NIT NO	HYD/2022-23/072
DATE	31.10.2022

STATE BANK OF INDIA PREMISES & ESTATE DEPARTMENT
INVITES

TENDER

FROM

EMPANELLED AGENCIES OF SBI HYDERABAD CIRCLE UNDER SOLAR POWER PLANT CATEGORY

FOR

DESIGN, MANUFACTURE, SUPPLY, ERECTION, TESTING AND COMMISSIONING INCLUDING WARRANTY, OPERATION & MAINTENANCE OF 28KWp GRID CONNECTED ROOFTOP SOLAR PHOTOVOLTAIC WITH NET METERING ARRANGEMENT FOR RBO KOTHAGUDEM BUILDING

THROUGH E-TENDERING PROCESS

Assistant General Manager(P&E),
Premises & Estate Department,
3rd Floor, LHO,
State Bank of India,
Bank's street, Koti,
Hyderabad-500001
Phone No:040-23466340/6343
Email: agmpre.lhohyd@sbi.co.in

NOTICE OF INVITING TENDER.

1.	Name of the Work	DESIGN, MANUFACTURE, SUPPLY, ERECTION, TESTING AND COMMISSIONING INCLUDING WARRANTY, OPERATION & MAINTENANCE OF 28KWp GRID CONNECTED ROOFTOP SOLAR PHOTOVOLTAIC WITH NET METERING ARRANGEMENT FOR SBI RBO KOTHAGUDEM BUILDING.
2.	Estimated cost of work per Kwp	**₹ 71,000.00 per Kwp+ GST**
3.	Time for Completion of work	**90 DAYS** from the date of PO or handover of the site whichever is earlier.
4.	Eligibility of the contractor	Empanelled Agencies Of SBI Hyderabad Circle Under Solar Power Plant Category.
5.	Earnest Money Deposit (EMD)	₹20000.00 in the form of DD only. In favor of Assistant General Manager(P&E), SBI, Hyderabad. Payable at Hyderabad. Note: The EMD exempted for MSEs as per the Govt norms against submission of valid MSE certificate under respective category.
6.	Address for submission of EMD/ valid MSME/ NSIC certificates for claiming exemption(as applicable) and opening of tenders :	Assistant General Manager(P&E), Premises & Estate Department, 3rd Floor, LHO, State Bank of India, Bank street, Koti, Hyderabad-50000, Phone No:040-23466340/6343 Email: agmpre.lhohyd@sbi.co.in
7.	Tender documents available for download from the websites:	1)https://www.sbi.co.in under "SBI in the News" link "procurement news" / https://bank.sbi/web/sbi-in-the-news/procurement-news 2) https://etender.sbi
8.	Availability for download from the above web site	**From 01.11.2022 to 16.11.2022**
9.	Last date and time for submission of online bids in e-tender portal	**16.11.2022 by 3.00 P.M.**
10.	Date and Time of opening of e-Tenders:	**16.11.2022 at 3.10 P.M.**
11.	Payment terms	i) No advance payment. **ii)** 70% will be released after successful Supply, Installation, Testing & Commissioning of plant and commencement of generation, except installation of Net Metering. The Net Meter should be installed after obtaining necessary statutory approvals(submit the copy of acknowledgment for installation of net metering from TSSPDCL/TSSNPDC should be enclose along with bill). iii) 25% will be released after net meter installation and ensuring to meet the average power generation of the plant which must be minimum guarantee of avg **4 KWH per day per KW** in a month (the generation should meet in any month within one year from the date of completion) and completion of project in all respects. **iv)** 5% will be released after completion of 5 years warranty period, which can be released against submission of valid PBG with a validity of 5 years from the date of installation of Bi-Directional meter.

12.	Initial Security Deposit (ISD)	2% of the Contract value
13.	Total Security Deposit	5 % of contract value which will be retained till the completion of the defects liability period(5 Years)
14.	Defects Liability Period	5 years warranty from the date of installation of Bi-Directional meter.
15.	Liquidated Damages for delay in work	If the work is delayed beyond the scheduled completion date, then 0.50% of the total value of the contract per week (or part thereof) of delay will be deducted from the final bill value subject to max 5%of the value of work including installation of Bi- Directional Meter.
16.	Validity of tender	90 days.
17.	Tax Deduction	As per applicable rates
18.	Rates quoted by bidder	1. The quoted rate should be inclusive of Cost of materials, transport, loading , unloading charges, cost of installation, all taxes(excluding GST), wastages, machinery, temporary works such as scaffolding, cleaning, overheads, profit, statutory expenses, incidental charges and all related expenses required for the completion of the work. 2. Additional claims other than the quoted amount will not be entertained. 3. The quoted rates shall be firm throughout the completion of the project
19.	**Check list of documents to be uploaded**	**As per tender Conditions**
20.	Any additional information	1. The make of materials should be chosen strictly from the preferred makes as given in the tender. 2. Firm should visit the website till last date of submission for changes/ corrigendum, if any 3. Any clarifications sought after opening of the tenders will not be entertained at any cost. 4. The Bank reserves the right to cancel or postpone the tenders at any stage without assigning any reason. 5. Claims for revision of the Quoted price by any bidder after the tender will not be entertained.
21.	For any queries or support in connection with the online tendering process, please contact our E-procurement solutions agency	e-Procurement technologies Limited, Ahmedabad. Dinesh Bagresha — Dinesh.bagresha@eptl.in — 95108 12960 Devendra R — Devendra.r@eptl.in — 95108 12971 Nandan Valera — Nandan.v@eptl.in — 90810 00427 Fahad Khan — Fahad@eptl.in — 99044 06300 Nikhil Khalas — Nikhil@ept.in — 93745 19729
22.	The tender will be summarily rejected if the Bidder	1. Failed to upload the Scan copy of required documents as mentioned in the documents to be uploaded. 2. Partly or fully Modifies, alters or corrects the tender document uploaded by Bank

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

SBI reserves the right to accept or reject any or all bids without assigning any reasons thereof, ever after opening of the bids.

INSTRUCTIONS TO THE TENDERER

1.0 NAME OF THE WORK

Online Tenders are invited by Premises & Estate Department for the DESIGN, MANUFACTURE, SUPPLY, ERECTION, TESTING AND COMMISSIONING INCLUDING WARRANTY OF GRID CONNECTED ROOFTOP SOLAR PHOTOVOLTAIC WITH NET METERING ARRANGEMENT IN ABOVE LOCATION

2.0 TENDERDOCUMENTS

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

Instructions to tenderer
General Conditions of
Contract Special
Conditions of Contract
Additional Conditions for Solar PV
Installation Technical Specifications
Drawings (if
incorporated) Priced
Bid

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:
Price Bid, Technical Specifications, Additional Conditions for Solar PV Installation ,Special Conditions of Contract, General Conditions of Contract Instructions to Tenderer

2.3 Complete set of tender documents including relative drawings can be obtained / downloaded from the (i).https://etender.sbi/
(ii). SBI Procurement news
on any Day during the period mentioned in the NIT.

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 which 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.

3.2 The tenderer should visit the site to ascertain the working conditions and local authority regulations
/ Restrictions if any and other information required for the proper execution of the work.

4.0 CLARIFICATIONS AND PRE-BID MEETING

The SB will not enter into any correspondence with the Bidders, except to furnish clarification son RFP Documents, if necessary. The Bidders may seek clarifications or suggest amendments to RFP in writing, through a letter or by e-mail to reach SBI at the address, date and time mentioned in Bid information sheet.

The Bidder(s) or their authorized representative(s) is/are invited to attend pre-bid meeting(s), which will take place on date(s) as specified in Bid information sheet, or any such other date as notified

by SBI

ThepurposeofthepreBidmeetingwillbetoclarifyanyissuesregardingtheRFP including in particular, issues raised in writing and submitted by the Bidders. SBI is not under any obligation to entertain/ respond to suggestions made or to incorporate modifications sought for.

