Name	
	Personal Telephone Number	
	Mobile Number	
	Email Address	
5	**Local office(s)in Bangalore**	
	Address	
	Office Telephone Number	
	Fax Number	
6	**Tender signing authority**	
	Name	
	Address	
	Personal Telephone Number	
	Email Address	
	Please enclose Authorisation or Power of Attorney to sign and submit the Tender	
7	Address for communications under the current tender	
8	Registration Details	
	Permanent Account Number	
	GST Registration Number	
9	Banker's Name, Address and Account	

EMD Amount

S.No.	Particulars	Please furnish details
1	Name of the Bank	
2	Demand Draft (DD) Number	
3	DD Date	
4	DD Amount	

Furnish details for meeting the Eligibility Criteria

1) Details about Incorporation

S NO	Description	Vendor
1	Year of Incorporation	
2	Please enclose Certificate of Incorporation	

2) Details about Annual Turnover

S NO	Audited years	Vendor
1	2017-2018	
2	2018-2019	
3	2019-2020	
4	Please enclose Balance sheets and Profit & Loss sheet	

3) Details about minimum quantity installed

S No	Name , Address & contact details of the Client	Capacity/ Quantity Installed (KWp / Nos)	Date of Commissioning

SIGNATURE OF THE TENDERER WITH SEAL

(To be submitted in sealed envelope marked

Technical Data Sheet to be compulsorily filled by contractor – 130kWp Solar Photo Voltaic Power Plant, Roof top and Car Parking Grid Tie System and 1 Kwp off grid for street lights			
Sr.No	**Specification**	**Bank Requirement**	**Contractor Reply**
A.	**SPV power plant**		
1	Rated Output	To be mentioned by Contractor(To meet total 130 Kwp = 1 X 90 Kwp + 1 x40 Kwp) and 1 Kwp off grid for street lights	
2	No. of PV Modules	To be mentioned by Contractor	
3	No. of series module in one array	To be mentioned by Contractor	
4	No. of array in parallel combination	To be mentioned by Contractor	
B.	**SPV Module**		
1	PV Cell type	To be mentioned by Contractor	
2	Make of SPV Cell	To be mentioned by Contractor	
3	Make of SPV Module	To be mentioned by Contractor	
4	Maximum Power Rating of one module	To be mentioned by Contractor	
5	Rated Current of Module	To be mentioned by Contractor	
6	Rated Voltage of module	To be mentioned by Contractor	
7	Short Circuit Current of module	To be mentioned by Contractor	
8	Open Circuit Voltage of module	To be mentioned by Contractor	
9	Sample I-V Curve Submitted (Yes/ No)	To be mentioned by Contractor	
C.	**Mounting Arrangement**		
1	Mounting type	Roof-mounted	
2	Surface azimuth angle of PV Module	To be mentioned by Contractor	
3	Tilt angle (slope) of PV Module	To be mentioned by Contractor	
D	**DC Combiner Box/ Array Junction Box**		
1	Enclosure	To be mentioned by Contractor	
2	Necessary Fuse Protection & Surge Protection	Yes	
3	Rated Insulated Voltage	DC 1000V	
E	**Power Conditioning Unit (PCU) / Inverter**		
1	Make of PCU/Inverter	To be mentioned by Contractor	

2	Nominal Output power at site based on the site conditions	Total 130 kW = 1 x 90kW + 1 x 40kW + 1 KW (Note: To be Installed on the terrace of Admin terrace + Car parking + Meter room terrace)	
3	Nominal Output array voltage shall be suitable for the MPPT range of PCU	To be mentioned by Contractor	
4	DC Array Input Operating Voltage	(-20% to +15%) of the DC Array input voltage	
5	Type of solar charge controller	MPPT Based Solar Charge Controller	
6	Switching device	MOSFET/IGBT based	
7	Continuous inverter Output Rating (KVA)	To be mentioned by Contractor	
8	Output Wave Form	Pure Sine Wave Output	
9	Total Harmonic distortion	< 3% @ nominal power	
10	Output Voltage	3 ph, 415± 10 %	
11	Output Frequency	50Hz ± 3%	
12	Power Factor	> 0.9	
13	PCU Efficiency	> 90% at nominal voltage & power	
14	Inverter efficiency	94% to 98% at full load	
15	No. of Inverters with Configuration	To be provided by Contractor (to meet nominal output power 1 x 90kW + 1 x 40kW) + 1 KW off grid	
16	Inverter Type	To be mentioned by Contractor	
17	Idle Current	< 4% of rated capacity	
18	Regulation	±2% for DC I/p variation & o/p load variation	
19	Overload Features	150% for 1 minute	
20	Cooling	Forced Air cooling, with temperature controlled cooling fan	
21	Operating Temperature	0 to 50 ˚C	
22	Relative Humidity	95% Maximum	
23	LED/LCD Display : Indications	Display shall indicate system functional parameters and	

