



**SBI INFRA MANAGEMENT SOLUTIONS PVT. LTD  
LOCAL HEAD OFFICE, 4TH FLOOR,  
STATE BANK OF INDIA  
THRIUVANANTHAPURAM -695012,**

**TENDER NO – THI202006014**

**TENDER FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF ON-GRID ROOF TOP SOLAR POWER PLANT UNDER NET METERING POLICY INCLUDING 5 YEARS COMPREHENSIVE WARRANTY PBB ROUND SOUTH BRANCH (15kWp)**

**PART – A: TECHNICAL BID**

**TENDER SUBMITTED BY:**

**NAME** : \_\_\_\_\_

**ADDRESS** : \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**GSTIN NO** : \_\_\_\_\_

**E-MAIL ADDRESS** : \_\_\_\_\_

**DATE** : \_\_\_\_\_



### **NOTICE INVITING TENDER - THI202006014**

SBI Infra Management Solutions Pvt. Ltd. (hereinafter SBIIMS) on behalf of SBI invites " Tender for Design, Supply, Installation, testing and commissioning of On Grid Roof Top Solar Power plants" from MNRE(previous valid panel)/ANERT/SECI registered vendors having valid registration and office in Kerala who qualify as per the eligibility criteria given in annexure-A (page 7) in the tender.

S.No.	Type	Description
(1)	Name of work	Tender for supply, installation, testing and commissioning of on-grid – Solar roof top power plant under net metering policy including 5 years comprehensive warranty at Thrissur PBB Round South branch as Per The Information And Technical Specifications Enclosed (Thrissur PBB Round South branch - 15kWp capacity)
(2)	Nature of Work	SOLAR ROOF TOP POWER PLANT.
(3)	Time allowed for completion	60 days
(4)	Earnest Money Deposit	Rs. 8700/- (Rupees Eight Thousand Seven Hundred Only) in the form of DD in favour of SBI payable at Thrissur
(5)	Cost of Tender document cum Tender Processing Fee (Non-refundable)	Rs. 1,000/- (Rupees One Thousand Only)
(6)	Mode of Payment for Item No. (4) and (5) above	Rs. 1000/- (Rs. Three thousand only) to be paid through State Bank Collect ONLY as detailed under; 1) login <a href="https://www.onlinesbi.com">https://www.onlinesbi.com</a> 2) Select SB Collect from Top Menu, click the check box and "Proceed" 3) Select "All India" in "State of Corporate/Institution" & Select "Commercial Services" in "Type of Corporate/Institution" then "Go" 4) Select "SBI Infra Management Solutions pvt. Ltd" in Commercial Services Name and "Submit" 5) Select "Tender Application Fee" in "Payment Category" and enter the "Tender ID" exactly as given in first page top of this tender(characters in Uppercase Only). 6) Fill up all fields such as email, GST No., Mobile No, , Vendor/Firm Name etc and make payment. 7) Enclose payment receipt having unique reference No. along with EMD.



(7)	Date of <b>issue of tender</b> documents form the Bank's web site.	<b>17.06.2020 to 08.07.2020</b> from Bank's website <a href="http://www.sbi.co.in">www.sbi.co.in</a> <Link> Procurement News.
(8)	Last date & time for submission of Technical bid along with EMD, Cost of tender document cum processing Fee, Valid  MNRE/ANERT/SECI registration certificate, Documentary proof of office in Kerala and other documents for eligibility as specified in the tender in sealed Cover-A super scribing "Tender for SITC of Solar photovoltaic panels on at SBI, <b>PBB ROUND SOUTH BRANCH (15kWp)</b>	The signed and stamped copy of Technical bid along with EMD, Tender processing fees in sealed envelope should reach to us on or before <b>08.07.2020 up to 03:00 PM.</b> Note: It is sole responsibility of the bidder to ensure submission of their bid by stipulated date and time at specified address. The SBIIMS Pvt. Ltd. shall not entertain bids received late due to any delay on account of delivery by the courier agency/speed post or any other mode for the reasons whatsoever.
(9)	<b>Pre-bid meeting</b>	<b>25.06.2020 at 03.00 pm</b> at SBI, Administrative Office, III Floor, State Bank Bhavan, Kovilakathumpadom , Thrissur-680022
(10)	Address for submission and venue for opening of Technical bid.	Vice President & Circle Head, SBI Infra Management Solutions Pvt. Ltd. 4 <sup>th</sup> floor, SBI Local Head Office Poojappura, Thiruvananthapuram -12 Land Line no : 0471 – 2192435/2192410
(11)	Date & <b>time for submission of online price bid</b> (only to those bidders who qualify in Technical Bid.)	<b>Will be intimated to Qualified vendors</b>
(12)	<b>opening of Technical bid</b>	<b>08.07.2020 by 15.30 PM</b>
(13)	Intimation to Technically qualified	Shall be communicated by e-mail
(14)	Validity for Offer	6 (Six) Months from the Date of Opening of Price-Bid
(15)	Commencement of Work	<b>7 th Day from the date of issuing of Work Order</b>



(16)	Payment	<p>i) 50% of total project cost against all materials delivery at site and production of test certificates and with necessary documents showing requisite quality as mentioned in tender document.</p> <p>ii) 45% after installation, commissioning, testing, successful trial run including grid synchronization along with supply and installation of net metering, generation meter and approvals From KEI &amp;KSEB as required.</p> <p>iii) 5% will be held with us as SD for 5 yrs and could be release against submission of Performance Bank Guarantee from any scheduled/ commercial Bank, other than SBI</p> <p>iv) Payment shall be made by way of Electronic fund transfer and the bill will be paid by the SBI. Firm should furnish details of the bank, A/c no, IFSC code.</p> <p>v) Payments towards the above work shall be made by SBI.</p>
(17)	Initial Security Deposit (ISD)	2% of contract amount including EMD.
(18)	Total Security deposit	5% of the contract amount including <b>ISD</b>
(19)	Defects Liability Period	<b>60 months from the date of virtual completion of work</b>
(20)	<b><u>warranted/guaranteed</u></b>	<p><b>1)Product warranty:</b></p> <p>A) The SPV panel shall carry a warranty of minimum 25 years from the date of Final Acceptance. This warranty shall be backed up in the form of manufacturer’s warranty, 12 months from the date of virtual completion</p> <p>B) The PCU/Solar Grid tie Inverter/MPPT shall carry a warranty of minimum 5 years.</p> <p>C) The complete SPV rooftop systems installed and commissioned shall be under a warranty against any manufacturing or usage defect for a minimum period of 5 years from the date of Commissioning. The mechanical structures, electrical works including power conditioners/inverters/maximum power point tracker units/ distribution boards/digital meters/ switchgear etc. and overall workmanship of the SPV rooftop systems must be warranted against any manufacturing/ design/ installation defects for a minimum period of 5 years from the date of Final Acceptance.</p> <p><b><u>2)PERFORMANCE WARRANTY:</u></b></p> <p>A) The SPV panel must have linear performance warranty for their output peak watt capacity, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years.</p> <p>B) A linear performance warranty for a period of 5 years should be given for Inverter/PCU/MPPT and other components.</p> <p>3)The warranty will be against breakages, malfunctions, non-fulfillment of guaranteed performance and breakdowns due to manufacturing defects or defects that may arise due to</p>



		<p>improper operation of electrical /electronic components of the system but do not include physical damages by the end users.</p> <p>4) The above warranty shall take effect from the date on which the system is taken over by the Bank after commissioning.</p> <p>5) The successful bidder shall be liable to make good the loss by replacing the defective product during the warranty period for the entire system free of cost.</p>
		<p>6) The warranty will cover all the materials and goods involved in the installation and commissioning of SPV rooftop systems by the successful Bidder.</p> <p>7) The data sheets showing all parameters for each components should provide (i.e. Solar PV Module, Inverter, MPPT, Cables, etc.).</p>
(21)	Period of Honoring Payment Certificate.	15 Days from the date of receipt of bill.
(22)	Insurance	As per Insurance clause of the Tender Document.
(23)	Liquidated Damages for Delay	0.5 % Per week subject to total amount of 5% of Contract Value.
(24)	For Online price bid submission related queries	<p><u>Service provider:</u>  M/s. E-procurement Technologies Limited  B-705, Wall Street - II, Opp. Orient Club, Ellis Bridge, Near Gujarat College, Ahmedabad - 380006, Gujarat</p> <p><u>Help Desk:</u>  Contact Persons: Priyanka Acharya , M: +91 6354919566   T: 079 68136856  <a href="mailto:Priyanka@auctiontiger.net">Priyanka@auctiontiger.net</a></p> <hr/> <p>Sujith Nair (Shark ID – ~SUJITHN)    Sr. Executive – Implementation &amp; Support e-Procurement Technologies Limited  Contact: <a href="mailto:sujith@eptl.in">sujith@eptl.in</a>    Phone: +91-79-68136857   6863   6835   6829   6831   6830 (Mon-Fri working Hours 10 AM to 7 PM)  (Sat working hours 10AM to 4PM)</p>

**Price bid shall not be accepted offline**

25. Tenders can be downloaded from the bank's website [www.sbi.co.in](http://www.sbi.co.in) -> sbi in the news <Procurement News>. It shall be responsibility of the contractor to arrange and ensure that all pages of technical and financial bid are properly bound separately. Tenders in loose pages may be disqualified.

26. The contractor shall sign and stamp each page of the tender document thereby ensuring the number and sequence of all pages.

27. No conditions other than mentioned in the tender will be considered, and if given they will have to be withdrawn before opening of the price-bid.

29. The SBIIMS Pvt. Ltd. reserve their rights to accept or reject any or all the tenders, either in whole or in part without assigning any reason(s) for doing so and no claim / correspondence shall be entertained in this regard.

30. Tenders received without EMD and Cost of Tender Documents shall be summarily rejected and such tenders shall not be allowed to participate in the online price bidding process.

31. In case the date of opening of tenders is declared as a holiday, the tenders will be opened on the next working day at the same time.

32. SBIIMS Pvt. Ltd. has the right to accept / reject any / all tenders without assigning any reasons and no correspondence shall be entertained in this regard.

**33. If the L1 bidder quotes abnormally low (below 25% of the estimated cost), he will be required to furnish a Performance Guarantee Bond and Additional Security Deposit amounting to the Difference between Estimated and Quoted Amount which will be released after successful completion of Defect Liability Period**



### **ANNEXURE-A (ELIGIBLE CRITERIA)**

1) Bidder should be MNRE(previous valid panel)/ANERT/SECI registered vendors having valid registration and office in Kerala having minimum three years' experience in SITC of grid connected (net metering) rooftop solar panels in Government / Semi Government / PSUs / office buildings/commercial premises as on 31.05.2020

2) Minimum average yearly turnover of Rs.2.6 Lakh during last 3 financial years supported by audited financial statements i.e. for the year 2016-17, 2017-18 & 2018-19.

3) During the last 7 years (as on 31.05.2020), executed successfully similar works (Roof Top Solar installation for commercial building/Offices) individually costing as under:

(i) Three Solar rooftop Plant with net metering completed work value not less than Rs.3.5 lakhs each

**OR**

(ii) Two Solar rooftop Plant with net metering completed work value not less than Rs.4.35 lakhs each

**OR**

(iii) One Solar rooftop Plant with net metering completed work value not less than Rs.7 Lakhs each

4) O&M Certificate for at least one year for any type of solar project from any central / state Govt. / Public sector undertaking / Public Limited Company / Private Limited Company.

1) Should have service setup at any town/city of Kerala State or nearest city for rendering after sales service of the plant.

2) Tenderers should submit the following documents in respect of their eligibility

(a) Copy of the letter issued by MNRE(previous valid panel)/ANERT/SECI regarding registration with them to confirm about the category of their registration.

(b) Copies of detailed work order indicating scope and value of works for the qualifying works.

(c) Completion Certificate for the qualifying works.

(d) A Certificate issued by Chartered Accountant indicating turnover for the last three years along with audited financial statement for the same period.



## **ANNEXURE-B SAMPLE BUSINESS RULE DOCUMENT**

### **E-TENDERING INSTRUCTIONS TO BIDDERS**

#### General

State Bank of India hereby publish the TENDER on sbi portal and price bid submission will be conducted through e -tendering Portal (Website) [https:// etender.sbi](https://etender.sbi) in Electronic mode hereinafter referred as "e Tendering" and TENDER will be hereunder called as "e -Tender". The tender published online in sbi website consisting of standard tender conditions, specifications, schedule of quantities, drawings (if any) for above referred work. Please note that tender can be downloaded from above portal [www.sbi.co.in](http://www.sbi.co.in) (website) and technical bid should be mandatorily submitted at the office of undersigned. The technically qualified vendors will have to submit the price bid Online on e -tendering Portal (Website) [https:// etender.sbi](https://etender.sbi).

### **Instructions**

#### **1. Broad outline of activities from Bidders prospective:**

2. Register on the e-Procurement portal [https:// etender.sbi](https://etender.sbi)
3. Create Users and assign roles on the above portal
4. View the event id and price bid format as per the notification email from E-procurement Technologies.
5. Bid-Submission on the above portal

For participating in this tender online, the following instructions are to be read carefully. These instructions are supplemented with more detailed guidelines on the relevant screens of the above portal.

#### **3. Digital Certificates**

For integrity of data and authenticity/ non -repudiation of electronic records, and to be complaint with IT Act 2000, it is necessary for each user to have a Digital Certificate (DC). also referred to as Digital Signature Certificate (DSC), of Class II or above, issued by a Certifying Authority (CA) licensed by Controller of Certifying authorities (CCA) [refer <http://www.cca.gov.in> ].

#### **4. Registration**

To use the Electronic Tender portal [https:// etender.sbi](https://etender.sbi) , vendors need to register on the portal. Registration of each organization is to be done by one of its senior persons vis -a- vis Authorized Signatory who will be the main person coordinating for the e -tendering activities. In the above portal terminology, this person will be referred to as the Super User (SU) of that organization. For further details, please visit the website/portal, and follow further instructions as given on the site.

Note: After successful submission of Registration details please contact to the Helpdesk of the portal to get your registration accepted/activated.

Help Desk: Priyanka Acharya , M: +91 6354919566 | T: 079 68136856 , [Priyanka@auctiontiger.net](mailto:Priyanka@auctiontiger.net)

Sujith Nair (Shark ID – ~SUJITHN) | Sr. Executive – Implementation & Support e-Procurement Technologies Limited Contact: [sujith@eptl.in](mailto:sujith@eptl.in) | Phone: +91 -79-68136857 | 6863 | 6835 | 6829 | 6831 | 6830 (Mon-Fri working Hours 10 AM to 7 PM) (Sat working hours 10AM to 4PM)

NOTE: Please note that above e -Tendering system is an automatically time locked system which will be locked immediately as soon as due date and time is over and will not accept any offer after that. So, the tenderers are strictly advised to do their process well before the due date and time to avoid any such instances.