5.0 BIDDER FOR PARTICIPATION:

Submit bids under CAPEX Model for the Location mentioned in above. The scheme targets installation of grid-connected rooftop solar PV projects on the vacant land at the Branch. The generated solar power may be utilized for captive application and the surplus power will be fed to the grid. The scheme aims to reduce the fossil fuel-based electricity load on main grid and make building self-sustainable from the point of electricity, to the extent possible.

The Bidder is advised to read carefully all instructions and conditions appearing in this document and understand them fully. All information and documents required as per the bid document must be furnished. Failure to provide the information and /or documents as required may render the bid technically unacceptable.

The bidder shall be deemed to have examined the bid document, to have obtained his own information in all matters whatsoever that might affect the carrying out the works in line with the scope of work specified elsewhere in the document at the offered rates and to have satisfied himself to the sufficiency of his bid. The bidder shall be deemed to know the scope, nature and magnitude of the works and requirement of materials, equipment, tools and labour involved, wage structures and as to what all works, he has to complete in accordance with the bid documents irrespective of any defects, omissions or errors that may be found in the bid documents.

6.0 BID SUBMITTED BY A BIDDING COMPANY/ POWER OF ATTORNEY:

The Bidding Company should designate one person to represent the Bidding Company in its dealings with SBI. The person should be authorized to perform all tasks including, but not limited to providing information, responding to enquires, signing of Bid etc. The Bidding Company should submit, along with Bid, a Power of Attorney in original, authorizing the signatory of the Bid.

12.0 EARNEST MONEYDEPOSIT:

12.1 The tenderer is requested to submit the Earnest Money (as mentioned in NIT) in the form of Demand Draft or Banker's Cheque in favour as mentioned in the NIT. Those who wants exemption, required to submit the valid MSME certificate in respective category.

12.2 EMD in any other form other than as specified above will not be accepted. Tender not accompanied by the EMD/ EMD exemption in accordance with above shall be rejected.

12.3 No interest will be paid on the EMD.

12.4 EMD of unsuccessful tenderer will be refunded within 30 days of award of Contract.

12.5 EMD of successful tenderer will be retained as a part of security deposit (or) returned on compensatory submission of Security Deposit (including EMD amount).

Forfeit of EMD: The EMD will be forfeited under the following conditions:
If the tenderer withdraws or amend, impairs or derogates from the tender in any respect within the period of validity of the tender.

15.0 Financial bid

The rates quoted by the Bidder will be validated / scrutinized by committee and compared to market price for adaptability. The **lowest total rate quoted** will be considered for **award of work**.

The Bank will not be bound to accept the lowest tender and **reserves the right to accept or reject any** or all the tenders without assigning any reason whatsoever even after opening of financial bid.

16.0 ZERO DEVIATION

This is a ZERO Deviation Bidding Process. Bidder is to ensure compliance of all provisions of the Bid Document and submit their Bid accordingly. Tenders with any deviation to the bid conditions shall be liable for rejection.

17.0 VALIDITY OF TENDER

Tenders shall remain valid and open for acceptance for a period of **90Days** from the date of opening price bid. If the tenderer withdraws his/her offer during the validity period or makes modifications in his/her original offer which are not acceptance to the Bank without prejudice to any other right or remedy the Bank shall be at liberty to forfeit the EMD.

18.0 TAXES AND DUTIES

The tenderer in their quoted tender prices must include all taxes (except GST) and duties royalties, cess, local charges if applicable. No extra claim on this account will in any case been pertained.
Price bids are invited inclusive of duties and taxes (except GST). However, Tax exemptions including certificates of any sort, if available may be dealt with the concerned Dep't of Govt. of India by the bidder. SBI in no case will be responsible for providing any tax exemptions to the bidder.

19.0 IMPLEMENTATION IN OPEXMODEL

Grid-connected solar PV systems feed solar energy directly into the building loads without battery stor- age. Surplus energy, if any, is exported to the state electricity grid and shortfall, if any, is imported from the grid.

20.0 SOLAR PVSYSTEM

The Bidder has to take all permits, approvals and licenses, Insurance etc., provide training and such other items and services required to complete the scope of work mentioned above. Procurement and installation of system shall be as per approval from SBI.

20.1 OPERATION & MAINTENANCE PERIOD

The operation & maintenance of Solar Photovoltaic Power Plant would include wear, tear, overhauling, machine breakdown, insurance, and replacement of defective modules, invertors / Power Conditioning Unit (PCU), spares, consumables& other parts for a period of **5 years** under **CAPEX** model.

22.0 RIGHT TO WITHDRAW THE RFP AND TO REJECT ANY BID

This RFP may be withdrawn or cancelled by the SBI at any time without assigning any reasons thereof. The SBI further reserves the right, at its complete discretion, to reject any or all of the Bids without assigning any reasons whatsoever and without incurring any liability on any account.

SBI reserves its right to vary, modify, revise, amend or change any of the terms and conditions of the Bid before submission. The decision regarding acceptance or rejection of bid by SBI will be final.

The acceptance of a tender will rest with the Competent Authority, who does not bind himself to accept the lowest tender and reserves to himself the authority to reject any or all the tenders

received, without assigning any reasons. All tenders in which any of the prescribed conditions are not fulfilled or are incomplete in any respect are liable to be rejected.

GENERAL CONDITIONS OF CONTRACT

1.0 DEFINITIONS

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

1. '**SBI**' shall mean State Bank of India (client) a body Corporate created under State Bank of India Act 1955, having its Corporate Centre at State Bank Bhavan, Madame Cama Road, Mumbai 400 021 and a Premises & Estate Department of LHO at Hyderabad and includes the client's representatives, successors and assigns.

2. '**Site Engineer**' shall mean an Engineer appointed by the Bank as their representative to give instructions to the contractors.

3. '**The Contractor**' shall mean the documents forming the tender and the acceptance thereof and the formal agreement executed between State Bank of India (Client) and the contractor, together with the documents referred therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Bank and all these documents taken together shall be deemed to form one contract and shall be complementary to one another.

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

5. '**Engineer**' shall mean the representative of the SBI.

6. '**Drawings**' shall mean the drawings which is prepared by the contract and scrutinized by the Bank's 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 the value of the entire work as stipulated in the letter of acceptance of tender subject to such additions there to or deductions there from as may be made under the provision herein after contained.

7. '**Specifications**' shall mean the specifications referred to in the tender and any modifications thereof as may time to time be furnished or approved by the SBI.

8. **"Month"** means calendar month.

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

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

11. **"B.I.S"** shall mean specifications of Bureau of Indian Standards(BIS);

12. **"Bid"** shall mean the Techno Commercial and Price Bid submitted by the Bidder along with all documents/credentials/attachment's annexure etc., in response to this RFP, in-accordance with the terms and conditions hereof.

13. **“Bidder/Bidding Company”** shall mean Bidding Company submitting the Bid. Any reference to the Bidder includes Bidding Company / including its successors, executors and permitted as- signs as the context may require;

14. **“CEA**” shall mean Central Electricity Authority.

15. “**COD**” means commissioned on date i.e. Successful operation of the Project / Works by the Contractor, for the purpose of carrying out Performance Test(s) as defined in RFP.

16. **“Company**” shall mean a body incorporated in India under the Companies Act, 1956 or Companies Act, 2013 including any amendment there to;

17. “**Capacity Utilization Factor**” (CUF) shall mean the ratio of actual energy generated by SPV project over the year to the equivalent energy output at its rated capacity over the yearly period. (CUF = actual annual energy generated from the plant in kWh / (installed plant capacity in kW * 365 *24).