		protection functional indicator	
24	Data monitor and display controls	RS485, Ethernet OR RS232 connectivity	
25	Protections		
	a. Input over voltage b. Low/high frequency c. Short circuit d. Under/over output voltage e. Over Temperature f. Grid Input under voltage / over voltage with auto recovery g. DC disconnect device h. DC reverse polarity i. Anti-Islanding Protection as per the standard	To be mentioned by Contractor	
26	Enclosure Protection	IP 20(for indoor) IP 60 (for outdoor)as per IEC 529	
27	Safety	1. IEC 62103 2. IEC 62109 Part 1 & 2 3. Galvanic Isolation at input & output through transformer	
28	Audible Noise	< 45dB at 1 Meter	
29	Power Control	MPPT suitable for hybrid operation.	
F	**DC/AC Distribution**		
1	DC Side Quantity & Ratings of MCBs	To be mentioned by Contractor	
2	AC Side Quantity & Capacity of MCBs	To be mentioned by Contractor	
3	Details of measuring	To be mentioned by Contractor	
5	Other Details	To be mentioned by Contractor	
G	**Cables**		
1	Make	To be mentioned by Contractor	
2	Size	To be mentioned by Contractor	
3	Other Details	To be mentioned by Contractor	
H	**Earthing**		
1	Details of points earthed	To be mentioned by Contractor	

2	Earth Resistance	To be mentioned by Contractor	
I	**Lightning Arrestor**		
1	Make & Type	To be mentioned by Contractor	
2	Area covered per Lightning Arrestor	To be mentioned by Contractor	
3	Number of Lightning Arrestors	To be mentioned by Contractor	
J	No of Batteries (Make : Exide , Amaron) to provide 1 KW	To be mentioned by Contractor	
K	**Datasheet for Modules, Inverter, Cables etc..**	To be submitted along with the bid	
M	**CAR PARKING ROOF** suitable supporting structures	Designed and specification to be mentioned by the contractor. Drawing should be submitted for approval from the Bank while execution of the work.	

SIGNATURE OF THE TENDERER
WITH SEAL

SCOPE OF COMPREHENSIVE AMC

A) MAINTENANCE DURING DEFECT LIABILITY PERIOD OR WARRANTY PERIOD

1. The tenderer shall maintain the plant and associated equipment's at free of cost and ensure that it works as per tender parameters.

2. All spares required for normal operation as per tendered parameters shall be replaced at no extra cost.
3. The number of visits shall be same as stipulated in Comprehensive Annual Maintenance.

B) COMPREHENSIVE ANNUAL MAINTENANCE (CAM) (after the defect liability period)

1. The tenderer shall maintain the plant and associated equipment for a period of Four years after the expiry of defect liability period and ensure that it works as per the tendered parameters.
2. The rate of annual maintenance charges shall be furnished for a period of 4 years after the expiry of warranty/defect liability period and the rates quoted shall be binding on the tenderer.
3. The cost of CAM furnished shall also be one of the criteria in evaluation of cost economics.
4. The Comprehensive Annual Maintenance Charges shall be paid once in six months in advance subject to satisfactory maintenance for the period of previous one year and on production of Bank guarantee equivalent to the amount paid in advance .
   All the activities under this clause shall be completed within the stipulated time schedule.
5. Departure From Specification : Schedule of departure from the specification if any, shall be furnished by the tenderer in technical and commercial bid along with implication on the system and cost.