## **6. Tender Opening Event (TOE)**

The e-Procurement portal offers a unique facility for 'Public/Limited Online Tender Opening Event (TOE)'. Tender Opening Officers as well as authorized representatives of bidders can attend the Public/Limited Online e Tender Opening Event (TOE) from the comfort of their offices. For this purpose, representatives of bidders (i.e. Supplier organization) duly authorized are requested to carry a Laptop and Wireless Connectivity to Internet. Every legal requirement for a transparent and secure 'Public/Limited Online Tender Opening Event (TOE)' has been implemented on the portal. As soon as a Bid is decrypted with the corresponding 'Pass -Phrase' as submitted online by the bidder himself (during the TOE itself), salient points of the Bids are simultaneously made available for downloading by all participating bidders. The tedium of taking notes during a manual 'Tender Opening Event' is therefore replaced with this superior and convenient form of 'Public/Limited Online Tender Opening Event (TOE)'. The portal has a unique facility of 'Online Comparison Chart' which is dynamically updated as each online bid is opened. The format of the chart is based on inputs provided by the Buyer for each Tender. The information in the Comparison Chart is based on the data submitted by the Bidders. A detailed Technical and/ or Financial Comparison Chart enhance Transparency. Detailed instructions are given on relevant screens. The portal has a unique facility of a detailed report titled 'Minutes of Online Tender Opening Event (TOE)' covering all important activities of 'Online Tender Opening Event (TOE)'. This is available to all participating bidders for 'Viewing/ Downloading'. There are many more facilities and features on the portal. For a particular tender, the screens viewed by a Supplier will depend upon the options selected by the concerned Buyer.

IMPORTANT NOTE: In case of internet related problem at a bidder's end, especially during 'critical events' such as – a short period before bid -submission deadline, during online public/limited tender opening event, it is the bidder's responsibility to have backup internet connections. In case there is a problem at the e - procurement/ e -auction service- provider's end (in the server, leased line, etc) due to which all the bidders face a problem during critical events, and this is brought to the notice of SBIIMS by the bidders in time then SBIIMS will promptly re -schedule the affected event(s).

## **7. Minimum Requirements at Bidders end**

In order to operate on the electronic tender management system, the user's machine is required to be set up. The machine must have running XP service Pack 3 or higher version of Windows like Vista or Window 7. Also need to install Mozilla Fire fox web browser and latest Version of Java.

**Yours Faithfully,**

**Vice President & circle Head Trivandrum  
SBIIMS**



## **PROCESS COMPLIANCE FORM**

(The bidders are required to print this on their company's letter head and sign, stamp before faxing)

To  
**M/s E- Procurement Technologies Ltd.**  
**(abc procure)A-801, Wall Street - II, Opp. Orient Club,**  
**Nr. Gujarat College,**  
**Ellis Bridge, Ahmedabad - 380**  
**006. Gujarat State, India.**  
**Phone: +91-79-68136889. Cell: +91-6354919566**  
**E-mail: [Priyanka@auctiontiger.net](mailto:Priyanka@auctiontiger.net)**

### **SUB: AGREEMENT TO THE PROCESS RELATED TERMS AND CONDITIONS FOR THE ONLINE BIDDING**

This has reference to the Terms & Conditions for the online bidding mentioned in the Tender for **“Tender for supply, installation, testing and commissioning of on-grid – solar roof top power plant under net metering policy including 5 years comprehensive warranty at PBB Round South branch, Thrissur.**

This letter is to confirm that:

- 1) The undersigned is authorized representative of the company.
- 2)** We have studied the Commercial Terms and the Business rules governing the online bidding and the RFP as mentioned in your letter and confirm our agreement to them.
- 3) We also confirm that we have taken the training on the tender tool and have understood the functionality of the same thoroughly.
- 4) We confirm that SBI Group and ETL shall not be liable & responsible in any manner whatsoever for my/our failure to access & bid on the e-tender platform due to loss of internet connectivity, electricity failure, virus attack, problems with the PC, any other unforeseen circumstances etc. before or during the tender event.
- 5) We understand that in the event we are not able to access the tender site, we may authorize ETL to bid on our behalf by sending a fax containing our offer price before the tender close time and no claim can be made by us on either State Bank Group or ETL regarding any loss etc. suffered by us due to acting upon our authenticated fax instructions.
- 6) I/we do understand that ETL may bid on behalf of other bidders as well in case of above mentioned exigencies.
- 7) We also confirm that we have a valid digital certificate issued by a valid Certifying Authority.
- 8) We also confirm that we will fax the price confirmation & break up of our quoted price as per Annexure II and the format as requested by SBI / ETL.

- 9) We, hereby confirm that we will honour the Bids placed by us during the tender process.
- 10) We read each pages, understood the technical bid & BOQ and I/we hereby agree to abide by and fulfill the terms and provisions and accepting all terms and conditions stipulated in the tender documents. After the accomplishment of tendering procedure, if we become the lowest bidder shall submit the hard copy of the Technical document duly signed with seal by the authorized representative/proprietor of the firm at the under mentioned office.

We, hereby confirm that we will honour the Bids placed by us during the tender process

With regards

Signature with company seal  
Name:  
Company / Organization

Date-



## **ARTICLES OF AGREEMENT**

This AGREEMENT is made at ..... on this ..... day of ..... between SBI, Deputy General Manager(B&O) ,AO Thrissur under SBI Act 1955, having its Corporate Centre at State Bank Bhavan, Madame Cama Road, Mumbai 300 021, represented by authorized officer of SBI. (hereinafter called "the Employer") on the one part and M/s \_\_\_\_\_ (proprietorship/partnership firm/Company), incorporated under the provisions of the Companies Act and having its registered office at \_\_\_\_\_ (hereinafter called "the Vendor") represented by Shri ..... who is authorized to enter this agreement by its Board of Directors on the other part.

AND WHEREAS the Employer has intention of engaging SBIIMS qualified channel partner of Ministry of New and Renewable Energy (MNRE) for supply, installation, testing and commissioning of on-grid – solar roof top power plant under net metering policy including 5 years comprehensive warranty at **PBB ROUND SOUTH BRANCH** as stated in the scope of work attached to the Tender Document to the Vendor.

AND WHEREAS the Employer had called for tenders from channel partners of Ministry of New and Renewable Energy for the proposed work as indicated in the scope of work and other documents attached to the tender.

AND WHEREAS the Vendor and others submitted the tenders and the Employer has awarded the contract relating to Grid connected Roof top solar power plant, as per the information and technical specifications enclosed, Under Net Metering Policy at **PBB ROUND SOUTH BRANCH (15kWp) under** Administrative Office- Thrissur, State Of Bank India stated in the scope of work attached to the Tender Document to the Vendor.

AND WHEREAS both the parties to this agreement are desirous of recording the terms and conditions upon which the said services are to be rendered by the Vendor.

NOW IT IS HEREBY AGREED AS FOLLOWS:

1. In consideration of the said Contract Amount to be paid at the times and in the manner set forth in the said Conditions, the Contractor shall upon and subject to the said Conditions execute and complete the work shown upon the said Drawings and described in the said Specifications and the priced Schedule of Quantities.
2. The Employer shall pay to the Contractor the said Contract Amount, or such other sum as shall become payable, at the times and in the manner specified in the said Conditions.



3. The said Conditions and Appendix thereto shall be read and construed as forming part of this Agreement, and the parties hereto shall respectively abide by submit themselves to the said Conditions and perform the Agreements on their part respectively in the said Conditions contained.
4. The Plans, Agreements and Documents mentioned herein shall form the basis of this Contract.
5. This Contract is a fixed lump-sum contract and the contractor has to carry out the work as per enclosed BOQ and to be paid for according to the rates contained in the BOQ or as provided in the said Conditions and approved by the SBIIMS.
6. The Contractor shall afford every reasonable facility for the carrying out of all works relating to above Installation in the manner laid down in the said Conditions, and shall make good any damages done to walls, floors, etc. after the completion of his work.
7. The Employer reserves to itself the right of altering the drawings and nature of the work by adding to or omitting any items of work or having portions of the same carried out without prejudice to this Contract.
8. Time shall be considered as the essence of this Contract and the Contractor hereby agrees to commence the work soon after the Site is handed over to him or from 7th day after the date of issue of formal work order as provided for in the said Conditions whichever is later and to complete the entire work within 90 days subject to nevertheless the provisions for extension of time.
9. All payments by the Employer under this Contract will be made by State Bank of India.
10. All disputes arising out of or in any way connected with this Agreement shall be deemed to have arisen at Trivandrum and only the Courts in Trivandrum shall have jurisdiction to determine the same.
11. That the several parts of this Contract have been read by the Contractor and fully understood by the Contractor.

IN WITNESS WHEREOF THE EMPLOYER and the Contractor have set their respective hands to these presents and two duplicates hereof the day and year first hereinabove written.

SIGNATURE CLAUSE



SIGNED AND DELIVERED by the

\_\_\_\_\_ By the  
(Employer)

hand of Shri \_\_\_\_\_

\_\_\_\_\_  
(Name and Designation)

(Signature of Employer)

In the presence of :

Shri / Smt. \_\_\_\_\_

(Signature of Witness)

Address \_\_\_\_\_

\_\_\_\_\_  
(Witness)

SIGNED AND DELIVERED by the

\_\_\_\_\_ by the  
(Contractor)

(Signature of Contractors)

in the presence of :

Shri / Smt. \_\_\_\_\_

(Signature of Witness) Address \_\_\_\_\_



## **INSTRUCTIONS TO THE TENDERERS**

### **1.0 Scope of work**

Sealed Tenders are invited by SBIIMS on behalf of SBI for supply, installation, testing and commissioning of on-grid – solar roof top power plant under net metering policy including 5 years comprehensive warranty at **PBB ROUND SOUTH BRANCH (15kWp)**

#### **1.1 Site and its location**

The proposed work is to be carried out at **Thrissur PBB Round South branch -15kWp**

### **2.0 Tender documents**

2.1 The work has to be carried out strictly according to the conditions stipulated in the tender consisting of the following documents and the most workmen like manner.

- a) Instructions to tenderers
- b) General conditions of Contract
- c) Special conditions of Contract
- d) Additional specifications
- e) Priced bid
- f) Additional Conditions for Electrical Installation

2.2 The above documents shall be taken as complementary and mutually explanatory of one another but in case of ambiguities or discrepancies, shall take precedence in the order given below;

- a) Price Bid
- b) Additional Specifications
- c) Technical specifications
- d) Drawings
- e) Special conditions of contract
- f) General conditions of contract
- g) Instructions to Tenderers

2.3 Complete set of tender documents including relative drawings can be downloaded from the website [www.sbi.co.in](http://www.sbi.co.in)

2.4 The tender documents are not transferable.

### **3.0 Site Visit**

**3.1** The tenderer must obtain himself on his own responsibility and his own expenses all information and data that may be required for the purpose of filling this tender document and enter into a contract for the satisfactory performance of the work. The tenderer is requested satisfy himself regarding the availability



of water, power, transport and communication facilities, the character quality and quantity of the materials, labour, the law and order situation, climatic conditions local authorities requirement, traffic regulations etc;

The tenderer will be fully responsible for considering the financial effect of any or all the factors while submitting his tender.

#### **4.0 Earnest Money**

- 4.0 The tenderers are requested to submit the Earnest Money of Rs.8700/- (Eight thousand seven hundred only) by means of Demand Draft / Pay Order (Valid for a period of 180 Days from the last date of submission of the tender) from any Scheduled/ Nationalized Bank drawn in favour of SBI and payable in Thrissur.
- 4.1 EMD in any other form other than as specified above will not be accepted. Tender not accompanied by the EMD in accordance with clause 4.1 above shall be rejected.
- 4.2 No interest will be paid on the EMD.
- 4.3 EMD of unsuccessful tenderer will be refunded within 30 days of award of Contract.
- 4.4 EMD of successful tenderer will be retained as a part of security deposit.

#### **5.0 Initial/ Security Deposit**

Security Deposit cum Performance Bank Guarantee of 5% of the total contract value.

The Bank Guarantee furnished shall be valid for a period of 72 months from date of work order towards faithful performance of the contract including 5 years maintenance, as per the format enclosed, within a period of 15 days of acceptance of tender.

#### **6.0 Security Deposit**

- 6.1 Total security deposit shall be 5% of the tendered value of the work. Out of this 2% of tender value (i.e. tender amount) is in the form of initial security deposit (ISD). Balance security deposit (i.e. 5% of final value of work minus 2% of tender value already deposited as ISD) towards the work shall be deducted from the final bill of the work as Retention money. Bank also may deduct total 5% of the contract value of the work from Final/running bill and the ISD shall be returned to the L1 vendor. 5% of the retention money shall be paid after the defects liability period of 5 Year as specified in the contract. The retention money will be interest free

#### **6.2 Additional Security Deposit**

In case L-1 bidder quotes abnormally low rates (i.e. 25% or more, below estimated project cost), the bank may ask such bidder to deposit additional security deposit (ASD) equivalent to difference of estimated cost vis-à-vis L-1 quoted amount for due fulfillment of contract. Such ASD could be in the form of FDR / Bank's guarantee in the Bank's name as per format approved by the Bank. On successful completion of work ASD will be returned to the contractor. In case contractor fails to complete the work in time or as per tender





specification or leave the job incomplete, the bank will be at liberty to recover the dues from ASD or to forfeit such ASD as the case may be within its sole discretion.

**6.3** No interest shall be paid to the amount retained by the Bank as Security Deposit .

**7.0 Signing of contract Documents**

The successful tenderer shall be bound to implement the contract by signing an agreement and conditions of contract attached herewith within **7 days** from the receipt of work order for the tender by the Bank. However, the written acceptance of the tenders by the Bank will constitute a binding agreement between the Bank and successful tenderer whether such formal agreement is subsequently entered into or not.

**8.0 Completion Period**

Time is essence of the contract. The work should be completed in all respect accordance with the terms of contract within a period of **60 days** from the date of award of work.

**9.0 Validity of tender**

Tenders shall remain valid and open for acceptance for a period of **180 days** from the date of opening price bid. If the tenderer withdraws his/her offer during the value period or makes modifications in his/her original offer which are not acceptable to Bank without prejudice to any other right or remedy the Bank shall be at liberty forfeit the EMD.

**10.0 Liquidated Damages**

The liquidated damages shall be 0.50% per week subject to a maximum of 5% of contract value.

**11.0 Rate and prices:**

11.1 The tenderers should not change the units as specified in the tender. If any unit is changed the tenders would be evaluated as per the original unit and the contractor would be paid accordingly.



The tenderer should not change or modify or delete the description of the item. If any discrepancy is observed he should immediately bring to the knowledge of the Architect/ SBIIMS.