18. “**Eligibility Criteria**” shall mean the Eligibility Criteria as per NIT

19. "**KWp**" shall mean kilo-Watt Peak;

20. "**kWh**" shall mean kilo-Watt-hour;

21. "**MNRE**" shall mean Ministry of New and Renewable Energy, Government of India;

22. "**O&M**" shall mean Operation & Maintenance of Rooftop Solar PV system for 25years;

23. "**OEM**" shall mean Original Equipment manufacturers of rooftop Solar PV system PV Cells/ Solar Panels.

24. “**Project capacity**” means Capacity in KWp offered by the Bidder for each State consisting of single or multiple roof tops. The project capacity specified is on “DC” output Side only.

25. **“SPG**” means Solar Power Generator i.e. successful bidder for the location of project.

26. **“P P A**” means Power Purchase Agreement between SBI and Successful bidder.

27. **“P B G**” means Performance Bank Guarantee between SBI and Successful bidder, renewed periodically up to end of the 5 years warranty period.

28. “**Performance Ratio**”(PR)means the ratio of plant output versus installed plant capacity at any instance with respect to the radiation measured. PR= (Measured output in kW / Installed Plant capacity in kW * (1000 W/m^2/Measured radiation intensity in W/m^2).

29. “**RESCO**” shall mean Renewable Energy Service Companies;

30. “**SNA**” shall mean State Nodal Agency.

31. “**NISE**” shall mean National Institute of Solar Energy.

32. “**NREDCAP**” shall mean New Renewable Energy Development Corporation of Andhra Pradesh (State Nodal Agency).

33. "**IREDA**" shall mean Indian Renewable Energy Development Agency.

34. "**CERC**" shall mean Central Electricity Regulation Commission, 2012 or amended thereof.

2.0 INTERPRETATIONS

1. Words comprising the singular shall include the plural &vice versa.
2. An applicable law shall be construed as reference to such applicable law including its amendments or re-enactments from time to time.
3. A time of day shall save as otherwise provided in any agreement or document be construed as a reference to Indian Standard Time.
4. Different parts of this contract are to be taken as mutually explanatory and supplementary to each other and if there is any differentiation between or among the parts of this contract, they shall be interpreted in a harmonious manner so as to give effect to each part.
5. The table of contents and any headings or subheadings in the contract has been inserted for case of reference only & shall not affect the interpretation of this agreement.

3.0 SCOPE OF WORK OF EMPANELLED SUPPLIER

Scope of work covers Design, Manufacture, Supply and Installation Testing & Commissioning of SPV rooftop on CAPEX model as per the technical specification and Maintenance up to 25 years. (The processing charges payable to Electricity BOARD/ CEA/ State Government bodies/ PSUs/ Municipality/ semi/ Quasi Government bodies also cost of **Bi-directional meter** shall be borne by the contractor). The contractor scope of includes and at contractor's cost is preparation of Single line diagram as required for obtaining permissions from CEA and liaisoning with all above bodies and the fee payable to TSSPDC

The contractor shall carry out, complete and maintain the said work in every respect strictly in accordance with this contract and with the directions of and to the satisfaction of the Bank to be communicated through the Bank's Engineer. In detail

SCOPE	DETAILS
Survey	The successful bidder shall assess ▪ structural stability, ▪ Load bearing capacity, ▪ Solar resource availability, ▪ Identification health & Safety risks, ▪ Shadow free area on site…etc. for hassle free operation of system and also data to be approved by SBI.
Design	▪ Selecting efficient PV Modules, ▪ Optimum Detailed PV Panels layout, ▪ Inverter selection, ▪ Mounting structure, ▪ Routing cables and connectivity, ▪ Attaining maximum output (max. utilization of rooftop area), ▪ Ensuring Safety standards…etc.
Manufacture	As per standards & specifications mentioned in the Tender Document
Supply & Installation	▪ Equipment acquisition ▪ Obtaining Permits ▪ Solar PV System Installation as per standards

	▪ Wiring up to Distribution Board from the SPV rooftop system Online Monitoring system for Local & Remote Data Monitor-ing…etc.
Testing	Testing of Modules, System Performance Evaluation, Capacity Utilization Factor(CUF)…etc. of the complete Solar PV system as per the Technical specifications.
Commissioning	▪ Obtaining Approval of Statutory Authorities like CEA,SNA's…etc. ▪ Virtual Completion Certificate from SBI ▪ Compliance from DISCOM for connection to grid…etc. All the necessary activities for successful commissioning of the system shall be responsible of bidder. Any deposits/ fees to be paid by the owner for acquiring permission from Govt Authorities…etc., shall be borne by contractor with his cost.

The Bank will issue written instructions/ directions from time to time, details directions and explanations which are hereafter collectively referred to as SBI instructions in regard to: the variation or modification of the design, quality or quantity of work or the addition or omission or substitution of any work, any discrepancy in the drawings or between the BOQ and/or drawings and/or specifications, the removal from the site of any material brought thereon by the contractor and the substitution of any other materials thereof, the demolition, removal and/or re- execution of any work executed by him, the dismissal from the work of any person employed/engaged thereupon.

4.0 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 15 days from the receipt of intimation of acceptance of his tender by the Bank. However, the written acceptance of the tender by the Bank will constitute a binding agreement between the Bank and successful tenderer whether such formal agreement is subsequently entered into or not.

5.0 COMPLETION PERIOD

The Successful Tenderer shall be complete the work within time period (as mentioned in the NIT) from the date of the work order issued to the contractor to commence the work.

i) The work shall be considered as complete only when the certificate of virtual completion is issued by the Bank.
ii) The' defects liability period 'as prescribed in the contract shall commence only from date of such virtual completion.
iii) Any defect that may appear within the defect's liability period shall be rectified by the contractor within reasonable time on receipt of necessary instructions from Bank to that effect.

6.0 PENALTY

SBI will issue the sanction letter(s) for the Project (s) indicating the clearance for further proceeding. The Bidder shall complete the project survey, design, engineering, manufacture, supply, storage, civil work, erection, testing & commissioning of each project within time as specified in the NIT from the date of issue of allocation letter.

6.1 DELAY FOR IMPLEMENTATIONPERIOD:

If the bidder fails to commission the allocated capacity within timelines as specified in the NIT from date of issue of allocation letter, Penalty shall be calculated **@ 0.5%** of the security deposit per week of delay subject to a maxi- mum penalty of **5%** of the total security deposit would be strictly imposed. Upon further delay, the allocation of project order shall be cancelled and the Security Deposit amount pro-rata to non commissioned capacity would be forfeited.

7.0 ALLOCATION OF WORK

(i) Letter of Acceptance/Award

Within the validity period of the tender the Bank shall issue a letter of acceptance by registered post/ Email as specified in your application or otherwise depositing at the address 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 binding contract between the SBI and the contractor.

(ii) Contract Agreement

On receipt of intimation of the acceptance of tender from the SBI the successful tenderer shall be bound to implement the contract and within fifteen days thereof he shall sign an agreement in a non-judicial stamp paper of appropriate value including submission of Security deposit.

- Two copies of agreement/tender document duly signed by both the parties with the drawings shall be handed over to the contractors.

8.0 SECURITY DEPOSIT

As specified in the NIT.

9.0 PERFORMANCE SECURITY / PERFORMANCE BANK GUARANTEE(PBG):

Format of PBG enclosed,

10.0 DETAILED DRAWINGS AND INSTRUCTIONS

The successful bidder shall survey the project site location, design the solar PV system and furnish with reasonable promptness additional instructions by means of drawings or otherwise necessary for the proper execution of the work. All such drawings and instructions shall be pre-approved by SBI and there to consistent with the contract documents, true developments thereof and reasonably infer-able there from.

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 SBI

11.0 COMMENCEMENT OF WORKS

The date of commencement of the work will be reckoned as the recorded date of handing over site by the SBI or 15days from the date of issue of Letter of Acceptance of Bank, whichever is later.