SCOPE OF COMPREHENSIVE ANNUAL MAINTAINANCE CONTRACT FOR SPP (CAMC)

The tenderer shall offer the following at no extra cost to the bank. The rate quoted for CAMC should include the following.

1. The tenderer shall maintain the plant and ensure that it works as per the tendered parameters.
2. All the repairs and replacements of spares shall be carried out which are necessitated due to usage of system as per tender stipulations. However, the repairs and replacements necessitated by loss or damage due to misuse or accident, fire or natural calamities shall be out of the scope of CAMC.
3 .Monthly visits shall be made every year for preventive maintenance of the system. If any breakdown calls for emergency service, the same shall be

attended within 24 hrs. One of the scheduled preventive maintenance shall also be completed during such visits. However in case the number of emergency calls exceeds Three (3) no extra payment will be applicable. Extra Visiting charges to be mentioned before the visits. Visits also shall be made for the upkeep of the system to ensure at no point of time the plant capacity is less than 90%.

4. During the Preventive Maintenance, the contract includes servicing including PV panel cleaning, repairing, maintenance and replacement of spare parts of Solar Power System for the satisfactory running of the system. During each visit the supplier shall carry out Thermography checks during the AMC period to identify hot spot of PV modules and take corrective action. Contractor should fill Battery water and check the specific gravity through gravity meter.The same shall be recorded in a log book which shall be verified and confirmed by bank's representative.
5. During the break down calls, the nature of repair carried out, parts replaced etc shall be recorded in the log book.
6. **Contractor will carry out the inspection of the Battery set as under: -**
   - **a.** Cleaning the battery terminals.
   - **b.** Checking the battery & applying jelly on battery terminals.
   - **c.** Checking battery interlinks & its connections.
   - **d.** Checking the voltage of each battery.
   - **e.** Any other work related for smooth working of battery set.

7.Contractor has to ensure that the earthing voltage difference should be maintaining 01v to 3v at any given point of time. This check point must be included in the visit report.

OTHER TERMS WITH REGARD TO CAMC:

1. The rate of annual maintenance charges shall be furnished for a period of 4 years after the warranty/Defect Liability Period and rates quoted shall be binding on the tenderer.
2. The scope and terms of Annual Maintenance Contract like number of monthly visits, items covering under Annual Maintenance Contract, replacement of spares exclusions if any, down time for break down and service calls shall be as mentioned above.
3. The Bank reserves the right of discontinuing the Annual Maintenance Contract from the contractor during the tenancy of Annual Maintenance Contract.
4. The cost of Annual Maintenance Charges shall also be one of the criteria in evaluation of cost economics of the tender. All the activities under this clause shall be completed within the stipulated time.

SIGNATURE OF THE TENDERER WITH SEAL

UNPRICED FORMAT OF PRICE BID
(No prices should be quoted in the unpriced format of Price bid)

TERMS OF PRICE BID

1. Prices quoted must be firm for the period /extended period of contract. No escalation shall be admissible in respect of any item of the contract, except in case of statutory variation in items like excise duty, works contract tax (if applicable), which shall be reimbursed subject to submission of necessary documents.
2. No escalation due to IEEMA clause shall be admissible.
3. Price quoted must be inclusive of all items required for the entire job of design, manufacture, supply to site, erection, testing, commissioning, and handing over including ancillary items like minor civil works, all electrical items etc., and nothing extra shall be paid.
4. Price quoted shall cover the cost of changing the roof of badminton court. No extra payment on this amount shall be entertained/paid.
5. All materials shall be insured against theft, damage, etc., from the time they are transported from the factory upto the time of handing over to the bank. No claim in respect of any damage/ loss shall be entertained.
6. Watch and ward responsibility at site shall be the responsibility of the contractor.
7. AMC RATES: WITH REGARD TO AMC, THE RATES SHOULD BE QUOTED EXCLUDING TAX. APPLICABLE TAX WILL BE PAID DURING THE COURSE OF AMC.
8. The value of items of Price bid & Present Value of the AMC amount for 4 years after completion of Defect liability period will be commuted for arriving lowest bidder (L1).