11.2 The rate quoted shall be firm throughout the tender validity period. The rates quoted shall include all costs, allowances etc, G.S.T.

11.3 The SBIIMS Pvt. Ltd. reserve their rights to accept any tenders, either in whole or in part or may entrust the work in phases or may drop the part scope of work at any stage of the project within its sole discretion without assigning any reason(s) for doing so and no claim / correspondence shall be entertained in this regard.

11.4 In case it is decided by the SBIIMS Pvt. Ltd. to drop one or more from the scope of work at any stage of the project, the contractor shall not be entitled to raise any claim / compensation for such deleted scope of work

11.5 L1 is arrived based on the Grand total inclusive of GST. Applicant has to quote the rates based on their design, transportation charges (loading and unloading), all taxes, GST based on their supply and labour components, installation, commissioning charges, Liaisoning charges with all statutory bodies, documentation charges etc for obtaining approval for Grid integration).

### **GENERAL CONDITIONS OF CONTRACT**

#### **1.0 Definitions: -**

“**Contract**” means the documents forming the tender and the acceptance thereof and the formal agreement executed between SBI Infra Management Solutions Pvt. Ltd. (client) and the contractor, together with the documents referred there in including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Architects / Bank and all these documents taken together shall be deemed to form one contract and shall be complementary to one another.

1.1 In the contract the following expressions shall, unless the context otherwise requires, have the meaning hereby respectively assigned to them.

1.1.1 ‘**SBIIMS**’ shall mean **SBI Infra Management Solutions Pvt. Ltd.** (Service Provider) having its Head Office, Ground Floor, Raheja Chambers, Free Press Marg, Nariman Point, Mumbai- 300 021 and includes the client’s representatives, successors and assigns.

1.1.2 ‘**Architects/ Consultants**’ N.A

1.1.3 ‘**Site Engineer**’ shall mean an Engineer appointed by the SBIIMS at site as their representative for day-to-day supervision of work and to give instructions to the contractors.



1.1.4 **'The Contractor'** shall mean the individual or firm or company whether incorporate not, undertaking the works and shall include legal personal representative of individual or the composing the firm or company and the permitted assignees of individual or firms of company.

1.1.5 The expression **'Works'** or 'work' shall mean the permanent or temporary work description in the "Scope of work" and / or to be executed in accordance with the contract includes materials, apparatus, equipment, temporary supports, fittings and things of kinds to be provided, the obligations of the contractor hereunder and work to be done by the contractor under the contract.

1.1.6 **'Engineer'** shall mean the representative of the Consultants/ Architects.

1.1.7 **'Drawings'** shall mean the drawings prepared by the Architects and issued by the Engineer and referred to in the specifications and any modifications of such drawings as may be issued by the Engineer from time to time 'Contract value shall mean value of the entire work as stipulated in the letter of acceptance of tender subject such additions there to or deductions there from as may be made under the provide herein after contained.

1.1.8 **"Specifications"** shall mean the specifications referred to in the tender and modifications thereof as may time to time be furnished or approved by the Architect/ Consultant.

1.1.6 **"Month"** means calendar month.

1.1.9 **"Week"** means seven consecutive days.

1.1.10 **"Day"** means a calendar day beginning and ending at 00 Hrs and 24 Hrs respectively.

1.1.11 "SBIIMS's Engineer" shall mean The Civil / Electrical Engineer in - charge of the Project, as nominated by the M.D. & CEO, SBI Infra Management Solutions Pvt. Ltd.

1.1.12 The following shall constitute the Joint Project Committee (herein under referred to as JPC) for assessing and reviewing the progress of the work on the project and to issue instructions or directions from time to time for being observed and followed by the Architects Site Engineer / PMC and other consultants / contractors engaged in the execution of the project.

i) Vice President – Circle Head of SBIIMS Pvt. Ltd. ii) SBIIMS Engineer (Civil and Electrical) in-charge of the Project, as may be nominated by the M.D. & CEO, SBI Infra Management Solutions Pvt. Ltd. .... Members. iii) Concerned partner of the Architects and their Resident Architect.... Member.

## 2.0 **Language**

The language in which the contract documents shall be drawn shall be in English.

## 3.0 **Errors, omissions and discrepancies**

In case of errors, omissions and/ or disagreement between written and scaled dimensions on the drawings or between the drawings and specifications etc., the following order shall apply.

i) Between scaled and written dimension (or description) on a drawing, the latter shall be adopted.



- ii) Between the written or shown description/dimensions in the drawings and the corresponding one in the specification the former shall be taken as correct.
- iii) Between written description of the item in the specifications and descriptions in bills of quantities of the same item, the former shall be adopted:
  - a) In case of difference between rates written in figures and words, the rate in words shall prevail.
  - b) Between the duplicate / subsequent copies of the tender, the original tender shall be taken as correct.

#### 4.0 **Scope of Work:**

- a) Scope of work covers in conducting feasibility study and Design, Supply, Installation & Commissioning of Grid Connected SPV Rooftop Plant under Net Metering as per the technical specification including warranty, operation and maintenance for a period of 5 years from the date of handing over.
- b) Wiring up to Distribution Board from the SPV Rooftop system will be in the scope of the successful bidder(s). The cable should be copper/ aluminium armored with suitable current carrying capacity.
- c) Mounting Structure within the scope of this tender is for flat RCC roofs.
- d) Performance testing of the complete system.
- e) The successful bidder shall undertake to supply spares free of cost for the maintenance of the offered items during the warranty/ maintenance period of 5 year period.
- f) If the operation or use of the system proves to be unsatisfactory during the warranty period 05 years, the installer shall replace the faulty ones or carry out necessary repairs as per the warranty terms and conditions.
- g) The successful bidder shall do necessary coordination with concerned agencies like Electrical Inspector & State government Electricity department as applicable, for procuring necessary approvals on behalf of the Bank. The cost for Liaisoning for obtaining necessary approvals and bi-directional meter, CT/PT (if required), Solar generation meter shall be borne by the successful bidder only. Statutory payments for of inspection fees, Security deposit will only be paid by the Bank upon the production of fees receipt or challan from the department concerned.
- h) Vendor should ensure that net (import - export) reading should come in the monthly Electricity Bill.
- i) Nothing in this specification shall be constructed to relive the vendor of the responsibility.

#### 5.0 i) **Letter of Acceptance:**

Within the validity period of the tender the SBIIMS shall issue a letter of acceptance directly or through the architect by registered post or otherwise depositing at the of the contractor as given in the tender to enter into a Contract for the execution of the work as per the terms of the tender. The letter of acceptance shall constitute a bind contract between the SBIIMS and the contractor.

#### ii) **Contract Agreement:**



On receipt of intimation of the acceptance of tender from the SBIIMS/ Architect the successful tenderer shall be bound to implement the contract and within fifteen days there of shall sign an agreement in a non-judicial stamp paper of appropriate value.

**6.0 Ownership of drawings:**

All drawings, specifications and copies thereof furnished by the SBIIMS /SBI through its Architect / consultants are the properties of the SBIIMS. They are not to be used on other work.

**7.0 Detailed drawings and instructions:**

The SBIIMS through its architects / consultants or directly shall furnish with reasonable proper additional instructions by means of drawings or otherwise necessary for the execution of the work. All such drawings and instructions shall be consistent with contract documents, true developments thereof and reasonably inferable there.

The work shall be executed in conformity therewith and the contractor prepare a detailed programme schedule indicating therein the date of start and completion of various activities on receipt of the work order and submit the same to the SBIIMS.

**8.0 Copies of agreement** Six copies, two copies of agreement/tender document duly signed by both the parties with the drawings shall be handed over to the contractors, two copies to SBI and one copy each shall be for the use of SBIIMS and Architect.

**9.0 Liquidated damages:**

If the contractor fails to maintain the required progress in terms of clause 8. 0 of "Instruction to the tenderer "or to complete the work and clear the site including vacating their office on or before the contracted or extended date or completion, without justification in support of the cause of delay, he may be called upon without prejudice to any other right of remedy available under the law to the SBIIMS on account of such breach to pay a liquidated damages at the rate of 0.50% of the contract value per week which subject to a maximum of 5% of the contract value.

**10.0 Materials, Appliances and Employees**

Unless or otherwise specified the contractor shall provide and pay for all materials, labour, water, power, tools, equipment transportation and any other facilities that are required for the satisfactory execution and completion of the work. Unless or otherwise specified all materials shall be new and both workmanship and materials shall be best quality. The contractor shall at all times enforce strict discipline and good order among his employees and shall not employ on the work any unfit person or anyone not skilled in the work assigned to him. Workman whose work or behavior is found to be unsatisfactory by the SBIIMS /Architect/ consultant he shall be removed from the site immediately.

**11.0 Permits, Laws and Regulations:**

Permits and licenses required for the execution of the work shall be obtained by the contractor at his own expenses. The contractor shall give notices and comply with the regulations, laws, and ordinances rules, applicable to the contract. If the contractor observes any discrepancy between the drawings and specifications, he shall promptly notify the SBIIMS Pvt. Ltd. in writing under intimation of the Architect/ Consultant. If the contractor performs any act, which is against the law, rules and regulations he shall meet all the costs arising there from and shall indemnify the SBIIMS Pvt. Ltd. any legal actions arising there from.



#### 12.0 **Setting out Work:**

The contractor shall set out the work and shall be responsible for the true and perfect setting out of the same and for the correctness of the positions, levels, dimensions, and alignment of all parts thereof and get it approved by the architect / consultant before proceeding with the work. If at any time any error in this respect shall appear during the progress of the works, irrespective of the fact that the layout had been approved by, the architect / consultant the contractor shall be responsible for the same and shall his own expenses rectify such error, if so, required to satisfaction of the SBIIMS.

#### 13.0 **Protection of works and property:**

The contractor shall continuously maintain adequate protection of all his work from damage and shall protect the SBI's properties from injury or loss arising in connection with contract. He shall make good any such damage, injury, loss, except due to causes beyond his control and due to his fault or negligence except which are due to causes beyond his control.

He shall take adequate care and steps for protection of the adjacent properties. The contractor shall take all precautions for safety and protections of his employees on the works and shall comply with all applicable provisions of Govt. and local bodies' safety laws and building codes to prevent accidents, or injuries to persons or property on about or adjacent to his place of work. The contractor shall take insurance covers as per clause 26.0 at his own cost. The policy may be taken in joint names of the contractor and the SBIIMS and the original policy may be lodged with the SBIIMS.

#### 14.0 **Inspection of work:**

The SBIIMS or their representatives shall at all reasonable times have free access to the work site and / or to the workshop, factories, or other places where materials are lying or from where they are obtained and the contractor shall give every facility to the SBIIMS and their representatives necessary for inspection and examination and test of the materials and workmanship. No person unless authorized by the SBIIMS except the representative of Public authorities shall be allowed on the work at any time. The proposed work either during its construction stage or its completion can also be inspected by the Chief Technical Examiner's Organization a wing of Central Vigilance commission.

#### 15.0 **Assignment and subletting**

The whole of work included in the contract shall be executed the contractor and he shall not directly entrust and engage or indirectly transfer, assign or underlet the contract or any part or share there of or interest therein without the written consent of the SBIIMS Pvt. Ltd. through the Architect and no undertaking shall relieve the contractor from the responsibility of the contractor from active & superintendence of the work during its progress.

#### 16.0 **Quality of materials, workmanship & Test**

All materials and workmanship shall be best of the respective kinds described in the contract and in accordance with SBIIMS instructions and shall be subject from time to time to such tests as the SBIIMS /Architect may direct at the place of manufacture or fabrication or on the site or an approved testing laboratory.

The contractor shall provide such assistance, instruments, machinery, labour and materials.



iii) **Cost of tests**

The cost of making any test shall be borne by the contractor if such test is intended by or provided for in the specification or BOQ.

iv) **Costs of tests not provided for**

If any test is ordered by the SBIIMS which is either:

- (a) If so intended by or provided for or (in the cases above mentioned) is not so particularized or through so intended or provided for but ordered by the SBIIMS which is either to be carried out by an independent person at any place other than the site or the place of manufacture or fabrication of the materials tested or any Government/approved laboratory, then the cost of such test shall be borne by the contractor.

**17.0 Obtaining information related to execution of work**

No claim by the contractor for additional payment shall be entertained which is consequent upon failure on his part to obtain correct information as to any matter affecting the execution of the work nor any misunderstanding or the obtaining incorrect information or the failure to obtain correct information relieve him from any risks or from the entire responsibility for the fulfilment of contract.

**18.0 Contractor's superintendence**

The contractor shall give necessary personal superintendence during the execution of the works and as long, thereafter, as the SBIIMS may consider necessary until the expiry of the defects liability period, stated hereto.

**19.0 Quantities**

- i) The bill of quantities (BOQ) unless or otherwise stated shall be deemed to have been prepared in accordance with the Indian Standard Method of Measurements.

The rate quoted shall remain valid for variation of quantity against individual item to any extent subject to maximum variation of the contract value by 25%. The entire amount paid under Clause 20 hereof as well as amounts of prime cost and provisional sums, if any, shall be excluded.

Variation exceeding 25%: The items of work executed in relation to variation exceeding 25% shall be paid on the basis of provisions of clause 21(e) hereof.

**20.0 Works to be measured**

The SBIIMS /SBI may from time to time intimate to the contractor that he required the work to be measured and the contractor shall forthwith attend or send a qualified representative to assist the SBIIMS./SBI/Architect in taking such measurements and calculation and to furnish all particulars or to give all assistance required by any of them. Such measurements shall be taken in accordance with the Mode of measurements detailed in the specifications. The representative of the SBIIMS/SBI/ Architect shall take joint measurements with the contractor's representative and the measurements shall be entered in the measurement book.

The contractor or his authorized representative shall sign all the pages of the measurement book in which the measurements have been recorded in token of his acceptance. All the corrections shall be duly attested by both representatives. No over writings shall be made in the measurement book.



Should the contractor not attend or neglect or omit to depute his representative to take measurements then the measurements recorded by the representative of the SBIIMS/SBI/ Architect shall be final. All authorized extra work, omissions and all variations made shall be included in such measurements

## 21.0 Variations

No alteration, omission or variation ordered in writing by the SBIIMS /SBI/Architect shall vitiate the contract.

In case the SBIIMS /SBI/Architect thinks proper at any time during the progress of works to make any alteration in, or additions to or omission from the works or any alteration in the kind or quality of the materials to be used therein, the Architect/Consultant shall give notice thereof in writing to the contractor or shall confirm in writing within seven days of giving such oral instructions the contractor shall alter to, add to, or omit from as the case may be in accordance with such notice but the contractor shall not do any work extra to or make any alteration or additions to or omissions from the works or any deviation from any of the provisions of the contract, stipulations, specifications or contract drawings without previous consent in writing of the Architect/Consultant and the value of such extras, alterations, additions or omissions shall in all cases be determined by the Architect/Consultant and the same shall be added to or deducted from the contract value, as the case may be

## 22.0 Valuation of Variations

No claim for an extra shall be allowed unless it shall have been executed under the authority of the Architect / Consultant with the concurrence of the SBIIMS as herein mentioned. Any such extra is herein referred to as authorized extra and shall be made in accordance with the following provisions.