12.0 LANGUAGE 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 or dimensions in the drawings and the corresponding one in the specification the former shall be taken as correct.

iii) Between the duplicate/subsequent copies of the tender, the original tender shall be taken as Correct.

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. The contractor shall be responsible for any loss or damage to SBI property, materials, tools or other articles used held for use in connection with the work. He shall make good any such damage, injury, loss 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 protection of his employees on the works and shall comply with all applicable provisions of Government and local bodies safety laws and building codes to prevent accidents, or injuries to persons or property of about or adjacent to his place of work. The contractor shall take insurance covers as per insurance clause mentioned in the NIT at his own cost.

In case the contractor refuses to comply with the order the Employer shall have the power to employ and pay other agencies to carry out the work and all expenses consequent or incidental there to as certified by the Employer /SBI/shall be borne by the contractor or may be deducted from any money due to or that may become due to the contractor. No certificate shall relieve the contractor from his liability in respect of unsound work or bad materials.

14.0 QUALITY OF MATERIALS, WORKMANSHIP &STANDARDS

14.1 The Design, engineering, manufacture, supply, installation, testing and performance of the equipment shall be in accordance with latest appropriate IEC/Indian Standards as detailed in the Technical specifications of the bid document. Where appropriate Indian Standards and Codes are not available, other suitable standards and codes as approved by the MNRE shall be used.

14.2 The specifications of the components should meet the requirements mentioned in Technical specifications.

14.3 Any supplies which have not been specifically mentioned in this Contract, but which are necessary for the design, engineering, manufacture, supply & performance or completeness of the project shall be provided by the Bidder without any extra cost and within the time schedule for efficient and smooth operation and maintenance of the SPV plant.

14.4 The contractor shall always 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.

14.5 All materials shall be new and both workmanship and materials shall be of best quality.

14.6 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.

15.0 WORK PERFORMED AT CONTRACTORS RISK

All works shall be done by the contractor with utmost care and if any loss or damage shall result from fire or from others cause, the contractor shall promptly make good such loss or damage e/or replace and make the employer free from all such expenses. The work shall be carried on to completion without interferences with the operations of existing machinery or equipment, if any. In case, performance of Solar PV System found unsatisfactory during any time, SBI has rights to terminate the contract.

16.0 AUTHORITIES, NOTICES, PATENT RIGHTS AND ROYALTIES

The contractor shall conform to the provisions of any Acts of the Legislature relating to the work, and to the Regulations and Bye-Laws of any authorities, and /or any water , lighting and other companies, and/ or authorities with whose systems the structures were proposed to have connection and shall

before making any variations from the drawings or specifications that may be associated to so conform, give the Employer / SBI written notices specifying the variations proposed to be made and reasons for making them and apply for instruction thereon. The Employer / SBI on receipt of such intimation shall give a decision within a reasonable time.

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

The Contractor shall indemnify the Employer against all claims in respect of patent rights, designs, trademarks or name or the protected rights in respect of any constructional plant, machine, work or material used for or in connection with the works or temporary works and from and against all claims, demands, proceedings, damages, costs, charges, and expenses whatsoever in respect thereof or in relation there to. The Contractor shall defend allocations arising from such claims, unless he has informed the SBI/, before any such infringement and received their permission to proceed and shall himself pay all royalties, license fees, damages, cost and charges of all and every sort that may be legally incurred in respect thereof.

17.0 PERMITS, LAWS AND REGULATIONS

Permits and licenses required for the execution of the work shall be obtained by the contractor at his ownexpenses.Thecontractorshallgivenoticesandcomplywiththeregulations, laws, and ordinances rules, applicable to the contract. If the contractor observes any discrepancy between the drawings and specifications, he shall promptly notify the SBI in writing. 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 SBI any legal actions arising there from.

18.0 OBTAINING INFORMATION RELATED TO EXECUTION OF WORK

No claim by the contractor for payment shall be entertained for installation of Solar PV System. The Successful Bidder shall survey and study the rooftop area of location for the feasibility and maximum capacity (shadow free area), can be incorporated. Any incorrect information or the failure to obtain correct information will not relieve him from any risks or from the entire responsibility for the fulfillment of contract. All the acquired data to be certified/ approved by the SBI Engineer, before proceeding further.

19.0 ASSIGNMENT AND SUBLETTING

The whole of work included in the contract shall be executed by the contractor and he shall not directly entrust and engage or indirectly transfer / assign or under let the contract or any part or share thereof or interest there in without the written consent of the SBI and nothing shall relieve the contractor from the responsibility of the contractor from active superintendence of the work during its progress.

20.0 NO COMPENSATION FOR RESTRICTIONS OF WORK

If, at any time, after acceptance of the tender, SBI 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 SBI shall give notice in writing to that effect to the contractor and the contractor shall act accordingly in the matter. In such case, the contractor shall not claim any charges on the cartage or cost of materials brought to the site of the work by him. Ownership of material rests on the successful bidder and he should remove materials and vacate the premises on his own.

21.0 SUSPENSION OF WORK

i) The contractor shall, on receipt of the order in writing of the SBI (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 SBI may consider necessary so as not 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 of the contract o ,or
c) For safety of the works or part thereof.

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

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.

22.0 INSURANCE OF WORKS

22.1 Without limiting his obligations and responsibilities under the contract the contractor shall insure in the joint names of the SBI and the contractor against all loss or damages from whatever cause arising other than the excepted risks, for which he is responsible under the terms of contract and in such a manner that the SBI and contractor are covered for the period stipulated in clause 23 of GCC and are also covered during the period of maintenance for loss or damage arising from a cause, occurring prior to the commencement of the period of maintenance and for any loss or damage occasioned by the contractor in the course of any operations carried out by him for the purpose of complying with his obligations under clause.

a) The works for the time being executed to the estimated current Contract value thereof, or such additional sum as may be specified together with the materials for incorporation in the works at their replacement value.

b) The constructional plant and other things brought on to the site by the contractor to the replacement value of such constructional plant and other things.

c) Such insurance shall be effected with an insurer and in terms approved by the SBI which approval shall not be un reasonably with held and the contractor shall whenever required produce to the SBI the policy of insurance and the receipts for payment of the current premiums.

22.2 Damage to persons and property

The contractor shall, except if and so far as the contract provides otherwise, indemnify the SBI 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 what so ever 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 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 resulting from any act or neglect of contractor, to persons or property of the SBI, their agents, employees or other contractors not being employed by the contractor 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, their employees, or agents or other employees, or agents or other contractors for the damage or injury.

22.3 Contractor to indemnify SBI
The contractor shall indemnify the SBI against all claims, proceedings, damages, costs, charges and expenses in respect of the matters referred to in the provision sub-clause 22.2 of this clause.

22.4 Contractor's superintendence
The contractor shall fully indemnify and keep indemnified the SBI against any action, claim, or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights andshallpayanyroyaltieswhichmaybepayableinrespectofanyarticleorpart thereof included in the contract. In the event of any claim made under or action brought against SBI 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 SBI 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 SBI in this behalf.

22.5 Third Party Insurance
25.5.1 Before commencing the execution of the work the contractor but without limiting his obligations and responsibilities under clause 09.0 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 SBI, or to any person, including any employee of the 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 2.0 & 9.0 thereof.

22.5.2 Minimum Amount of Third-Party Insurance:
Such insurance shall be affected with an insurer and in terms approved by the SBI which approval shall not be reasonably withheld and for at least the amount stated below. The contractor shall, whenever required, produce to the SBI the policy or policies of insurance cover and receipts for payment of the current premiums.

22.6 Minimum Insurance Cover
The minimum insurance cover for physical property, injury, and death is Rs.5.0lacs 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.