Calculation of Present Value : The Present value of AMC charges for 4 years after 1 year defect liability period will also be evaluated to arrive at Lowest tenderer (L-1). The present value of the AMC component per year will be calculated as per the following formula:

$$\text{Present Value} = c / (1+r)^n$$

Where 'c' is the annual CSMC of each year

'r' is Marginal Cost of Fund Based Lending Rate (MCLR) (Considered at prevailing rate at the time of opening of tender)

'n' is number of years, ie., n is 1 for 1st year and 2 for 2nd year…

The above mentioned calculation is for Price comparison purpose only.

Therefore, the tenderers / contractors shall furnish the AMC charges in the price bid for 4 years and the AMC shall be Comprehensive AMC (CAMC).

The price quoted is subject to arithmetic errors i.e incase there is error, the individual sum total shall be considered.

9. THE CONTRACTOR HAS TO EXECUTE AGREEMENT WITH IN 14 DAYS FROM THE DATE OF ORDER (AS PER THE FORMAT GIVEN BY THE BANK), CONFIRMING THAT THE SOLAR POWER PLANT WILL BE MAINTAINED AT THE TENDERED RATE FOR FOUR YEARS AFTER WARRANTY PERIOD.

SIGNATURE OF THE TENDERER WITH SEAL

PRICE BID FORMAT

S.NO	Description	Qty	Rate per KWp in Rs	GST (Rs)	Total Amount (Rs)
1	**Supply of materials - Applicable GST @ _____%**				
	Design, Manufacture, Supply of complete materials for generation of Solar photovoltaic (SPV) based Grid interactive Solar Power System of 130 Kwp of operation including required quantities of SPV modules formed into arrays their mounting arrangement, OnGrid power conditioning units, required DC & AC Distribution panels with surge protection units, copper cabling of required rating from (terrace and Car parking) to main distribution board at Electrical Room at Ground Floor, require earthing, Communication Interface with data Logging along with PC based arrangement at Ground floor for system performance monitoring through licensed software, net metering(Net meter & solar energy meter) fixed at AC Db near Grid Inverter, safety arrangements etc. as defined in the scope and in accordance with laid down functional requirement and specifications to provide a composite operational system including liaisoning & obtaining all statutory approval etc. as details in the technical specification SPV module - (minimum 330 Wp Crystalline Silicon Terrestrial PV Modules)	130 Kwp			
	Design, Manufacture, Supply of complete materials for generation of Solar photovoltaic (SPV) based OFF Grid Solar Power System of 1 Kwp of operation including required quantities of SPV modules formed into arrays their mounting arrangement, OFF Grid power conditioning units, required DC & AC Distribution panels with surge protection units, copper cabling of required rating from (Meter Room	1 KWp			

	terrace) to Street light distribution board at Guard Room at Ground Floor, require earthing, Communication Interface with data Logging along with PC based arrangement, safety arrangements etc. as defined in the scope and in accordance with laid down functional requirement and specifications to provide a composite operational system including liaisoning & obtaining all statutory approval etc. as details in the technical specification SPV module - (minimum 330 Wp Crystalline Silicon Terrestrial PV Modules)				
2	**Installation, Testing & Commissioning (ITC) - Applicable GST @ _____%**				
	Installation, testing and commissioning of the complete system including module mounting arrangement for SPV module/arrays, related civil works as required and as specified to provide a complete operational system including training etc.,	131 Kwp			
3	**Reverse Power Flow Relay – Applicable GST @ _____%**				
	SITC of numeric reverse power relay to suit the power load with item no 24 of schedule C – technical specification of SPV power plant in the existing Main MV panel along with CT etc. for ON GRID system	01			
4	**Solar Water Heater - Applicable GST @ _____ %**				
	SITC of 100 LPD Solar Water Heating System (FPC Type) (08 Nos) Collector with Electricity Backup . (Make – Vguard, Havells or Bank Approved) (Warranty : Minimum 1 year or Brand provided)	01			
	Total Amount = 1+ 2 + 3 + 4				
	The rate inclusive of GST in words _____only				
5	Comprehensive Annual Maintenance Charges for 4 years after defect liability period of 1 year – **The amount is exclusive of GST.**				
	Rate for all inclusive Upkeep & routine Maintenance of complete system as provided under the CAMC contract for periodic	131 Kwp		NA	

	cleaning of PV cells, PCU/Solar Inverter etc. to ensure the committed minimum power generation including all spares, consumables for trouble shooting, routing, preventive and breakdown maintenance etc. as required as per good engineering practice, recommendations in the respective equipment manufacturer and instructions and instructions of engineer in charge form maintaining the system inacceptable functional and serviceable state etc. as specified and as per the scope of work laid down.				
	1 st YEAR			NA	
	2 nd YEAR			NA	
	3 rd YEAR			NA	
	4 th YEAR			NA	
	Sub Total (1 to 4 years)				
	Total (1+2+3+4 +5)				
	Total Amount in words: _____ _____ _____ **Only.**				