- (i) The net rates or prices in the contract shall determine the valuation of the extra work where such extra work is of similar character and executed under similar conditions as the work priced herein.
- (ii) Rates for all items, wherever possible should be derived out of the rates given in the priced BOQ.
- b) The net prices of the original tender shall determine the value of the items omitted, provided if omissions do not vary the conditions under which any remaining items of Works are carried out, otherwise the prices for the same shall be valued under sub-Clause 'c' hereunder.
- c) Where the extra works are not of similar character and/or executed under similar conditions as aforesaid or where the omissions vary the conditions under which any remaining items or works are carried out, then the contractor shall within 7 days of the receipt of the letter of acceptance inform the SBIIMS /Architect/ consultant of the rate which he intends to charge for such items of work, duly supported by analysis of the rate or rates claimed and the SBIIMS /Architect/ consultant shall fix such rate or prices as in the circumstances in his opinion are reasonable and proper, based on the market rate.
- d) Where extra work cannot be properly measured or valued the contractor shall be allowed day work prices at the net rates stated in the tender, of the BOQ or, if not, so stated then in accordance with the local day work rates and wages for the district; provided that in either case, vouchers specifying the daily time (and if required by the SBIIMS/ Architect/Consultant) the workman's name and materials employed be delivered for verifications to the SBIIMS/ Architect /consultant at or before the end of the week following that in which the work has been executed.





- e) It is further clarified that for all such unpriced extra items where rates cannot be derived from the tender, the Contractor shall submit rates duly supported by rate analysis worked on the market rate basis for material, labour hire / running charges of equipment and wastages etc. plus 15% towards establishment charges, contractor's overheads and profit. Such items shall, not be eligible for escalation.

### 23.0 Final measurement

The measurement and valuation in respect of the contract shall be completed within **two months** of the virtual completion of the work carried out by the contractor as per the satisfaction of the client.

### 24.0 Virtual Completion Certificate (VCC)

On successful completion of entire works covered by the contract to the full satisfaction of the SBIIMS, the contractor shall ensure that the following works have been completed the satisfaction of the SBIIMS:

- a) Clear the site of all scaffolding, wiring, pipes, surplus materials, contractor's labour equipment and machinery.
- b) Demolish, dismantle and remove the contractor's site office, temporary works, structure including labour sheds/camps and constructions and other items and things whatsoever brought upon or erected at the site or any land allotted to the contractor by the SBIIMS not incorporated in the permanent works.

Remove all rubbish, debris etc. from the site and the land allotted to the contractor by SBIIMS and shall clear, level and dress, compact the site as required by the SBIIMS

- c) Shall put the SBIIMS in undisputed custody and possession of the site and all land allot by the SBIIMS
- d) Shall hand over the work in a peaceful manner to the SBIIMS.
- e) All defects / imperfections have been attended and rectified as pointed out by the Architects to the full satisfaction of SBIIMS.

Upon the satisfactory fulfillment by the contractor as stated above, the contractor is entitled to apply to the Architect / consultant is satisfied of the completion of work. Relative to which the completion certificate has been sought, the Architect/ consultant shall within fourteen (14) days of the receipt of the application for completion certificate, issue a VCC in respect of the work for which the VCC has applied.

This issuance of a VCC shall not be without prejudice to the SBIIMS's rights and contractor liabilities under the contract including the contractor's liability for defects liability nor shall the issuance of VCC in respect of the works or work at any site be construction as a waiver of any right or claim of the SBIIMS against the contractor in respect of or work at the site and in respect of which the VCC has been issued.

### 25.0 Work by other agencies

The SBIIMS /SBI/Architect reserves the rights to use premises and any portion of the site for execution of any work not included in the scope of this contract which it may desire to have carried out by other persons simultaneously and the contractor shall not only allow but also extend reasonable facilities for the execution of such work. The contractor however shall not be required to provide any plant or



material for the execution of such work shall be carried out in such manners not to impede the progress of the works included in the contract.

## 26.0 Insurance of works

- 26.1 a) Before taking up the work, the Contractor shall, obtain and submit to the Employer (Bank/SBI/IMS), contractor's all risk policy and a third-party insurance policy in original, issued by any Public-Sector Insurance Company.
- b) The Policy should be issued in the joint names of Employer and contractor with Employer's name appearing first. For Minimum value Rs 5 lacs until completion of project or handing over whichever is later for any type of accident / incidence.
- c) The contractor shall, from time to time, provide documentary evidence as regards payments of premia for all insurance Policies for keeping them valid till the completion of the work.
- d) Without prejudice to any of its obligations and responsibilities specified above, the Contractor shall, within 10 days from the date of work order, submit documentary evidence as required by the Employer in support of having obtain requisite insurance cover.
- e) No work shall be taken up by the Contractor at site unless the Insurance Policies as mentioned above are obtained.
- f) Also, no payment shall be made to the Contractor on expiry of insurance policies unless renewed by them and renewed policy is submitted with the SBI/IMS. Nothing extra shall be payable on this account.

## 26.2 Damage to persons and property

The contractor shall, except if and so far as the contract provides otherwise indemnify the SBI/SBI/IMS against all losses and claims in respect of injuries or damages to any person or material or physical damage to any property whatsoever which may arise out of or in consequence of the execution and maintenance of the works and against all claims proceedings, damages, costs, charges and expenses whatsoever in respect of or in relation thereto except any compensation of damages for or with respect to:

- a) The permanent use or occupation of land by or any part thereof.
- b) The right of SBI/IMS Pvt. Ltd. to execute the works or any part thereof on, over, under, in or through any lands.
- c) Injuries or damages to persons or properties which are unavoidable result of the execution or maintenance of the works in accordance with the contract
- d) Injuries or damage to persons or property resulting from any act or neglect of the SBI/IMS. their agents, employees or other contractors not being employed by the contractor or for or in respect of any claims, proceedings, damages, costs, charges and expenses in respect thereof or in relation thereto or where the injury or damage was contributed to by the contractor, his servants or agents such part of the compensation as may be just and equitable having regard to the extent of the responsibility of the SBI/IMS, their employees, or agents or other employees, or agents or other contractors for the damage or injury.



### **26.3 Contractor to indemnify SBIIMS Pvt. Ltd.**

The contractor shall indemnify the SBIIMS against all claims, proceedings, damages, costs, charges and expenses in respect of the matters referred to in the provision sub clause 26.2 of this clause.

### **26.4 Contractor's superintendence**

The contractor shall fully indemnify and keep indemnified the SBIIMS against any action, claim, or proceeding relating to infringement or use of any patent or design or any alleged patent, design rights and shall pay any royalties which may be payable in respect of any article or part thereof included in the contract. In the event of any claim made under or action brought against SBIIMS in respect of such matters as aforesaid the contractor shall be immediately notified thereof and the contractor shall be at liberty, at his own expenses to settle any dispute or to conduct any litigation that may arise there from, provided that the contractor shall not be liable to indemnify the SBIIMS if the infringement of the patent or design or any alleged patent or design right is the direct result of an order passed by the Architect / consultant in this behalf.

### **26.5 Third Party Insurance**

26.5.1 Before commencing the execution of the work the contractor but without limiting his obligations and responsibilities under clause 26.0 of GCC shall insure against his liability for any material or physical damage, loss, or injury which may occur to any property including that of SBIIMS/SBI, or to any person, including any employee of the SBIIMS/SBI by or arising out of the execution of the works or in the carrying out of the contract, otherwise than due to the matters referred to in the provision to clause 24.0 thereof.

#### **26.5.2 Minimum amount of Third Party Insurance**

Such insurance shall be effected with an insurer and in terms approved by the SBIIMS which approval shall not be reasonably withheld and for at least the amount stated below. The contractor shall, whenever required, produce to the Architect / consultant the policy or policies of insurance cover and receipts for payment of the current premiums.

The minimum insurance cover for physical property, injury, and death is Rs.5 Lakh per occurrence with the number of occurrences limited to four. After each occurrence contractor will pay additional premium necessary to make insurance valid for four occurrences always.

### **26.7 Accident or Injury to workman:**

26.7.1 The SBIIMS shall not be liable for or in respect of any damages or compensation payable at law in respect or in consequence of any accident or injury to any workmen or other person in the employment of the contractor or any sub-contractor, save and except an accident or injury resulting from any act or default of the SBIIMS/SBI or their agents, or employees. The contractor shall indemnify and keep indemnified SBIIMS/SBI against all such damages and compensation, save and except as aforesaid, and against all claims, proceedings, costs, charges and expenses whatsoever in respect thereof or in relation thereto.

#### **26.7.2 Insurance against accidents etc. to workmen**

The contractor shall insure against such liability with an insurer approved by the SBIIMS during the whole of the time that any persons are employed by him on the works and shall, when required, produce to the architect / consultant such policy of insurance and receipt for payment of the current premium. Provided



always that, in respect of any persons employed by a sub-contractor the contractor's obligation to insured as aforesaid under this sub-clause shall be satisfied if the sub-contractor shall have insured against the liability in respect of such persons in such manner that SBIIMS is indemnified under the policy but the contractor shall require such sub-contractor to produce to the Architect /consultant when such policy of insurance and the receipt for the payment of the current premium.

### 26.7.3 Remedy on contractor's failure to insure

If the contractor fails to effect and keep in force the insurance referred to above or any other insurance which he may be required to effect under the terms of contract, then and in any such case the SBIIMS may effect and keep in force any such insurance and pay such premium or premiums as may be necessary for that purpose and from time to time deduct the amount so paid by the SBIIMS as aforesaid from any amount due or which may become due to the contractor, or recover the same as debt from the contractor.

26.7.4 Without prejudice to the others rights of the SBIIMS against contractors. In respect of such default, the employer shall be entitled to deduct from any sums payable to the contractor the amount of any damages costs, charges, and other expenses paid by the SBIIMS and which are payable by the contractors under this clause. The contractor shall upon settlement by the Insurer of any claim made against the insurer pursuant to a policy taken under this clause, proceed with due diligence to rebuild or repair the works destroyed or damaged. In this event all the monies received from the Insurer in respect of such damage shall be paid to the contractor and the Contractor shall not be entitled to any further payment in respect of the expenditure incurred for rebuilding or repairing of the materials or goods destroyed or damaged.

### 27.0 Commencement of Works:

The date of commencement of the work will be reckoned as the 7<sup>th</sup> day from issue of work order from SBIIMS.

### 28.0 Time for completion

Time is the essence of the contract and shall be strictly observed by the contractor. The entire work shall be completed within a period of **60 days from the date of commencement**. If required in the contract or as directed by the SBIIMS/Architect, the contractor shall complete certain portions of work before completion of the entire work. However the completion date shall be reckoned as the date by which the whole work is completed as per the terms of the contract.

### 29.0 Extension of time

If, in the opinion of the Architect/Consultant, the work be delayed for reasons beyond the control of the contractor, the Architect/Consultant may submit a recommendation to the SBIIMS to grant a fair and reasonable extension of time for completion of work as per the terms of contract. If the contractor needs an extension of time for the completion of work or if the completion of work is likely to be delayed for any reasons beyond the due date of completion as stipulated in the contract, the contractor shall apply to the SBIIMS through the Architect/Consultant in writing at least 15 days before the expiry of the scheduled time and while applying for extension of time he shall furnish the reasons in detail and his justification if any, for the delays. The architect/consultant shall submit their recommendations to the SBIIMS in the prescribed format for granting extension of time. While granting extension of time the contractor shall be informed the period extended time which will qualify for levy of liquidated damages. For the balance period in excess of original stipulated period and duly sanctioned extension of time by the SBIIMS the provision of liquidated damages as stated under clause 8 of GCC shall become applicable. Further contract shall remain in force even for the period beyond the due date of completion irrespective whether the extension is granted or not



### **30.0 Rate of progress**

Whole of the materials, plant and labour to be provided by the contractor and the mode, manner and speed of execution and maintenance of the works are to be of a kind and conducted in a manner to the satisfaction of the SBIIMS/SBI/Architect. Should the rate of progress of the work or any part thereof be at any time be in the opinion of the SBIIMS /SBI/Architect too slow to ensure the completion of the whole of the work by the prescribed time or extended time for completion the SBIIMS /SBI/Architect shall thereupon take such steps as considered necessary to expedite progress so as to complete the works by the prescribed time or extended time. Such communications from the SBIIMS /SBI/Architect neither shall relieve the contractor from fulfilling obligations under the contract nor he shall be entitled to raise any claims arising out of such directions.

### **31.0 Work during nights and holidays**

Subject to any provision to the contrary contained in the contract no permanent work shall save as herein provided be carried on during the night or on holidays without the permission in writing of the SBIIMS/SBI/Architect, save when the work is unavoidable or absolutely necessary for the saving of life or property or for the safety of the work in which case the contractor shall immediately advise the SBIIMS/SBI/Architect. However the provision of the clause shall not be applicable in the case of any work which becomes essential to carry by rotary or double shifts in order to achieve the progress and quality of the part of the works being technically required and continued with the prior approval of the SBIIMS /SBI/Architect at no extra cost to the SBIIMS/SBI.

All work at night after obtaining approval from competent authorities shall be carried out without unreasonable noise and disturbance so as to avoid disputes with the neighbours.

### **32.0 No compensation or restrictions of work**

If at any time after acceptance of the tender SBIIMS shall decide to abandon or reduce the scope of work for any reason whatsoever and hence not require the whole or any part of the work to be carried out, the SBIIMS Architect shall give notice in writing to that effect to the contractor and the contractor shall act accordingly in the matter. The contractor shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the work fully but which he did not derive in consequence of the foreclosure of the whole or part of the work. Provided that the contractor shall be paid the charges on the cartage only of materials actually and bona fide brought to the site of the work by the contractor and rendered surplus as a result of the abandonment, curtailment of the work or any portion thereof and then taken back by the contractor, provided however that the SBIIMS /SBI/Architect shall have in such cases the option of taking over all or any such materials at their purchase price or a local current rate whichever is less. In case of such stores having been issued from SBIIMS /SBI stores and returned by the contractor to stores, credit shall be given to him at the rates not exceeding those at which were originally issued to the contractor after taking into consideration and deduction for claims on account of any deterioration or damage while in the custody of the contractor and in this respect the decision of SBIIMS /SBI/Architect shall be final.