22.7 Accident or Injury to Workmen
22.7.1 The SBI shall not be liable for or in respect of any damages or compensation payable at law in respectorinconsequenceofanyaccidentorinjurytoanyworkmenorotherpersonintheemployment

of the contractor or any sub-contractor, save and except an accident or injury resulting from any act or default of the SBI or their agents, or employees. The contractor shall indemnify and keep indemnified 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.

22.7.2 Insurance against accidents etc. to workmen
The contractor shall insure against such liability with an insurer approved by the SBI during the whole of the time any person employed by him on the works and shall, when required, produce to the SBI such policy of insurance and receipt for payment of the current premium. Provided always that, in respect of any persons employed by any sub-contractor the contractor's obligation to insure 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 SBI is indemnified under the policy but the contractor shall require such sub-contractor to produce to the SBI when required such policy of insurance and the receipt for the payment of the current premium.

22.7.3 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 SBI 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 SBI as aforesaid and also deduct 15% of contract value from any amount due or which may become due to the contractor, or recover the same as debt from the contractor. Without prejudice to the other rights of the SBI against contractors, in-respect of such default, the Bank shall be entitled to deduct from any sums payable to the contractor the amount of any damage's costs, charges, and other expenses paid by the SBI 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 a policy taken under this clause, proceed with due diligence to rebuild or repair the works destroyed or damaged. In this event all the moneys 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.

23.0 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 as mentioned in Notice from the date of commencement. If required in the contract or as directed by the SBI, 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.

24.0 EXTENSION OF TIME

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 control and the due date of completion as stipulated in the contract, the contractor shall apply to the SBI 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 SBI shall submit their recommendations to the SBI 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 SBI the provision of liquidated damages as stated under clause 6.1 & 26.1 of GCC shall be come applicable. Further contract shall remaining force even for the period beyond the due date of completion irrespective whether the extension is granted or not.

25.0 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 SBI. Should the rate of progress of the work or any part thereof be at any time be in the opinion of the SBI too slow to ensure the completion of the whole of the work by the prescribed time (in NIT)or extended time for completion the SBI shall there upon take such steps as considered necessary by the SBI to expedite progress so as to complete the woks by the prescribed time or extended time. Such communications from the SBI 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.

26.0 LIQUIDATED DAMAGES/PENALTY:

26.1 If the contractor fails to maintain the required progress in terms of clause 25.0 of GCC or to complete the work and clear the site including removing debris on or before he 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 SBI on account of such breach to pay a liquidated damages at the rate of 0.5% of the security deposit per week subject to a maximum of 5% of the security deposit.

26.2 All costs, damages or expenses which SBI may have paid or incurred, which under the provisions of the Contract, the Successful bidder is liable/will be liable, will be claimed by the SBI. All such claims shall be billed by the SBI to the Contractor / Successful bidder under the contract or may be recovered by actions of law or otherwise, if the Successful bidder fails to satisfy the SBI of such claims.

26.3 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 SBI shall have the power to rescind the contract (of which rescission notice in writing to the contractor by the SBI shall be conclusive evidence) and in which case the security deposit of the contractor shall be forfeited and be absolutely at the disposal of SBI.

27.0 VIRTUAL COMPLETION CERTIFICATE (VCC)

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

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 temporary works, structures including labour sheds/camps and constructions (if any) and other items and things whatsoever brought upon or erected at the site or any land allotted to the contractor by the SBI and not incorporated in the permanent works.

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

d) All defects/imperfections made to SBI properties while installation of Solar PV System have been attended and rectified as pointed out by the SBI to the full satisfaction of SBI.

Upon the satisfactory fulfillment by the contractor as stated above, the contractor shall be entitled to apply to the SBI for the certificate. If the SBI is satisfied of the completion of the work, relative to which the completion certificate has been sought, the SBI shall within fourteen (14) days, issue a VCC in respect of the work for which the VCC has been applied.

28.0 COMMISSIONING:

The projects shall be commissioned, within a period of as specified in the NIT from the date of execution of the LOA. Subject, delay in commissioning, beyond the Scheduled Commissioning Period shall involve penalties.

29.0 PAYMENTTERMS

As Specified in the NIT

30.0 WORK BY OTHER AGENCIES

The SBI 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 except by special arrangement with the SBI. Such work shall be carried out in such manners not to impede the progress of the works included in the contract.

31.0 OWNER'S RIGHT TO TERMINATE THECONTRACT

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 Assignees 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 SBI that he is able to carry out and fulfill 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 assignor sublet this contract without the consent in writing of the SBI 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 SBI 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

d) Has failed to remove the materials from the site or to pull down and replace work within seven days after written notice from the SBI that the said materials were condemned and rejected by the SBI under these conditions; or

e) 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 SBI's instructions to the contrary subject any part of the contract.

Then and in any of said cases the SBI, after giving seven days' notice in writing to the contractor, terminate the contract without any conditional clauses.

32.0 SETTLEMENT OF DISPUTES AND ARBITRATION

Except where otherwise provided in the contract all questions and disputes relating 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,ordersortheseconditionsorotherwiseconcerningtheworkortheexecutionor 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 SBI or incase the contractor wants to

dispute the validity of any deductions or recoveries made or proposed to be made from the contractor raise any dispute, the Contractor shall forth with give notice in writing of his claim, or dispute to the Assistant General Manager (Premises & Estate)/Dy. General Manager (Premises)and endorse a copy of the same to the SBI, within 30 days from the date of dis-allowance 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 contractor shall not be entitled to raise any claim nor shall the Bank 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 Assistant General Manager (Premises & Estate)/Dy. General Manager (Premises) in the manner and within the time as aforesaid. The contractor shall be deemed to have waived and extinguished all his rights in respect of any claim not notified to the Assistant General Manager (Premises & Estate)/Dy. General Manager (Premises) in writing in the manner and within the time afore said.

ii) The Assistant General Manager (Premises & Estate)/Dy. General Manager (Premises) 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 Assistant General Manager (Premises & Estate)/Dy. General Manager (Premises) submit his claims to the conciliating authority namely the Circle Development Officer/ General Manager (Corporate Services) for conciliation along with all details and copies of correspondence exchanged between him and the Assistant General Manager (Premises & Estate)/Dy. General Manager (Premises).

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/Dy. Managing Director &Corporate Development Officer of the Bank for appointment of an arbitrator to adjudicate the notified claims failing 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 Bank shall be referred for adjudication through arbitration by the Sole Arbitrator appointed by the Chief General Manager/Dy. Managing Director & Corporate Development Officer. It will also be no objection to any such appointment that the Arbitrator so appointed is a Bank Officer and that he had to deal with the matters to which the Contract relates in the course of his duties as Bank Officer. 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/Dy. Managing Director & Corporate Development Officer. Such person shall be entitled to proceed with the reference from the stage at which it was left 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 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 statutory modification or re-enactment thereof and the rules made there under.

It is also a term of the contract that if any fees are payable to the arbitrator these shall be paid equally by both the parties. However, no fees will be payable to the arbitrator if he is a Bank Officer.

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 fees if any, of the arbitrator shall, if required to be paid before the award is made and published, be paid half and half by each of the parties. The cost of the reference and of the award (including the fees, if any of the arbitrator) shall be in the discretion of the arbitrator who may direct to 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.

SPECIAL CONDITIONS OF CONTRACT

In the event of any discrepancy with clauses mentioned anywhere else in the tender with the clauses mentioned within General conditions of contract, the clauses mentioned within the special conditions of contract shall supersede those mentioned elsewhere.

1.0 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 SBI, 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 SBI.

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 SBI at no extra cost to the SBI. All work at night after obtaining approval from competent authorities shall be carried out without unreasonable noise and disturbance.

2.0 CUTTING AND MAKING GOOD

Where it is found necessary to interfere with finished work in order to execute this contract, the contractor will be required to do all necessary work at his expenses. Only approved hangers and bolts or other metal fixing devices shall be used to secure frames panels and other units in position. Wooden plugs will not be permitted. Holes shall be formed with electric drills whenever possible.