Important Notes:

a. The Present value of AMC charges for 4 years after 1 year defect liability period will be arrived at to decide the Lowest Contractor (L-1). The present value of the AMC component per year will be calculated as per the following formula: Present Value = $c / (1+r)^n$

Where 'c' is the annual CAMC of each year 'r' is Marginal Cost of Fund Based Lending Rate (MCLR) (Considered at prevailing rate at the time of opening of tender) 'n' is number of years, i.e., n is 1 for 1st year and 2 for 2nd year…

The above mentioned calculation is for Price comparison purpose only.

b. Contractor has to note that the total capacity of the solar power plant should not be less than 131 KWp.

SIGNATURE OF THE TENDERER WITH SEAL

PART-II PRICE BID

(To be submitted in sealed envelope marked "Envelope No. 2- Price Bid")

TERMS OF PRICE BID

1. Prices quoted must be firm for the period /extended period of contract. No escalation shall be admissible in respect of any item of the contract, except in case of statutory variation in items like excise duty, works contract tax (if applicable), which shall be reimbursed subject to submission of necessary documents.
2. No escalation due to IEEMA clause shall be admissible.
3. Price quoted must be inclusive of all items required for the entire job of design, manufacture, supply to site, erection, testing, commissioning, and handing over including ancillary items like minor civil works, all electrical items etc., and nothing extra shall be paid.
4. Price quoted shall cover the cost of changing the roof of badminton court. No extra payment on this amount shall be entertained/paid.
5. All materials shall be insured against theft, damage, etc., from the time they are transported from the factory upto the time of handing over to the bank. No claim in respect of any damage/ loss shall be entertained.
6. Watch and ward responsibility at site shall be the responsibility of the contractor.
7. AMC RATES: WITH REGARD TO AMC, THE RATES SHOULD BE QUOTED EXCLUDING SERVICE TAX. APPLICABLE SERVICE TAX WILL BE PAID DURING THE COURSE OF AMC.
8. The value of items of Price bid & Present Value of the AMC amount for 4 years after completion of Defect liability period will be commuted for arriving lowest bidder (L1).

Calculation of Present Value : The Present value of AMC charges for 4 years after 1 year defect liability period will also be evaluated to arrive at Lowest tenderer (L-1). The present value of the AMC component per year will be calculated as per the following formula:

$$\text{Present Value} = c / (1+r)^n$$

Where 'c' is the annual CSMC of each year

'r' is Marginal Cost of Fund Based Lending Rate (MCLR) (Considered at prevailing rate at the time of opening of tender)

'n' is number of years, ie., n is 1 for 1st year and 2 for 2nd year…

The above mentioned calculation is for Price comparision purpose only.

Therefore, the tenderers / contractors shall furnish the AMC charges in the price bid for 4 years and the AMC shall be Comprehensive AMC (CAMC).

The price quoted is subject to arithmetic errors i.e incase there is error, the

individual sum total shall be considered.

9. THE CONTRACTOR HAS TO EXECUTE AGREEMENT WITH IN 14 DAYS FROM THE DATE OF ORDER(AS PER THE FORMAT GIVEN BY THE BANK),CONFIRMING THAT THE SOLAR POWER PLANT WILL BE MAINTAINED AT THE TENDERED RATE FOR FOUR YEARS AFTER WARRANTY PERIOD.