### **33.0 Suspension of work**

i) The contractor shall, on receipt of the order in writing of the Architect / consultant (whose decision shall be final and binding on the contractor) suspend the progress of works or any part thereof for such

time and in such manner as Architect /consultant may consider necessary so as not to cause any damage or injury to the work already done or endanger the safety thereof for any of following reasons:

- a) On account any default on the part of the contractor, or
- b) For proper execution of the works or part thereof for reasons other than the default the contractor, or
- c) For safety of the works or part thereof.

The contractor shall, during such suspension, properly protect and secure the works the extent necessary and carry out the instructions given in that behalf by the Architect / consultant.

- ii) If the suspension is ordered for reasons (b) and (c) in sub-para (i) above:

The contractor shall be entitled to an extension of time equal to the period of every such suspension. No compensation whatsoever shall be paid on this account.

#### 34.0 **Action when the whole security deposit is forfeited**

In any case in which under any clause or clauses of this contract, the Contractor shall have rendered himself liable to pay compensation amounting to the whole of his security deposit the Architect / consultant shall have the power to adopt any of the following course as they may deem best suited to the interest of the SBIIMS:

- a) To rescind the contract (of which rescission notice in writing to the contractor by - Architect / consultant shall be conclusive evidence) and in which case the security, deposit of the contractor shall be forfeited and be absolutely at the disposal of SBIIMS.
- b) To employ labour paid by the SBIIMS and to supply materials to carry out the work, or part of the work, debiting the contractor with the cost of the labour and materials cost of such labour and materials as worked out by the Architect/consultant shall final and conclusive against the contractor) and crediting him with the value of the work done, in all respects in the same manner and at the same manner and at the same rates as if it had been carried out by the contractor under the terms of this contract certificate of architect /consultant as to the value of work done shall be final conclusive against the contractor.
- c) To measure up the work of the contractor, and to take such part thereof as shall unexecuted, out of his hands, and to give it to another contractor to complete in which case any expenses which may be incurred in excess of the sum which would have been paid to the original contractor, if the whole work had been executed by him ( The amount of which excess the certificates in writing of the Architects / consultant shall final and conclusive) shall be borne by original contractor and may be deducted from any money due to him by SBIIMS under the contract or otherwise, or from his security deposit or the proceeds of sale thereof, or sufficient part thereof.

In the event of any of above courses being adopted by the SBIIMS the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased or procured any material or entered into any engagements or make any advances on account of, or with a view to the execution of the work or the performance of the contract and in case the contract shall be rescind under the provision aforesaid, the contractor shall not be entitled to recover or to be paid any sum or any work thereto for actually performed under this contract, unless, and until the Architect / consultant will have 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.

### 35.0 **Owner's right to terminate the contract**

If the contractor being an individual or a firm commit any 'Act of Insolvency' or shall be adjusted an insolvent or being an incorporated company shall have an order for compulsory winding up voluntarily or subject to the supervision of Government and of the Official Assignee of the liquidator in such acts of insolvency or winding up shall be unable within seven days after notice to him to do so, to show to the reasonable satisfaction of the SBIIMS /Architect that he is able to carry out and fulfil the contract, and to give security therefore if so required by the SBI.

Or if the contractor (whether an individual firm or incorporated Company) shall suffer execution to be issued or shall suffer any payment under this contract to be attached by or on behalf of any of the creditors of the contractor.

Or shall assign or sublet this contract without the consent in writing of the SBIIMS through the Architect/Consultant or shall charge or encumber this contract or any payment due to which may become due to the contractor there under.

- a) Has abandoned the contract; or
- b) Has failed to commence the works, or has without any lawful excuse under these conditions suspended the progress of the works for 14 days after receiving from the SBIIMS through the Architect/Consultant written notice to proceed, or
- c) Has failed to proceed with the works with such diligence and failed to make such due progress as would enable the works to be completed within the time agreed upon, or has failed to remove the materials from the site or to pull down and replace work within seven days after written notice from the SBIIMS /SBI through the Architect/ Consultant that the said materials were condemned and rejected by the Architect/ Consultant under these conditions; or has neglected or failed persistently to observe and perform all or any of the acts, matters or things by this contract to be observed and performed by the contractor for seven days after written notice shall have been given to the contractor to observe or perform the same or has to the detriment of good workmanship or in defiance of the SBIIMS /SBI's or Architect's/Consultant's instructions to the contrary subject any part of the contract.

Then and in any of said cases the SBIIMS /SBI and or the Architect/Consultant, may not withstanding any previous waiver, after giving seven days' notice in writing to the contractor, determine the contract, but without thereby affecting the powers of the SBI or the Architect/Consultant or the obligation and liabilities of the contractor the whole of which shall continue in force as fully as if the contract had not been so determined and as if the works subsequently had been executed by or on behalf of the contractor. And, further the SBIIMS/SBI through the

Architect/Consultant, their agents or employees may enter upon and take possession of the work and all plants, tools, scaffoldings, materials, sheds, machineries lying upon the premises or on the adjoining lands or roads, use the same by means of their own employees or workmen in carrying on and completing the work or by engaging any other contractors or persons to complete the work and the contractor shall not in any way interrupt or do any act, matter or thing to prevent or hinder such other contractor or other persons employed for completing and finishing or using the materials and plant for the works. When the works shall be completed or as soon thereafter as convenient to the SBIIMS /SBI

or the Architect/Consultant shall give a notice in writing to the contractor to remove his surplus materials and plants and should the contractor fail to do so within 14 days after receipt thereof by him the SBIIMS. /SBI sell the same by public auction after due publication and shall adjust the amount realized by such auction. The contractor shall have no right to question any of the act of the SBIIMS /SBI incidental to the sale of the materials etc.

### **36.0 Certificate of payment**

The contractor shall be entitled under the certificates to be issued by the Architect / consultant to the contractor within 10 working days from the date of certificate to payment from SBIIMS Pvt. Ltd. from time to time. The SBIIMS Pvt. Ltd. shall recover the statutory recovering other dues including the retention amount from the certificate of payment.

Provided always that the issue of any certificate by the Architect / consultant during progress of works or completion shall not have effect as certificate of satisfaction relieve the contractor from his liability under clause.

The Architect / consultant shall have power to withhold the certificate if the work or in part thereof is not carried out to their satisfaction.

The Architect / consultant may by any certificate make any corrections required previous certificate.

The SBIIMS Pvt. Ltd. shall modify the certificate of payment as issued by the architect / consultant from time to time while making the payment

The contractor shall submit interim bills only after taking actual measurements and properly recorded in the M books

The final bill may be submitted by contractor within a period of one month from the date of virtual completion and Architect / consultant shall issue the certificate of payment within a period of two months. The SBIIMS Pvt. Ltd. shall pay the amount within a period of three months from the date of issue of certificate provided there is no dispute in respect of rates and quantities.

The contractor shall submit the interim bills in the prescribed format with all details.

### **37.0 A. Settlement of Disputes and Arbitration**

Except where otherwise provided in the contract all questions and disputes to the meaning of the specifications, design, drawings and instructions herein before mentioned and as to the quality of workmanship or materials used on the work or as to any other question , claim, right, matter or thing whatsoever in any way arising out of or relating to the contract, designs, drawings specifications, estimates, instructions orders or these conditions or otherwise concerning the work or the execution or failure to execute the same whether arising during the progress of the work or after the cancellation, termination, completion or abandonment thereof shall be dealt with as mentioned hereinafter:



- i) If the Contractor considers that he is entitled to any extra payment or compensation in respect of the works over and above the amounts admitted as payable by the authorized person of

SBI/SBIIMS or in case the Contractor wants to dispute the validity of any deductions or recoveries made or proposed to be made from the contract or raise any dispute, the Contractor shall forthwith give notice in writing of his claim, or dispute to the respective Circle/Vice President, SBIIMS, of respective Circle Office, within 30 days from the date of disallowance thereof or the date of deduction or recovery. The said notice shall give full particulars of the claim, grounds on which it is based and detailed calculations of the amount claimed and the Vendor shall not be entitled to raise any claim nor shall the SBI/SBIIMS be in any way liable in respect of any claim by the Contractor unless notice of such claim shall have been given by the Contractor to the V.P of respective Circle, SBIIMS, of respective Circle Office, in the manner and within the time as aforesaid. The Vendor shall be deemed to have waived and extinguished all his rights in respect of any claim not notified to the respective Circle/Vice President, SBIIMS, of respective Circle Office, in writing in the manner and within the time aforesaid.

- ii) The Circle/Vice President, SBIIMS, of respective Circle Office, shall give his decision in writing on the claims notified by the Contractor. The Contractor may within 30 days of the receipt of the decision of the Circle/Vice President, SBIIMS of respective Circle Office, submit his claims to the conciliating authority namely the Circle Development Officer of respective Circle /C.O.O. SBIIMS, Head Office, Raheja Chambers, Free Press Journal Marg, Mumbai. for conciliation along with all details and copies of correspondence exchanged between him and the SBIIMS.
- iii) If the conciliation proceedings are terminated without settlement of the disputes, the Contractor shall, within a period of 30 days of termination thereof shall give a notice to the concerned Chief General Manager/M.D. & C.E.O. of the SBIIMS for appointment of an arbitrator to adjudicate the notified claims falling which the claims of the Contractor shall be deemed to have been considered absolutely barred and waived.
- iv) Except where the decision has become final, binding and conclusive in terms of the contract, all disputes or differences arising out of the notified claims of the Contractor as aforesaid and all claims of the SBI/SBIIMS shall be referred for adjudication through arbitration to the Sole Arbitrator appointed by the Chief General Manager/ M.D. & C.E.O. and who will be an officer not less than the rank of Deputy General Manager of SBI/SBIIMS. 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 by the said Chief General Manager /M.D. & C.E.O. of the SBIIMS Such person shall be entitled to proceed with the reference from the stage at which it was let by his predecessor.

It is a term of this contract that the party invoking arbitration shall give a list of disputes with amounts claimed in respect of each dispute along with the notice for appointment of arbitrator.

It is also a term of this contract that no person other than a person appointed by such Chief General Manager/M.D. & C.E.O. of the SBIIMS as aforesaid should act as arbitrator.

The conciliation and arbitration shall be conducted in accordance with the provisions of the Arbitration & Conciliation Act 1996 or any or any accordance modification or reenactment thereof and the rules made there under.





It is also a term of the contract that the Arbitrator shall be deemed to have entered on the reference on the date he issues notice to both the parties calling them to submit their statement of claims and counter statement of claims. The venue of the arbitration shall be such place as may be fixed by the arbitrator in his sole discretion. The Cost of the reference and of the award shall be in the discretion of the arbitrator who may direct to any 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.

### **38.0 Water Supply**

SBIIMS will provide water at one point and the contractor has to make his own arrangements for drawing and distributing the water at his own cost. He has to make necessary arrangements.

### **39.0 Power supply**

The contractor shall make his own arrangements for power and supply/distribution system for driving plant or machinery for the work and for lighting purpose at his own cost. The cost of running and maintenance of the plants are to be included in his tender prices. He shall pay all fees and charges required for the power supply and include the same in his tendered rates and hold the owner free from all such costs. He has to obtain necessary approvals from the appropriate authorities, if required

### **30.0 Treasure trove etc.**

Any treasure trove, coin or object antique which may be found on the site shall be the property of SBIIMS and shall be handed over to the bank immediately.

### **41.0 Method of measurement**

Unless otherwise mentioned in the schedule of quantities or in mode of measurement, the measurement will be on the net quantities or work produced in accordance with up to date rules laid down by the Bureau of Indian Standards. In the event any dispute / disagreement the decision of the Architect / consultant shall be final and binding on the corrector.

### **42.0 Maintenance of registers**

The contractor shall maintain the following registers as per the enclosed perform at site of work and should produce the same for inspection of SBIIMS Pvt. Ltd /Architect / consultant whenever desired by them. The contractor shall also maintain the records / registers as required by the local authorities / Govt. from time to time.

- I) Register for secured advance
- ii) Register for hindrance to work
- iii) Register for running account bill
- iv) Register for labour



#### 43.0 Force Majeure

43.1 Neither contractor nor SBIIMS shall be considered in default in performance of the obligations if such performance is prevented or delayed by events such as but not war, hostilities revolution, riots, civil commotion, strikes, lockout, conflagrations, epidemics, accidents, fire, storms, floods, droughts, earthquakes or ordinances or any act of or for any other cause beyond the reasonable control of the party affected or prevents or delayed. However, a notice is required to be given within 30 days from the happening of the event with complete details, to the other party to the contract, if it is not possible to serve a notice, within the shortest possible period without delay.

43.2 As soon as the cause of force majeure has been removed the party whose ability perform its obligations has been affected, shall notify the other of such cessation and the actual delay incurred in such affected activity adducing necessary evidence in support thereof.

43.3 From the date of occurrence of a case of force majeure obligations of the party affected shall be suspended during the continuance of any inability so caused. With the caused itself and inability resulting there from having been removed, the agreed time completion of the respective obligations under this agreement shall stand extended a period equal to the period of delay occasioned by such events.

43.4 Should one or both parties be prevented from fulfilling the contractual obligations by state of force majeure lasting to a period of 6 months or more the two parties, shall each other to decide regarding the future execution of this agreement.

#### 44.0 Local laws, Acts Regulations:

The contractor shall strictly adhere to all prevailing labour laws inclusive at contract labour (regulation and abolition act of 1970) and other safety regulations. The contractors should comply with the provision of all labour legislation including the latest requirements of the Acts, laws, any other regulations that are applicable to the execution of the project.

- i) Minimum wages Act 1948 (Amended)
- ii) Payment of wages Act 1936 (Amended)
- iii) Workmen's compensation Act 1923 (Amended)
- iv) Contract labour regulation and abolition act 1970 and central rules 1971 (Amended)
- v) Apprentice act 1961 (amended)
- vi) Industrial employment (standing order) Act 1946 (Amended)
- vii) Personal injuries (Compensation insurance) act 1 963 and any other modifications
- viii) Employees' provident fund and miscellaneous provisions Act 1952 and amendment thereof
- ix) Shop and establishment act
- x) Any other act or enactment relating thereto and rules framed there under from time to time.
- xi) Prevailing Indian Electricity rules & act.

#### 45.0 Accidents

The contractor shall immediately on occurrence of any accident at or about the site or in connection with the execution of the work report such accident to the architect / consultant. The contractor shall also such report immediately to the competent authority whenever such report is required to be lodged by the law and take appropriate actions thereof.

**Note:** - 1) The contractor should obtain prior approval from SBIIMS/ Consultants before placing order for any specific materials SBIIMS may / delete any of the makes or brands out of the above list.