Any how, Roof punctures/ Ceiling drills are not allowed without the permission from SBI. Structural members shall not be cut or drilled without prior consent of the client.

3.0 TYPOGRAPHICAL CLERICAL ERRORS

The Employer/ SBI clarification regarding partially omitted particulars of typographical or Clericals errors shall be final and binding on the contractors.

4.0 WATER & POWER SUPPLY:

The contractor shall make his own arrangements for water required for the work and nothing extra will be paid for the same.

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. He has to obtain necessary approvals from the appropriate authorities, if required.

5.0 CUSTODY AND SECURITY OF MATERIALS

When any materials intended for the works shall have been placed at site by the Contractor, such material shall not be removed there without the written authority of the Employer / SBI, the contractor shall be liable for any loss or damage to any such materials.

The contractors shall be responsible for the custody and security of all materials and equipment at site and he will provide full time watchman / watchmen to lock after his materials, stores, equipment's etc.

6.0 MAINTENANCE OFREGISTERS:

The contractor shall maintain the following registers as per the enclosed format at site of work and should produce the same for inspection of SBI whenever desired by them. The contractor shall also maintain the records/registers as required by the local authorities/Government from time to time.

i) Register for hindrance to work
ii) Register for labour

7.0 LOCAL LAWS, ACTS, REGULATIONS

The contractor shall strictly adhere to all prevailing labour laws inclusive of Contract Labour (Regulation and Abolition Act of 1970) and other safety regulations. The contractor shall comply with the provision of all labour legislation including the latest requirements of all 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)Workman'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 1963 and any other modifications
viii)Employees'ProvidentFundandMiscellaneousProvisionsAct1952andamendmentthereof
ix)Shop and Establishment Act
x)Any other Act or enactment relating thereto, and rules framed there under from time to time.

All the Licenses and necessary Registers to be maintained by the Contractor shall be verified by SBI anytime.

8.0 AMENDMENT

The Central Government may from time to time add to or amend the regulation and on any question as to the application, interpretation or effect of these regulations the decision of the Chief Labour Commissioner or Deputy Chief Labour Commissioner to the Government of India, or any other person authorized by the Central Government in that behalf shall be final.

9.0 OTHERCONDITIONS:

1. The Successful bidder shall not display the photographs of the work and not take advantage through publicity of the work without written permission of SBI and owner.
2. The Successful bidder shall not make any other use of any of the documents or information of this contract, except for the purposes of performing the contract.

10.0 DEBARRED FROM PARTICIPATING IN ROOF TOP TENDER

SBI reserves the right to carry out the performance review of each Bidder from the time of submission of Bid onwards. In case it is observed that a bidder has not fulfilled its obligations in meeting the various timelines envisaged, in addition to the other provisions of the RFP, such Bidders may be debarred from participating in SBI any future tender for a period as decided by the competent authority of SBI.

11.0 SAFETY CODE/SAFETY MEASURES:

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

12.0 FORCEMAJEURE:

12.1 Neither contractor nor SBI shall be considered in default in performance of their obligations if such performance is prevented or delayed by events such as war, hostilities revolution, riots, civil commotion, strikes, lockout, conflagrations, epidemics, accidents, fire, storms, floods, droughts, earthquakes or ordinances or any act of god or for any other cause beyond the reasonable control of the party affected or prevented 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.

12.2 As soon as the cause of force majeure has been removed the party whose ability to 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.

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

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

13.0 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 SBI. The contractor shall also report immediately to the competent authority whenever such report is required to be lodged by the law and take appropriate actions thereof.

14.0 INSURANCE

The Bidder shall be responsible and take an Insurance Policy for transit-cum-storage-cum-erection for all the materials to cover all risks and liabilities for supply of materials on site basis, storage of materials at site, erection, testing and commissioning. The bidder shall also take appropriate insurance during O&M period.

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

15.0 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 **five** (05) years from the date of sale to the original customer ("Successful Bidder")

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 repair or replace the solar module(s), at the Owners sole option.

TECHNICAL SPECIFICATIONS

The proposed projects shall be commissioned as per the technical specifications given below. Any shortcomings will lead to cancelation of contract in full or part as decided by SBI & Competent Authority's decision will be final and binding on the bidder.

1.0 DEFINITION

A Grid Tied Solar Roof Top Photo Voltaic (SPV) system shall consist of following equipment's/components.

- Solar PV modules consisting of required number of PV modules.
- Grid interactive Power Conditioning Unit (Inverter, MPPT and Controls & Protections)
    - ✓ Mounting structures.
    - ✓ Junction Boxes.
    - ✓ Interconnection cables &links.
    - ✓ Cable trays/ UPVC Pipes for cable supports.
- Earthing and lightening protections.
- Remote Data Monitoring System.
- IR/UV protected PVC Cables, Interconnect switches and accessories.

Grid tied SPV system is without battery and should be designed with necessary features to supplement the grid power during daytime. 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.

2.0 PLANNING AND DESIGNING:

1. The bidder should carryout Shadow Analysis at the site and accordingly design strings & arrays layout considering optimal usage of space, material and labor. The bidder should submit the array layout drawings along with Shadow Analysis Report to SBI for approval.
2. SBI reserves the right to modify the landscaping design, Layout and specification of sub-systems and components at any stage as per local site conditions/requirements.
3. The bidder shall submit preliminary drawing for approval & based on any modification or recommendation, if any. The bidder submits three sets and soft copy in CD of final drawing for formal approval to proceed with construction work.

3.0 DRAWINGS TO BE FURNISHED BY BIDDER AFTER AWARD OFCONTRACT

Apart from Shadow analysis report of the roof & wind load calculation sheet, bidder must submit following drawings

i The Contractor shall furnish the following drawings Award/Intent and obtain approval

ii General arrangement and dimensioned layout

iii Schematic drawing showing the requirement of SV panel, Power conditioning Unit(s)/ inverter, Junction Boxes, AC and DC Distribution Boards, meters etc. iv. Structural drawing along with foundation details for the structure.

iv Layout of solar Power Array

V. Single line diagram related to electrical infrastructure including wiring of existing campus for CEA approval

On approval of the General Arrangement drawings bidder shall be responsible for submission two sets of Engineering, electrical drawings and Installation and O&M manuals, technical data sheets for each equipment giving details of the specifications along with make/makes in their bid along with basic design of the power plant and power evacuation, synchronization along with protection equipment.

4.0 SOLAR PHOTOVOLTAICMODULES:

i. The PV modules used should be made in India.

ii. The PV modules used must qualify to the latest edition of IEC PV module qualification test or equivalent BIS or equivalent IS. Crystalline Silicon Solar Cell Modules IEC 61215/IS14286. In addition, the modules must conform to IEC 61730 Part-2- requirements for construction & Part 2 – requirements for testing, for safety qualification or equivalent IS.

iii. For the PV modules to be used in a highly corrosive atmosphere throughout their lifetime, they must qualify to IEC 61701/IS 61701

Iv. The total solar PV array capacity should not be less than allocated capacity (kWp) and should comprise of solar crystalline modules of minimum 300 Wp and above wattage. Module capacity less than minimum 300 watt peak should not be accepted.

vi. Protective devices against surges at the PV module shall be provided. Low voltage drop bypass diodes shall be provided.

vii. PV modules must be tested and approved by one of the IEC authorized test centers.

viii. The module frame shall be made of corrosion resistant materials, preferably having anodized aluminum.

ix. The bidder shall carefully design & accommodate requisite numbers of the modules to achieve the rated power in his bid. Bank shall allow only minor changes at the time of execution.

x. Other general requirement for the PV modules and subsystems shall be the Following:

1) The rated output power of any supplied module shall have tolerance of +/- 3%.
2) The peak-power point voltage and the peak-power point current of any supplied module and/or any module string (series connected modules) shall not vary by more than 2 (two) per cent from the respective arithmetic means for all modules and/or for all module strings, as the case may be.
3) The module shall be provided with a junction box with either provision of external screw terminal connection or sealed type and with arrangement for provision of by-pass diode. The box shall have hinged, weather proof lid with captive screws and cable gland entry points or may be of sealed type and IP-65 rated.