SIGNATURE OF THE TENDERER WITH SEAL

PRICE BID FORMAT

S.NO	Description	Qty	Rate per KWp in Rs	GST (Rs)	Total Amount (Rs)
1	**Supply of materials - Applicable GST @ _____%**				
	Design, Manufacture, Supply of complete materials for generation of Solar photovoltaic (SPV) based Grid interactive Solar Power System of 130 Kwp of operation including required quantities of SPV modules formed into arrays their mounting arrangement, OnGrid power conditioning units, required DC & AC Distribution panels with surge protection units, copper cabling of required rating from (terrace and Car parking) to main distribution board at Electrical Room at Ground Floor, require earthing, Communication Interface with data Logging along with PC based arrangement at Ground floor for system performance monitoring through licensed software, net metering(Net meter & solar energy meter) fixed at AC Db near Grid Inverter, safety arrangements etc. as defined in the scope and in accordance with laid down functional requirement and specifications to provide a composite operational system including liaisoning & obtaining all statutory approval etc. as details in the technical specification SPV module - (minimum 330 Wp Crystalline Silicon Terrestrial PV Modules)	130 Kwp			
	Design, Manufacture, Supply of complete materials for generation of Solar photovoltaic (SPV) based OFF Grid Solar Power System of 1 Kwp of operation including required quantities of SPV modules	1 kwp			

	formed into arrays their mounting arrangement, OFF Grid power conditioning units, required DC &AC Distribution panels with surge protection units, copper cabling of required rating from (Meter Room terrace) to Street light distribution board at Guard Room at Ground Floor, require earthing, Communication Interface with data Logging along with PC based arrangement, safety arrangements etc. as defined in the scope and in accordance with laid down functional requirement and specifications to provide a composite operational system including liaisoning & obtaining all statutory approval etc. as details in the technical specification SPV module - (minimum 330 Wp Crystalline Silicon Terrestrial PV Modules)				
2	**Installation, Testing & Commissioning (ITC) - Applicable GST @ _____%**				
	Installation, testing and commissioning of the complete system including module mounting arrangement for SPV module/arrays, related civil works as required and as specified to provide a complete operational system including training etc.,	131 Kwp			
3	**Reverse Power Flow Relay – Applicable GST @ _____%**				
	SITC of numeric reverse power relay to suit the power load with item no 24 of schedule C – technical specification of SPV power plant in the existing Main MV panel along with CT etc. for ON GRID system	01			
4	**Solar Water Heater - Applicable GST @ _____ %**				
	SITC of 100 LPD Solar Water Heating System (FPC Type) (08 Nos) Collector with Electricity Backup . (Make – Vguard, Havells or Bank Approved) (Warranty : Minimum 1 year or Brand provided)	01			
	Total Amount = 1+ 2 + 3 + 4				

	The rate inclusive of GST in words _____only				
5	**Comprehensive Annual Maintenance Charges for 4 years after defect liability period of 1 year – The amount is exclusive of GST.**				
	Rate for all inclusive Upkeep & routine Maintenance of complete system as provided under the CAMC contract for periodic cleaning of PV cells, PCU/Solar Inverter etc. to ensure the committed minimum power generation including all spares, consumables for trouble shooting, routing, preventive and breakdown maintenance etc. as required as per good engineering practice, recommendations in the respective equipment manufacturer and instructions and instructions of engineer in charge form maintaining the system inacceptable functional and serviceable state etc. as specified and as per the scope of work laid down.	131 Kwp		NA	
	1 st YEAR			NA	
	2 nd YEAR			NA	
	3 rd YEAR			NA	
	4 th YEAR			NA	
	Sub Total (1 to 4 years)				
	Total (1+2+3+4 +5)				
	Total Amount in words: _____ _____ Only.				

Important Notes:

a. The Present value of AMC charges for 4 years after 1 year defect liability period will be arrived at to decide the Lowest Contractor (L-1). The present value of the AMC component per year will be calculated as per the following formula: Present Value = $c / (1+r)^n$

Where 'c' is the annual CAMC of each year

'r' is Marginal Cost of Fund Based Lending Rate (MCLR) (Considered at prevailing rate at the time of opening of tender) 'n' is number of years, i.e., n is 1 for 1st year and 2 for 2nd year…

The above mentioned calculation is for Price comparison purpose only.

b. Contractor has to note that the total capacity of the solar power plant should not be less than 131 KWp.

SIGNATURE OF THE TENDERER WITH SEAL