**Signature of contractor With Seal**



## **LETTER OF UNDERTAKING**

To,  
The Circle Head  
Circle Office,  
SBI Infra Management Solutions Pvt. Ltd., SBI  
Local Head Office, 4th Floor, Poojappura  
Thiruvananthapuram- 695012

Dear Sir,

### **Tender for supply, installation, testing and commissioning of on-grid – Solar roof top power plant under net metering policy including 5 years comprehensive warranty at THRISSUR PBB ROUND SOUTH BRANCH (15kWp)**

Having examined the terms & conditions, drawings, specifications, design relating to the works specified in the memorandum hereinafter set out and having visited and examined the site of the works specified in the said memorandum and having acquired the requisite information relating thereto and affecting the quotation, I/We hereby offer to execute the works specified in the said memorandum within the time specified in the said memorandum on the item rate basis mentioned in the attached schedule and in accordance in all respect with the specifications, design, drawings and instructions in writing referred to in conditions of Tender, conditions of contract and with such conditions so far as they may be applicable

#### **MEMORANDUM**

(a)	Description of work	Tender for supply, installation, testing and commissioning of on-grid – solar roof top power plant under net metering policy including 5 years comprehensive warranty at PBB Round South Branch, Thrissur
(b)	Earnest Money	<b>Rs.8700/- (Rupees eight thousand seven hundred Only)</b> by means of Demand Draft / Pay Order from any scheduled Nationalized Bank drawn in favour of "SBI." and payable at "Thrissur".
(c)	Time allowed for completion of work from the date of issue of work order.	<b>60 days</b> from the date of commencement as per tender.

Should this tender be accepted, I/we hereby agree to abide by and fulfill the terms and provisions of the said conditions of Contract annexed hereto so far as they may be applicable or in default thereof to forfeit and pay to SBIIM, the amount mentioned in the said conditions.

I/we understand that EMD will be submitted by L1 vendor only after finalisation of tender. Should I/we do fail to execute the contract when called upon to do so, I/we hereby agree that this sum shall be forfeited by SBI Infra Management Solutions Pvt. Ltd.



We understand that as per terms of this tender, the SBIIMS may consider accepting our tender in part or whole or may entrust the work of various buildings proposed (Tender for supply, installation, testing and commissioning of on-grid – solar roof top power plant under net metering policy including 5 years comprehensive warranty at 5 years comprehensive warranty at Thrissur PBB Round South Branch, Thrissur in phases. We, therefore, undertake that we shall not raise any claim / compensation in the eventuality of Bank deciding to drop any of the Branch / buildings from the scope of work of this tender at any stage during the contract period. Further, we also undertake to execute the work entrusted to us in phases on our approved rates and within the stipulated time limit without any extra claim for price escalation.

As when ask by the SBIIMS/Bank, I/we shall submit the supporting technical data sheet, specification and make of the items as per the BOQ.

We, hereby, also undertake that, we will not raise any claim for any escalation in the prices of any of the material during the currency of contract/execution/completion period.

I / We have not made any modification / corrections / additions /deletions etc. in the PQ/Tender documents downloaded from web by me / us. In case at any stage later, it is found there is difference in our downloaded PQ/Tender documents from the original and / or any documentation, SBIIMS Pvt. Ltd. on behalf of SBI shall have the absolute right to disqualify / reject our Tender and also debar me / us in participating in any future tenders of SBIIMS/SBI without any prior intimation to me / us.

I/We hereby undertake and confirm that all the information furnished in this tender is correct and true to the best of our knowledge and belief and we own full responsibility for its correctness and authenticity

I / We hereby understood and accordingly confirm that all Tender documents along supporting documents/annexures etc. are required to be submitted by us strictly in the prescribed format only. In case, the Bid/documents submitted by us along with this tender is found in any other formats and not complying this condition, we hereby authorize the SBIIMS/SBI to summarily reject our tender for which we shall not make any protest.

Yours faithfully,

**Signature of contractor With Seal**



## CERTIFICATE

The measurements on the basis of which the above entries for the bill No. \_\_\_\_\_ were made have been taken jointly on (date) \_\_\_\_\_ and are recorded at pages \_\_\_\_\_ to \_\_\_\_\_ of \_\_\_\_\_ measurement /sheet \_\_\_\_\_ book No. \_\_\_\_\_

Dated

**Signature of Contractor**

\_\_\_\_\_

The work recorded in the above mentioned measurements has been verified at the site satisfactorily as per tender drawings, conditions and specifications.

Signature of Project Engineer SBIIMSI

Designation:

Dated:

## SAFETY CODE

### **SAFETY MEASURES AT SITE:**

1. All personnel at site should be provided with Helmets and Safety Boots with some Identification Mark. Visitors also should be provided with Helmets. It should be ensured that these are used properly.
2. First Aid Box should be kept at site with all requisite materials.
3. No one should be allowed to inspect / work at a height without Safety Belt.
4. Suitable scaffolds should be provided for workmen for all Works that cannot safely be done from the ground, or from solid construction except such short period Work as can be done safely from ladders. When a ladder is used an extra Mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well as suitable footholds and handholds shall be provided on the ladder and the ladder shall be given an inclination not steeper than  $\frac{1}{4}$  to 1 ( $\frac{1}{4}$  horizontal and 1 vertical).
5. Scaffolding or staging more than 3.5 meters above the ground or floors, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached, bolted, braced and otherwise secured at least 1 Meter high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
6. Working platforms, Gangways, and Stairways should be so constructed that they do not sag unduly or unequally, and if the height of the platform or the Gangway or the Stairway is more than 3-5 Meters above ground level or floor level they should be closely boarded, should have adequate width and should be suitably fenced, as described.





7. Every opening in the floor of a building or in a working platform be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 1 Meter.
8. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 Meters in length while the width between side rails in rung ladder shall in no case be less than 30cms for ladder upto and including 3 Meters in length. For longer ladders this width should be increased at least 6mm for each additional 30 cms. Uniform step spacing shall not exceed 30 cms.
9. Adequate precautions shall be taken to prevent danger from electrical equipment. For electrical on line works gloves, rubber mats, and rubber shoes shall be used.
10. All trenches 1.2 Meters or more in depth shall at all times be supplied with at least one ladder for each 30 Meters length or fraction thereof. Ladder shall be extended from bottom of the trench to at least 1 Meter above the surface of the ground. The sides of the trenches, which are 1.5 Meters or more in depth shall be stepped back to give suitable slope, or securely held by timber bracing, so as to avoid the danger of sides collapsing. The excavated materials shall not be placed within 1.5 Meters of the edge of the trench or half of the depth of the trench whichever is more cuttings shall be done from top to bottom. Under no circumstances undermining or under cutting shall be done.
11. Before any demolition work is commenced and also during the process of the work:-
  - a) All open areas adjacent to the Work Site shall either be closed or suitably protected;
  - b) No electrical 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.
  - c) All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so over- loaded with debris or materials as to render it unsafe.
  - d) All necessary personal safety equipment as considered adequate by the Site Engineer should be kept available for the use of the persons 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.
  - e) Workers employed on mixing Asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.
  - f) Those engaged in white washing and mixing or stacking of cement bags or any materials which is injurious to the eyes shall be provided with protective goggles.
  - g) Those engaged in welding works shall be provided with Welder's protective eye- shields.
  - h) Stone breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.



12. Use of hoisting machines and tackle including their attachments, anchorage and support shall conform to the following standard or conditions:-
- a) These shall be of good mechanical construction, sound material and adequate strength and  
free from patent defect and shall be kept in good repairs and in good working order.
  - b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from patent defects.
  - c) Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years should be in-charge of any hoisting machine including any scaffold, winch or give signals to the operator.
  - d) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or lowering or as means of suspension the safe working load shall be ascertained by adequate means.
  - e) Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of hoisting machine having a variable safe working load, each safe working load of the conditions under which it is applicable shall be clearly indicated. No part of any machine or of any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.
  - f) Motor, Gearing, Transmission, Electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards, hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load, adequate precautions should be taken to reduce to the minimum the risk of any part of a suspended load becoming accidentally displaced.
  - g) When workers are employed on electrical installation, which are already energized, insulating mats, wearing apparel such as gloves, rubber footwear etc.

Address:

**Signature of Tenderer:**

Date:



## **SCOPE OF WORK AND TECHNICAL SPECIFICATIONS**

### **A- SCOPE OF WORK**

Scope of work covers Design, Supply, Installation, Commissioning and five years Comprehensive warranty of Grid Connected SPV Rooftop Plant under Net Metering as per the technical specification given in this bid.

b. Wiring up to Distribution Board from the SPV Rooftop system will be in the scope of the successful bidder(s).

c. Performance testing of the complete system.

d. Supply and Installation of system and material as per technical specification

e. A leaflet containing the details of operation and the service centers shall be provided to each concerned SBI Branches.

**f. The contractor shall do necessary coordination and all liaison works involved with concerned agencies like Kerala State electrical Inspectorate and other KSEB. for procuring necessary approvals on behalf of the SBI. The cost of approvals and bi-directional meter, CT/PT shall be borne by the L-1 bidder only. Liaison with MNRE/ or Central/ANERT (State Government for obtaining capital subsidy), if applicable. No extra payment shall be made by the SBI for liaising works to the vendor. However, statutory fees paid by the vendor to the Government Departments/Electricity Boards for approval/NOC etc. shall be reimbursed to the vendor on submission of original payment receipt to the Bank.**

g. Providing CAMC (Comprehensive Annual maintenance contract) for next five years of the plant with 4 routine visits and full comprehensive maintenances throughout year. The vendor should ensure the satisfactory working of Solar PV system in Warranty period. The vendor shall carry out monthly periodical service for the solar plant.

h. Generation of **15 KWp** of Solar Energy based, conversion of the same to AC power with a **guaranteed annual generation of 13,140 KWH** per year respectively with a tolerance of 5% of total annual generation (considering the weather conditions in **Thrissur**) during the first five years of operation at Bank's power grid synchronization point.

i. All related & required civil works will be the responsibility of successful tenderer.

j. Onsite training to SBIIMS Engineers and staff of the branch for proper operation, maintenance and trouble shooting.

k. The installation should not create damage to the existing building or may cause leakage to the building. Damages caused during the installation of SPV modules will be recovered with suitable deductions from the total bill due to the contractor if not rectified.



l. Single point water source for cleaning of SPV panels near to the solar system including further plumbing for distribution of water to various array locations to be provided by the contractor.

m. Provision of necessary switchgear in the LT distribution panel for connecting the solar energy based AC power to Bank's Power grid and the termination of cables to the switchgear shall be in the scope of the successful tenderer.

o. Removal and disposal of all rubbish, debris etc. from the installation site allotted to the contractor by SBIIMS and shall clear, level and dress, compact the site as required by the SBIIMS at contractor's cost.

## **B-TECHNICAL SPECIFICATIONS**

### **The proposed projects shall be commissioned as per the technical specifications given below**

A Grid Tied Solar Rooftop Photo Voltaic (SPV) power plant consists of SPV array, Module Mounting Structure, Power Conditioning Unit (PCU) consisting of Maximum Power Point Tracker (MPPT), Inverter, and Controls & Protections, interconnect cables, Junction boxes, Distribution boxes and switches. PV Array is mounted on a suitable structure. Grid tied SPV system is without battery and should be designed with necessary features. Components and parts used in the SPV power plants including the PV modules, metallic structures, cables, junction box, switches, PCUs etc., should conform to the BIS or IEC or international specifications, wherever such specifications are available and applicable. Solar PV rooftop system shall consist of following major equipment/components.

- Grid interactive Power Conditioning Unit with Remote Monitoring System
- Mounting structures
- Junction Boxes.
- Earthing and lightning protections.
- IR/UV protected PVC Cables, pipes and accessories

#### **1. PV MODULES:**

The total Solar PV Array Capacity shall be 15 Kwp. Poly /Mono Crystalline /CIGS type solar modules of desired nominal voltage or peak power rating which meet specifications are considered appropriate for inclusion in this offer. Modules will be supplied by Vendor with a warranty that:

The bidder shall carefully design & accommodate requisite numbers of the modules to achieve the rated power in his project proposal submitted to SBIIMSPL .The modules used shall have following specifications under STC.

	<b>Must have test certificate as per MNRE guide lines and specified in this tender</b>
Origin	<b>Manufactured in India/other country both cell and module</b>
Efficiency module	<b>&gt;= 15%</b>

Fill factor	$\geq 70\%$
warranty	Panel output ( $W_p$ ) capacity to be $\geq 90\%$ at the end of 12 years and $\geq 80\%$ of at the end of 25 years.

Module frame	Non-corrosive and electrically compatible with the mounting structure material
Termination box	Thermo-plastic, IP 65, UV resistant
Blocking diodes	Schottky type
Module minimum rated power	250/300/320/325/335 WP capacity modules shall be used
Identification tag for each solar module	Shall be provided inside the module and must be able to withstand Environmental conditions and last the lifetime of the solar module.
Identification tag data	Name of the manufacturer with logo Month and year of manufacture Model No ( Should consists of the voltage and rate wattage) Module serial number Made in India
Power output rating	To be given for standard test conditions (STC). I- V curve of the each Module shall be submitted.
Compliance with standards and codes	IEC 61215 / IS 14286 IEC 61730 Part 1 and 2
Salt Mist Corrosion Testing	As per IEC 61701



### 1.1 **AUTHORISED TESTING LABORATORIES / CENTERS**

- i. The PV modules must be tested and approved by one of the IEC authorized test centers. Test certificates can be issued by any of the NABL / BIS Accredited Testing / Calibration Laboratories.
- ii. Test certificates for the system/ components/ items from any of the NABL / BIS Accredited Testing Calibration Laboratories / MNRE approved test centers to be submitted to the Bank

### 1.2 **IDENTIFICATION AND TRACEABILITY**

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

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

### 1.2 **WARRANTIES:**

#### a) Material Warranty:

- i. Material Warranty is defined as: The manufacturer should warrant the Solar Module(s) to be free from the defects and/or failures specified below for a period not less than twenty five (25) years from the date of sale to the original customer.
- ii. Defects and/or failures due to manufacturing
- iii. Defects and/or failures due to quality of materials.
- iv. Non conformity to specifications due to faulty manufacturing and/or inspection processes. If the solar Module(s) fails to conform to this warranty, the manufacturer will replace the solar module(s), at the Owners sole option.

## 2. Solar PV Mounting Structure

The PV modules shall be mounted on fixed metallic structures having adequate strength and as per requirement of site to withstand the load of the modules and high wind velocities. The mounting structure steel shall be as per latest IS 2062: 1992 and galvanization of the mounting structure shall be in compliance of latest IS 4759.

Regarding civil structures the bidder need to take care of the load bearing capacity of the roof and need arrange suitable structures based on the quality of roof.

The total load of the structure (when installed with PV modules) on the terrace should be less than 60 kg/m<sup>2</sup>. The array structure shall be grounded properly using maintenance free earthing kit suitable for mounting over building terrace.