4) IV curves at STC should be provided by bidder

Xi Modules deployed must use a RF identification tag. The following information must be mentioned in the RFID used on each modules (This can be inside or outside the laminate, but must be able to withstand harsh environmental conditions).

A) Name of the manufacturer of the PV module
B) Name of the manufacturer of Solar Cells.
C) Month & year of the manufacture (separate for solar cells and modules)
D) Country of origin (separately for solar cells and module)
E) I-V curve for the module Wattage, Im, Vm and FF for the module
F) Unique Serial No and Model No of the module
G) Date and year of obtaining IEC PV module qualification certificate.
H) Name of the test lab issuing IEC certificate.
I) Other relevant information on traceability of solar cells and module as per ISO 9001 and ISO 14001

Other general requirement for the PV modules and subsystems shall be the Following:

Type	Crystalline silicon (mono or multi)/ Concentrated PV Modules (CVP or HCVP)
Efficiency	>= 13%
Fill factor	>= 70%
Module frame	Frameless/ Non-corrosive and electrolytically compatible with the mounting structure material
Termination box	Thermo-plastic, IP 65, UV resistant
Blocking diodes	Schottky type
Module minimum rated power	The nominal power of a single PV module shall not be less than 300Wp.
Power output rating	To be given for standard test conditions (STC). I-V curve of the sample module shall be submitted.
Rated o/p power tolerance	+/- 3%
Rated for wind loads	up to 2,400 Pa
Operating temperature	-40°C to 85°C

5.0 IDENTIFICATION ANDTRACEBILITY

Modules deployed must use a RF identification tag. The following information must be mentioned in the RF ID used on each module (This can be inside or outside the laminate but must be able to withstand harsh environmental conditions).

i Name of the manufacturer of the PV module
ii Name of the manufacturer of Solar Cells.
iii Month & year of the manufacture (separate for solar cells and modules)
iv Country of origin (separately for solar cells and module)
v I-V curve for the module Wattage, Im, Vm and FF for the module
vi Unique Serial No and Model No of the module
vii Date and year of obtaining IEC PV module qualification certificate.

viii Name of the test lab issuing IEC certificate.

ix Other relevant information on traceability of solar cells and module as per ISO 9001 and ISO 14001

6.0 ARRAY/ MOUNTINGSTRUCTURE

a) Hot dip galvanized Iron mounting structures may be used for mounting the modules / panels /arrays. Each structure should have angle of inclination as per the site conditions to take maximum insulation. However to accommodate more capacity the angle inclination may be reduced until the plant meets the specified performance ratio requirements.

b) The Mounting structure shall be so designed to withstand the speed for the wind zone of the location where a PV system is proposed to be installed wind speed of 150 kM/ hour. It may be ensured that the design has been certified by a recognized Lab/ Institution in this regard and submit wind loading calculation sheet to Bank. Suitable fastening arrangement such as calming should be provided to secure the installation against the specific wind speed. We will not allow to do grounding to the terrace and take support from the parapet will

c) 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.

d) Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, nuts and bolts. Necessary protection towards rusting need to be provided either by coating or anodization.

e) The fasteners used should be made up of stainless steel. The structures shall be designed to allow easy replacement of any module. The array structure shall be so designed that it will occupy minimum space without sacrificing the output from the SPV panels

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

g) The total load of the structure (when installed with PV modules) on the terrace should be less than 60 kg/m2.

h) The minimum clearance of the structure from the roof level should be 300 mm.

i) USE SS bolts and couplers for jointing of array and fixing the modules on the array.

7.0 JUNCTION BOXES(JBs)

a) The junction boxes are to be provided in the PV array for termination of connecting cables. The J.Boxes (JBs)shall be made of FRP/Powder Coated Aluminum. All wires/cables must be terminated through cable lugs. The JBs shall be such that input & output termination can be made through suitable weather proof cable glands.

b) Copper bus bars/terminal blocks housed in the junction box with suitable termination threads Conforming to IP65 standard and IEC 62208 Hinged door with EPDM rubber gasket to prevent water entry.

c) Each Junction Box shall have High Quality Suitable Capacity Metal Oxide Varistors (MOVs) / SPDs, suitable Reverse Blocking Diodes. The Junction Boxes shall have suitable arrangement monitoring and disconnection for each of the groups.

8 Suitable markings shall be provided on the bus bar for easy identification and the cable ferrules must be fitted at the cable termination points for identification

8.0 DC DISTRIBUTIONBOARD:

1. DC DPBs shall have sheet from enclosure of dust & vermin proof conform to IP65 protection and compatible for MC4 connectors. The bus bars are made of copper of desired size. Suitable capacity MCBs/MCCB shall be provided for controlling the DC power output to the PCU along with necessary surge arrestors (DC surge protection device (SPD), class 2 as per IEC 60364-5-53). If a DC isolator is used instead of a DC circuit breaker, a DC fuse shall be installed inside the DC Distribution Box to protect the DC cable that runs from the DC Distribution Box to the Solar Grid Inverter.

a. AC DISTRIBUTION PANELBOARD:

1. AC Distribution Panel Board (DPB) shall have necessary surge arrestors. Inter connection from ACDB to mains at LT Bus bar while in grid tied mode.
2. All the termination works related to changeover switches; cabling work should be undertaken by the bidder as part of the project.
3. All the Panel's 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, 50Hz.
4. The panels shall be designed for minimum expected ambient temperature of 45degree Celsius, 80 percent humidity and dusty weather.
5. All indoor panels will have protection of IP54 or better. All outdoor panels will have protection of IP65 or better.
6. Should conform to Indian Electricity Act and rules (till last amendment).
7. All the 415 V AC or 230 volts' devices / equipment like bus support insulators, circuit breakers, SPDs, VTs etc., mounted inside the switchgear shall be suitable for continuous operation and satisfactory performance under the following supply conditions

Variation in supply voltage	+/- 10 %
Variation in supply frequency	+/- 3 Hz

8.0 PCU/ARRAY SIZE RATIO:

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

b Maximum power point tracker shall be integrated in the PCU/inverter to maximize energy drawn from the array.

9.0 PCU / Inverter:

The PCU including MPPT (Maximum Power Point Tracker), an interface between Solar PV array & the Inverter, to the power conditioning unit / inverter should also be DG set interactive. If necessary, Inverter output should be compatible with the grid frequency. Typical technical features of the inverter shall be as follows:

✓ Switching devices	:	IGBT/MOSFET
✓ Control	:	Microprocessor /DSP
✓ Nominal AC output voltage and frequency	:	415V, 3 Phase, 50 Hz
✓ Grid Frequency Synchronization range	:	+ 3 Hz or more
✓ Ambient temperature considered	:	20° C to 50° C
✓ Humidity	:	95 % Non-condensing
✓ Protection of Enclosure	:	IP-20(Minimum) for indoor.
	:	IP-65(Minimum) for outdoor.
✓ Grid Frequency Tolerance range	:	+ 3 or more
✓ Grid Voltage tolerance	:	- 20% & + 15 %
✓ No-load losses	:	Less than 1% of rated power
✓ Inverter efficiency(minimum)	:	>93% (In case of 10kW or above)
✓ THD	:	< 3%
✓ PF	:	> 0.9
✓ Display type	:	LCD for data display. LCD / LED for status display
Communication interface	:	RS 485 / RS 232 / RJ45

i. PCU/inverter shall be capable of complete automatic operation including wake-up, synchronization & shutdown.

ii. 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.