Wind velocity withstanding capacity	150 km / hour The designs have been certified by a recognized Lab/ Institution/certified engineers in this regard and submit wind loading calculation sheet to users if they desire so. Suitable fastening arrangement such as grouting and clamping should be provided to secure the installation against the specific wind speed.
Structure material	Pre galvanized sheet steel with a minimum galvanization thickness of 80 microns and the structural patterns shall be made before Galvanizing
Bolts, nuts, panel mounting clamps, fasteners (with spring washers)	Stainless steel SS 304



Mounting arrangement for metal sheet roofs	Mounting directly on the sheet metal, ensuring stability and wind withstanding capacity or penetrating the sheet metal and fixing to the sub-structure, ensuring that the roof remains water proof and ensuring stability and wind withstanding capacity.
Mounting arrangement for elevated structures	The elevated structure has to be securely anchored to the supporting surface. Concrete foundations of appropriate weight and depth for elevated structures mounted directly on the ground; Bolted with anchor bolts of appropriate strength for elevated structures mounted on RCC Surfaces.
Mounting arrangement for ground installations	With removable concrete ballast made of pre-fabricated PCC (1:2:4), M15; assuring enough ground clearance to prevent damage of the module through water, animals and other environmental factors.
Mounting arrangement for RCC-flat roofs Installation	With removable concrete ballast made of pre-fabricated PCC (1:2:4), M15. The structures shall be designed for simple mechanical on-site installation. There shall be no requirement of welding or complex machinery at the installation site.
Minimum distance between roof edge and mounting structure	The minimum clearance required for panels at PBB Round South branch is 8 feet (2.4 m) from roof level
Access for panel cleaning and maintenance	All solar panels must be accessible from the top for cleaning and from the bottom for access to the module- junction box.
Panel tilt angle	AS PER GEOGRAPHICAL CONDITION

### **3. Solar Array Fuse**

The cables from the array strings to the solar grid inverters shall be provided with DC fuse protection. Fuses shall have a voltage rating and current rating as required. The fuse shall have DIN rail mountable fuse holders and shall be housed in thermoplastic IP 65 enclosures with transparent covers.

### **3. Solar Grid Inverter.**

i. The power-conditioning unit (PCU) will convert dc power produced by SPV array into AC power. In addition, the PCU shall also house MPPT (Maximum Power Point Tracker).

Inverter output should be compatible with the grid frequency. Typical technical features of the inverter shall be as follows:

1	Total output power (AC	To match solar PV plant capacity while achieving optimum system efficiency
2	Input DC voltage range	As required for the solar grid inverter DC input
3	Maximum power point (MPPT)	Shall be incorporated





4	Number of independent MPPT inputs	1 or more
5	Operation AC voltage	• For 15 kWp –Three phase 415V four wire system as per availability of the main grid supply.
6	Operating Frequency range	47.5 – 52.5 Hz
7	Nominal frequency	50 Hz
8	Power factor of the inverter	>0.98 at nominal power
9	Total harmonic distortion	Less than 3%
10	Built-in Protection	AC high / low voltage; AC high /low frequency
11	Anti-islanding protection	As per VDE 0126-1-1 / IEC 60255.5/ IEC 60255.27 / IEC 62116
12	Operating ambient temperature range	-1 °C to +55 °C
13	Humidity	0 – 95% Rh
14	Inverter efficiency	>=95%
15	Inverter weighted efficiency	>=94%
16	Protection degree	IP 65 for outdoor mounting, IP 54 for indoor mounting
17	Communication interface	RS 485 / RS 232 / RJ45
18	Safety compliance	IEC 62109-1, IEC 62109-2
19	Environmental Testing	IEC 60068-2 (1, 2, 14, 30)
20	Efficiency Measurement Procedure	IS/IEC 61683
21	Cooling	Temperature controlled fan forced cooling/Oil cooled
22	Display type	LCD for data display. LCD /LED for status display
23	Display parameters to include	Output power(W), cumulative energy (Wh), DC voltage (V), DC current (A), AC voltage (V), AC frequency (Hz), AC current (A), cumulative hours of operation (h). Inverter ON, Grid ON, Inverter under voltage/over voltage, Inverter over load, Inverter over temperature. Protections, Over voltage both at input & output, Over current both at input & output, Over/under Grid frequency, Over temperature, Short circuit, Protection against lightening ,Surge voltage induced at output due to external source
24	The capacity of Centralized PCU shall be aggregate capacity	15 kWp

ii. The combined wattage of all inverters should not be less than rated capacity of power plant .

ii. Maximum power point tracker shall be integrated in the PCU/inverter to maximize energy drawn from the array. While designing the PCU grid comparability and the boundary conditions specified in the Regulations can be taken care.



iii. PCU/inverter shall be capable of complete automatic operation including wake-up, synchronization & shutdown. The output of power factor of PCU inverter is suitable for all voltage ranges or sink of reactive power, inverter should have internal protection arrangement against any sustainable fault in feeder line and against the lightning on feeder. Built-in meter and data logger to monitor plant performance shall be provided.

iv. Built-in with data logging to remotely monitor system performance through external PC shall be provided (PC shall be provided by Bank).

v. The software (Plant Manager & PC for remote monitoring through LAN) and hardware **except PC**, required for interfacing the system are to be supplied.

vi. **The PCU/ inverters should be tested from the MNRE approved test centres /NABL /BIS /IEC accredited testing- calibration laboratories.**

#### 4. **GRID ISLANDING:**

i. 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

iii. Inverter shall be tested for islanding protection performance. When the mains power is off, the PCU should also get automatically off so that back-feeding to the grid is not possible.

#### 5. **Instrumentation, measurement and monitoring**

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

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

iii. **PV array energy production:** Digital Energy Meters to log the actual value of AC/ DC voltage, Current & Energy generated by the PV system provided. Energy meter along with CT/PT should be of 0.5 accuracy class shall be provided.

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

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

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



- e. DC Input Current.
- f. Time Active
- g. Time disabled.
- h. Time Idle
- i. Temperatures
- j. Inverter Status

**vi. POWER CONSUMPTION:**

Regarding the generated power consumption, priority need to give for internal consumption first and thereafter any excess power can be exported to grid.

**6. PROTECTIONS**

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

**i. LIGHTNING PROTECTION:**

The SPV power plants shall be provided with lightning & overvoltage protection. The entire space occupying the SPV array shall be suitably protected against Lightning by deploying required number of Lightning Arrestors. Lightning protection should be provided as per IEC 62305 /IS 2309 standard. The protection against induced high-voltages shall be provided by the use of metal oxide varistors (MOVs) and suitable earthing such that induced transients find an alternate route to earth.

**ii. SURGE PROTECTION:**

Surge protection shall be provided on both the DC and the AC side of the solar system. The DC surge protection devices (SPDs) shall be installed in the DC distribution box adjacent to the solar grid inverter.

The AC SPDs shall be installed in the AC distribution box adjacent to the solar grid inverter. The SPDs earthing terminal shall be connected to earth through the above mentioned dedicated earthing system. The SPDs shall be of type 2 as per IEC 60364-5-53.

**iii. EARTHING PROTECTION:**

Each array structure of the PV yard should be grounded/ earthed properly as per IS:3043- 1987. In addition the lightning arrester/masts should also be earthed inside the array field. Earth Resistance shall be tested by calibrated earth tester. Earth resistance shall not be more than 5 ohms. It shall be ensured that all the earthing points are bonded together to make them at the same potential. PCU, ACDB and DCDB should also



be earthed properly.

## **7. ARRAY JUNCTION BOXES:**

The junction boxes shall be provided in PV array field for termination of connections from various arrays.

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

## **8. CABLES:**

Cables of appropriate size to be used in the system shall have the following characteristics:

- a) Shall meet IEC 60227/IS 694, IEC 60502/IS1554 standards Temp. Range:  $-10^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$ . Voltage rating 660/1000V.
- b) For the **DC cabling**, Solar cables with multi stranded copper conductors XLPE or XLPO insulated and sheathed with the voltage rating of 1000 V DC or higher UV stabilised single core flexible copper cables shall be used. Multi-core cables shall not be used.
- c) For the **AC cabling**, PVC or XLPE insulated and PVC sheathed single or multi-core flexible copper cables shall be used. Outdoor AC cables shall have a UV-stabilised outer sheath.
- d) The total voltage drop on the cable segments from the solar PV modules to the solar grid inverter shall not exceed 1.0%.
- e) Sizes of cables between array interconnections, array to junction boxes, junction boxes to Inverter etc. shall be so selected to keep the voltage drop (power loss) of the entire solar system to the minimum. The cables (as per IS) should be insulated with a special grade PVC compound formulated for outdoor use.
- f) Cable Routing/ Marking: All cable/wires are to be routed in a GI/PVC cable tray and suitably tagged and marked with proper manner by good quality ferule or by other means so that the cable easily



identified.

- g) d) The Cable should be so selected that it should be compatible up to the life of the solar PV panels i.e. 25years.
- h) All cables and conduit pipes shall be clamped to the rooftop, walls and ceilings with thermo-plastic clamps at intervals not exceeding 50 cm.
- i) The DC cables from the SPV module array shall run through a **UV-stabilised PVC conduit pipe** of adequate diameter with a minimum wall thickness of 1.5mm or through a High Density Poly Ethylene (HDPE) conduit. The conduits shall not run across the path way of the terrace. Flexible corrugated PVC conduits shall not be used.

### **9.DC COMBINER BOX**

A DC Combiner Box shall be used to combine the DC cables of the solar module arrays with DC fuse protection for the outgoing DC cable(s) to the DC Distribution Box.

### **10. DC DISTRIBUTION BOARD:**

A DC distribution box shall be mounted close to the solar grid inverter. The DC distribution box shall be of the thermo-plastic IP65 DIN-rail mounting type and shall comprise of components like DC circuit breaker, DC surge protection device (SPD) as per IEC 60364-5-53 and cable terminations:

**DC DPBs shall have sheet from enclosure of dust & vermin proof conform to IP 65 protection. The bus bars are made of copper of desired size. Suitable capacity.**

### **11. AC DISTRIBUTION BOX:**

- i. AC Distribution Panel Board (DPB) shall control the AC power from PCU/ inverter, and should have necessary surge arrestors. Interconnection from ACDB to mains at LT Bus bar while in grid tied mode.
- ii. All switches and the circuit breakers, connectors should conform to IEC 60947, part I,
- iii. The changeover switches, cabling work should be undertaken by the bidder as part of the project.

All the Panels shall be metal clad, totally enclosed, rigid, floor mounted, air - insulated, cubical type suitable for operation on three phase / single phase, 415 or 230 volts, 50 Hz and designed for minimum expected ambient temperature of 45degree Celsius,80 percent humidity and dusty weather.



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

## **12. NET METERING:**

- i. The bidirectional electronic energy meter per the statutory requirements of MSEDCL shall be installed for the measurement of import/Export of energy. (Getting statutory requirements and installation of bi-directional meter is installer scope with free of cost)
- ii. The bidder must take approval/NOC from the Concerned DISCOM for the connectivity, technical feasibility, Net metering agreement with MSEDCL and synchronization of SPV plant with distribution network and copy submit to Bank before commissioning of SPV plant.

## **13. DOCUMENTATION TO BE FURNISHED BY BIDDER AFTER AWARD OF CONTRACT:**

- i. System description with working principles.
  - ii. System single line diagram.
  - iii. Solar PV array lay-out.
  - iv. Routing diagram of cables and wires.
  - v. Data sheets and user manuals of the solar PV panels and the solar grid inverter.
  - vi. A system operation and maintenance manual.
  - vii. Name, address, mobile number and email address of the service centre to be contacted in case of failure or complaint.
  - viii. Maintenance registers
- 
- x. General arrangement and dimensioned layout Schematic drawing showing the requirement of SV panel, Power conditioning Unit(s)/ inverter, Junction Boxes, AC and DC Distribution Boards, meters etc. Structural drawing along with foundation details for the structure.
- 
- xi. Itemized bill of material for complete SV plant covering all the components and associated accessories.
  - xii. Layout of solar Power Array.



### **15. Test Certificates and Reports to be furnished**

Test Certificates / Reports from IECQ / NABL accredited laboratory for relevant IEC / equivalent BIS standard for quoted components shall be furnished. Type Test Certificates / reports shall be provided for the solar modules and solar grid tied inverters up to 20kW to provide evidence of compliance with standards. For solar grid tied inverters above 20kW, self- certification by the manufacturer of the said inverter is acceptable.

**Safety - The bidder shall take entire responsibility for electrical safety of the Installation including connectivity with the grid and follow all the safety rules & regulations applicable as per Electricity Act, 2003 and CEA guidelines etc.**

### **16. DANGER BOARDS AND SIGNAGES:**

Danger boards should be provided as and where necessary as per IE Act. /IE rules as amended up to date. Three signage shall be provided one each at battery –cum- control room, solar array area and main entry from administrative block. Text of the signage may be finalized in consultation with Bank.

### **17. TOOLS & TACKLES AND SPARES:**

Operation and maintenance guide and consumable spares like fuses should be provided by vendor.

**Approved Make of Materials**

S.No.	Components	Specifications	Warranty
1	Solar Module (Goldi Green / Panasonic /TATA Solar/ Waree / Vikram /Navisol/Solar max/Nano/Lubi/PV Power Tech/HHV/BHEL )	Poly/Mono crystalline/CIGS, 250 W p-375 Wp	25 years
2	Solar Grid Tied Inverter AS REQUIRED (Schnider/ABB / Sungrow/Fronius/Kstar	IP 65; Transformer less with MPPT, minimum efficiency of 98%.	5 years
	/ Delta / Solis/Pwerone) SMA/ /Solar age /Polycab/ solare Grow watt		
3	Mounting Structure and GI tray	Hot-dip galvanized, 80 microns thk, Design wind speed 150 kmph	25 years
4	Cables DC (Polycab/ V-Guard/ Gloster /Havells/finolex/RR)	Single core DC cable, UV stabilised, multi-strand XLPE PVC insulated)	
	Cable AC (Polycab/ V-Guard/ Gloster /Havells/RR)	4 core solid CU conductor, XLPE insulated, FLEXIBLE / PVC inner sheathed, 650/1100V, cable as per IS	
5	Array Junction Box (if required)	Polycarbonate IP 65 (Protection DC fuses, DC Isolator and DC SPD)	
6	AC/DC Distribution Board	MDS/Hager/L&T	
7	String Combiner Box	Robotina/Trinity Touch/Hensel/Cape Electric,AKG	
8	LV Switchgear	ABB/L&T/Schneider/ MDS or Equivalent	
9	Energy Meter	Secure/L&T or Equivalent	
11	Connectors	MC4/or Equivalent	



<b>12</b>	<b>Surge protection (spd)</b>	<b>MDS, L&amp;T, Hager</b>	
	<b>ACDB</b>	<b>Polycarbonate IP 65</b>	
<b>13</b>	<b>(if required)</b>	<b>(Protection AC Isolator along with phase indicators)</b>	
<b>14</b>	<b>Earthing</b>	<b>chemical type 3 mtr ISI Mark along with Earthing Chambers as per IS 3043</b>	
<b>15</b>	<b>Earthing Strip</b>	<b>25mmx3mm GI Type</b>	
<b>16</b>	<b>Lighting Arrestor</b>	<b>Standard (Copper Type)</b>	

Note: -

- 1) The contractor should obtain prior approval from SBIIMS/ Consultants before placing order for any specific materials SBIIMS may / delete any of the makes or brands out of the above list.
- 2) All materials should conform to relevant standards and codes of BIS. Materials with I.S.I. mark shall be used duly approved by the SBIIMS Engineer/Architect.
- 3) Any material is found to be not up to the mark, the contractor will have to produce original bills/certificate from the manufacturer or his authorized Distributor for authenticity and genuineness of the material for consideration and as per make approved by the SBIIMS. The same will not be considered for payment.
- 4) Any additional item as per BOQ specifications or as per the instructions of the bank / Consultants. Any of the above items / other items if any will be as approved by the Consultants & Engineer-in-charge.

**A. SCHEDULE OF TECHNICAL DATA TO BE FUNISHED BY THE CONTRACTOR FOR 15 Kwp**

**PLANT**

<b>A</b>	<b>SPV MODULE</b>	
i.	Manufacture's Name & Address	
ii.	Type of Modules with cat. Reference	
iii.	Design of module at standard test condition	
	a) Peak power watt	
	b) Peak power voltage	
	c) Peak power current	
	d) Open circuit voltage	
iv.	No. of SPV Modules proposed to achieve minimum <b>15 kWp DC power</b>	
v.	Short circuit current of PV module (Amp.)	
vi.	Open circuit voltage of PV Module (V)	
vii.	Max. power rating of one PV Module (KWp) (not less than 250Wp)	
viii.	Photo electrical conversion efficiency of SPV module ( not less than 14% )	
ix.	Fill factor of the SPV module (> 0.70)	
x	Designated life of the SPV modules	
xi.	Overall dimensions (in mm)	
xii.	Weight	
xiii	Frame materials	
xiv.	Reference of Standards / approval, if any	
xv.	Life of SPV Module (Years of Operation)	
<b>B</b>	<b>PV ARRAY CAPACITY</b>	

	Number of Module in series in each array	
	Peak power rating of one array	
	Number of array considered to achieve the specified output	
<b>C</b>	<b>MODULE MOUNTING STRUCTURE</b>	
i)	Type of structure and its materials used in frame and accessories	
ii)	Type of mounting structures (Fixed or any other type)	
iii)	Overall dimensions	
iv)	Type of mounting	
v)	Surface azimuth angle of PV Modules	
vi)	Tilt angle (Slope) of PV module	
vii.	Confirm structure & module frame shall be designed at wind speed 150 km/hr.	
<b>D</b>	<b>POWER CONDITIONING UNITS (PCUs)</b>	
i.	Manufacturer's name & address	
ii.	Type of PCU (Centralized or string type)	
iii.	Number of units proposed	
iv.	Rated capacity of each PCU	
v.	Input DC Voltage range	
vi.	Output voltage	
vii.	Frequency	
viii.	Minimum efficiency at full load	
ix.	Location (outdoor/indoor)	
x.	Output wave shape	
xi.	Dimensions in mm	
xii.	IP protection level	
xiii.	Type of cooling required	
xiv	Type of mounting	
xv.	Suitability for specified Ambient Temp. range & Humidity at	
xvi.	Type of Protection provided	

xvii	Over Load Condition	Yes/No	
xviii	Short Circuit Protection	Yes/No	
xix	Low/High Voltage Protection	Yes/No	
xx	Power Electronic Component Protection Yes/No	Yes/No	
E.	<b>METERING</b>		
i.	Nos. of meters proposed to be provided		
ii.	Location of meters		
iii.	Manufacturer's name & address		
iv	Confirm compliance with laid down specification		
<b>F</b>	<b>Item</b>	<b>Quantities</b>	<b>To be filled by the contractor</b>
<b>1</b>	SPV Modules	Total Quantities (nos)	
		No. of Arrays	
		Nos. of SPV modules in each array	
<b>2</b>	Power Conditioning Units (PCUs) (Centralized / string type)	Type	
		quantity	
<b>3</b>	DC Junction Boxes		
<b>4</b>	AC Junction Boxes		
<b>5</b>	Other related items viz. control & power cables, cable trays, surge diverters, earthing etc. for the complete work as required & specified	LOT	

**Date**

**Signature of the contractor with company seal**

ANNEXURE – C

WARRANTY CERTIFICATE

Name & Address of the Manufacturer/Supplier		
Name & Address of the Purchasing Agency		
Date of Erection of system		
PV Module		
a) Make		
b) Model		
c) Serial No (List Enclosed)		
d) Wattage under STC		
e) Warrantee valid up to		
Electronics & Inverter		
a) Make		
b) Model		
c) Serial No		
d) Warrantee valid up to		
Other BOS		
a) Make		
b) Model		
c) Serial No		
d) Warrantee valid up to		
Designation & Address of the person to be contacted for claiming Warrantee obligations		
Date:		
Place:		

(Signature)

Name

Designation

Name & Address of the Manufacturer /Supplier (SEAL)



**FORMAT FOR BANK GUARANTEE TOWARDS SECURITY DEPOSIT AND PERFORMANCE GUARANTEE**

(To be submitted on Rs. 200/- non judicial stamp paper)

Bank Guarantee No. \_\_\_\_\_ dated \_\_\_\_\_

M/s State Bank of India,

.....,

Dear Sirs,

In consideration of M/s SBI Infra management Solutions Pvt Ltd,[hereinafter referred to as 'SBIIMS' which expression unless repugnant to the context and meaning thereof shall include its successors and assigns], having agreed to exempt, M/s. \_\_\_\_\_ having its registered/principal office at

\_\_\_\_\_ [hereinafter referred to as 'Supplier / Contractor' which

expression unless repugnant to the context and meaning thereof shall include its successors and assigns], from depositing with SBI a sum of Rs. \_\_\_\_\_ towards security / performance guarantee in lieu of the said Supplier / Contractor having agreed to furnish an irrevocable bank guarantee for the said sum of Rs. \_\_\_\_\_ as required under the terms and conditions of Contract / Work Order / Purchase Order no.

\_\_\_\_\_ dated \_\_\_\_\_ [hereinafter referred as the 'Order'] placed by SBI on the said supplier / contractor, we, \_\_\_\_\_ [hereinafter referred to as 'the Bank' which expression shall include its successors and assigns] do hereby undertake to pay SBI an amount not exceeding Rs. \_\_\_\_\_ [Rupees \_\_\_\_\_ ] on demand made by SBI on us due to a breach committed by the said Supplier / Contractor of the terms and conditions of the Order.

We \_\_\_\_\_ the Bank hereby undertake to pay the amount under the guarantee without any demur merely on a demand received in writing from SBIIMS stating that the Supplier / Contractor has committed breach of the term(s) and/or condition(s) contained in the Order and/or failed to comply with the terms and conditions as stipulated in the Order or amendment(s) thereto. The demand made on the Bank by SBI shall be conclusive as to the breach of the term(s) and/or condition(s) of the Order and the amount due and payable by the Bank under this guarantee, notwithstanding any dispute or disputes raised by the said Supplier /Contractor regarding the validity of such breach and we agree to pay the amount so demanded by SBIIMS forthwith and without any



demur. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.

\_\_\_\_\_ [Rupees \_\_\_\_\_ ].

We, \_\_\_\_\_ the Bank further agree that this irrevocable guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Order and that it shall continue to be enforceable till all the dues of SBIIMS under or by virtue of the said Order have been fully paid and its claim satisfied or discharged or till SBIIMS certifies that the terms and conditions of the Order have been fully and properly carried out by the Supplier / Contractor and accordingly discharge the guarantee.

We \_\_\_\_\_ the Bank, undertake to pay to SBIIMS any money so demanded notwithstanding any dispute or disputes raised by the said Supplier / Contractor in any suit or proceedings pending before any court or tribunal relating thereto as our liability under this present being absolute and unequivocal. The payment so made by us under this Guarantee shall be valid discharge of our liability for payment there under and the said Supplier / Contractor shall have no claim against us for making such payment.

We \_\_\_\_\_ the Bank further agree that SBIIMS shall have full liberty, without our consent and without affecting in any manner our obligation hereunder to vary any of the terms and conditions of the Order or to extend time of performance by the said Supplier / Contractor from time to time or to postpone, for any time or from time to time, any of the powers exercisable by the SBI against the said Supplier / Contractor and to forbear or enforce any of the terms and conditions relating to the Order and shall not be relieved from our liability by reason of any such variation or extension being granted to the said Supplier / Contractor or for any forbearance, act or omission on the part of SBIIMS or any indulgence by SBI to the Supplier / Contractor or by any such matter or thing whatsoever which under the law relating to sureties would but for this provisions have effect of so relieving us.

In order to give full effect to this guarantee, SBIIMS will be entitled to act as if the BANK were the principal debtor and the BANK hereby waives all rights of surety ship.

5) Our liability under this bank guarantee is restricted to Rs. \_\_\_\_\_ [Rupees \_\_\_\_\_ ] and shall remain in force up to \_\_\_\_\_ and thereafter till the expiry of the extended period, if any, (hereinafter Validity period). Unless a demand is made under this guarantee on us in writing at any time from the date



of issue of the guarantee till the expiry of the Validity period, we shall be discharged from all liabilities under this guarantee thereafter.

6) The claim, if any, under this guarantee, shall be lodged at (address of BANK & Branch)

\_\_\_\_\_.

This guarantee will not be discharged due to change in the constitution in the Bank or the said Supplier / Contractor or the provision of the contract between Supplier / Contractor and SBI

The BANK hereby agrees that the Courts in Thrissur shall have exclusive jurisdiction in any matter of dispute between contractor/ vendor and the Bank and the Bank hereby agrees to address all the future correspondence in regard to this bank guarantee to The Deputy General Manager (B&O ), State Bank of India, AO Thrissur.

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

We, \_\_\_\_\_ the Bank lastly undertake not to revoke this guarantee during its currency except with the previous consent of the SBI in writing.

SIGNED AND DELIVERED ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_

Yours faithfully,

For and on behalf of \_\_\_\_\_ (bank) Signature of Authorised Official of bank

Name of the Official: Designation of the Official:

Name of Bank:

Branch:

Address of Branch: Telephone / Mobile No: Fax No:

Email Id:





FORMAT FOR SOLVENCY CERTIFICATE)

(On Bank's Letter Head)

\_\_\_\_\_ REF NO..... DATE:

To Whomsoever Concerned

This is to certify that to the best of our knowledge and information, M/s \_\_\_\_\_ (Bidders name with complete address), a customer of our Bank, is respectable, and is capable of executing orders to the extent of Rs\_\_\_\_\_

(Rupees\_\_\_\_\_). M/s \_\_\_\_\_ have been our customer since \_\_\_\_\_ to date and has been granted the following limits, at present, against various facilities granted by the Bank:

.....

.....

This certificate is issued without any guarantee, risk or responsibility on behalf of the Bank or any of its officials.

This certificate is issued at the specific request of the customer.

Yours faithfully,

(Bank Official's signature & stamp)



**BASIC INFORMATION OF THE VENDOR**  
**(Please strike-off which is not applicable)**

1	a) Name of the applicant/Firm/ Organization	
	b) Full Postal Address of Firm	
	c) Contact Details (i) Phone No. (ii) Mobile No. (iii) Fax No. (iv) e-mail Id (v) Web-site	
	d) Application fee details Online application fees receipt no. (Please enclose online application fees payment receipt) Date	
2	Year of establishment	
	<b>(Please enclose documentary evidence)</b>	
3	Constitution of Firm <b>(Enclose certified copies of documents as evidence)</b>	Sole proprietorship/ Partnership /Private Ltd. / Public Ltd. / Any other (Please specify)
4	Name of the Proprietor/Partners/Directors of the organization/firm	
5	a) Name/s of authorized signatory with designation	

**PRICE BID FORMAT FOR ROOF TOP SOLAR PLANT AT PBB ROUND SOUTH BRANCH, THRISSUR**

SR. NO.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<b>PBB ROUND SOUTH BRANCH, THRISSUR</b>				
i	<p>Design, supply, Installation, testing &amp; commissioning of 15 KWp grid interactive SPV based Solar Power System at Thrissur PSB branch system shall have guaranteed annualized AC energy output of 13140 Kilo watt hour (Kwh) per year during the first five years of operation. The rate shall include for all the material required including required quantities of SPV modules formed into arrays, their mounting arrangement, power conditioning units, required DC &amp; AC distribution panels with surge protection units, copper plate earthing stations with copper strip/cablings, data loggers along with PC based arrangement for system performance monitoring through licensed software, metering safety arrangements, civil works, training etc. as defined in Part I of the tender to provide a composite operational system. The rate shall include for all the taxes, duties, levies, insurance, transportation, Laisioning charges with all statutory bodies, documentation charges etc for obtaining approval for Grid integration).</p> <p>Additional mounting structures with hot dip galvanized MS structure should be provided for the PV modules such that the minimum clearance of the structure from the roof level towards south side inclination should be 8 feet and the north side leg height shall be designed according to the tilt angle that would be designed for obtaining maximum power generation. Minimum thickness of galvanization should be at least 80 microns. The mounting structure shall be so designed to withstand wind velocity as per the local meteorological conditions or 150 Km/hr whichever is more. The mounting structure shall be so designed to withstand wind velocity as per the local meteorological conditions or 150 Km/hr whichever is more. The structural design for mounting of solar panels shall be approved by qualified structural engineer and a certificate duly signed by the</p>				

	<p>qualified structural engineer in this regard shall be submitted by the contractor to the Engineer-in-charge before start of installation.</p> <p>A Walkway with galvanized MS structure of one feet width should be provided between the solar panel arrays at suitable height with ladder access for the routine preventive maintenance and cleaning of the solar panels installed.</p>				
ii	GST as applicable for i				
iii	Charges for 5 (five) years Warranty/Guarantee and Operation & Maintenance including Monthly servicing of the system)				
iv	GST as applicable for iii				
v	Total for B = (i+ii+iii+iv)				

**Note: L1 is arrived based on the Grand total inclusive of GST. Applicant has to quote the rates based on their design, transportation charges (loading and unloading), all taxes, GST based on their supply and labour components, installation, commissioning charges, Laisoning charges with all statutory bodies, documentation charges etc for obtaining approval for Grid integration).**