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

iv. Built-in meter and data logger to monitor plant performance through external computer shall be provided.

v. The power conditioning units / inverters should comply with applicable IEC/ equivalent BIS standard for efficiency measurements and environmental tests as per standard codes IEC 61683/IS 61683 and IEC 60068-2(1,2,14,30) /Equivalent BIS Std.

vi. The charge controller (if any) / MPPT units environmental testing should qualify IEC 60068-2(1, 2, 14, 30)/Equivalent BIS std. The junction boxes/ enclosures should be IP 65(for outdoor)/ IP 54 (indoor) and as per IEC 529 specifications.

10.0 DATA ACQUISITION SYSTEM / PLANTMONITORING

1. Built-in meter and data logger to monitor plant performance through external computer (IoT) shall be provided for each of the solar PV plant.
2. **Solar Irradiance**: An integrating Pyrano meter / Solar cell-based irradiation sensor (along with calibration certificate) provided, with the sensor mounted in the plane of the array. Readout integrated with data logging system.
3. **Temperature:** Temperature probes for recording the Solar panel temperature and/or ambient temperature to be provided complete with readouts integrated with the data logging system

4. **Electrical Energy:** Digital Energy Meters to log the actual value of AC/ DC voltage, Current & Energy generated by the PV system provided. The following parameters are accessible via the operating interface display in real time separately for solar power plant:
    i. AC Output current.
    ii. AC Voltage.
    iii. Output Power
    iv. Power factor.
    v. DC Input Voltage.
    vi. DC Input Current.
    vii. Time Active.
    viii. Time disabled.
    ix. Time Idle.
    x. Power produced and feed-in
    xi. Protective function limits (Viz-AC Over voltage, AC Under voltage, Over frequency, Under frequency ground fault, PV starting voltage, PV stopping voltage.

5. All major parameters available on the digital bus and logging facility for energy auditing through the internal microprocessor and read on the digital front panel at any time) and logging facility (the current values, previous valuesforupto6monthsandtheaveragevalues) should be made available for energy auditing through the internal microprocessor and should be read on the digital front panel.
6. Computerized DC String /Array monitoring and AC output monitoring shall be provided as part of the inverter and /or string / array combiner box or separately. String and array DC Voltage, Current and Power, Inverter AC output voltage and current (All 3 phases and lines), AC power (Active, Reactive and Apparent), Power Factor and AC energy (All 3 phases and cumulative) and frequency shall be monitored.
7. Computerized AC energy monitoring shall be in addition to the digital AC energy meter. The data shall be recorded in a common work sheet chronologically date wise. The data file shall be MS Excel compatible. The data shall be represented in both tabular and graphical form.
8. All instantaneous data shall be shown on the computer screen. Software shall be provided for USB/ internet download and analysis of DC and AC parametric data for individual plant.
9. Remote Monitoring and data acquisition through Remote Monitoring System software at the owner / SBI location with latest software/hardware configuration and service connectivity for online / real time data monitoring/control complete to be supplied and operation and mainte nance / control to be ensured by the supplier. Provision for interfacing these data on SBI server and portal in future shall be kept.

11.0 CABLES

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

i Temp. Range: –10ºC to+80ºC.
ii Voltage rating 1100Vgrade
iii Flexible and excellent resistance to fire (FRLS), heat, cold, water, oil, abrasion, UV radiation.
iv 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.
v Cable Routing/ Marking: All cable/wires are to be routed in a GI cable tray and suitably tagged

and marked with proper manner by good quality ferrule or by other means so that the cable easily identified.

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

vii Multi Strand, Annealed high conductivity copper conductor PVC type 'A' pressure extruded insulation or XLPE insulation. Overall PVC/XLPE insulation for UV protection Armored cable for underground laying. All cable trays including covers to be provided. All cables conform to latest edition of IEC/ equivalent BIS Standards as specified elsewhere in this document.

viii The size of each type of DC cable selected shall be based on minimum voltage drop however; the maximum drop shall be limited to1%.

ix The size of each type of AC cable selected shall be based on minimum voltage drop however; the maximum drop shall be limited to 2%.

12.0 CONNECTIVITY

The maximum capacity for interconnection with the grid at a specific voltage level shall be as specified in the Distribution Code/Supply Code of the State and amended from time to time. Utilities may have voltage levels other than standard ratings, DISCOMS may be consulted before finalization of the voltage level and specification be made accordingly.

13.0 METERING:

1. The bi directional electronic energy meter(0.5Sclass)shall be installed for the measurement of import/Export of energy.
2. The bidder must take approval /NOC from the Concerned DISCOM for the connectivity, technical feasibility, and synchronization of SPV plant with distribution network and submit the same to SBI before commissioning of SPV plant.
3. Reverse power relay shall be provided by bidder (if necessary), as per the local DISCOM requirement.

14.0 INTEGRATION OF PV POWER WITH GRID:

The output power from the inverters feeds it into the main electricity grid after synchronization. In case of grid failure, or low or high voltage, solar PV system shall be out of synchronization and shall be disconnected from the grid. 4 pole isolation of inverter output with respect to the grid/ DG power connection need to be provided.

For buildings or loads with diesel generator backup, the wiring of the solar grid inverter shall be such that the solar grid inverter cannot run in parallel with the diesel generator. This implies that the solar grid inverter must be connected to a distribution board on the grid side of the automatic or manual change- over switch as shown in typical wiring diagram.

Metering and grid connectivity of the roof top solar PV system under this scheme would be the responsibility of the Bidder in accordance with the prevailing guidelines of the concerned DISCOM and / or CEA (if available by the time of implementation). SBI could facilitate connectivity; however, the entire responsibility lies with bidder only.

15.0 POWER CONSUMPTION:

Regarding the generated power consumption, Total power generated shall be utilized by SBI, priority shall be given for internal consumption and thereafter any excess power shall be exported to grid.

Calibrated Energy meter at the feed-in point shall be installed by the successful bidder for cumulative power consumption reading. Decisions of appropriate authority like DISCOM, state regulator may be followed.

16.0 PROTECTIONS

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

16.1 LIGHTNINGPROTECTION

The SPV power plants shall be provided with lightning & overvoltage protection. The main aim in this protection shall be to reduce the over voltage to a tolerable value before it reaches the PV or other sub system components. The source of over voltage can be lightning, atmosphere disturbances etc. The entire space occupying the SPV array shall be suitably protected against Lightning by deploying required number of Lightning Arrestors (not to use existing lightening arrestors of the building).Lightning protection should be provided as per IEC 62305 standard. The protection against induced high-voltages shall be provided by using the metal oxide varistors (MOVs) and suitable earthing such that induced transients find an alternate route to earth.

16.2 SURGEPROTECTION

Internal surge protection shall consist of “3” MOV type effective surge-arrestors connected from +ve and –ve terminals to earth (via Y arrangement). Any damage of the SBI appliances due to surge protection failure shall be the responsibility of successful bidder.

16.3 EARTHINGPROTECTION

1. Each array structure of the PV yard should be grounded / earthed properly as per IS:3043-1987. In addition, the lighting arrester/masts should also be earthed inside the array field. Earth Resistance shall be tested in presence of the representative of SBI as and when required after earthing by calibrated earth tester. PCU, ACDB and DCDB should also be double earthed properly.
2. Earth resistance shall not be more than 1 ohm. It shall be ensured that all the earthing points are bonded together (interlinked) to make them at the same potential.

16.4 GRID ISLANDING PROTECTION

In the event of a power failure on the electric grid, it is required that any independent power-producing inverters attached to the grid turn of final short period of time. This prevents the DC-to-AC inverters from continuing to feed power into small sections of the grid, known as“islands.”

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.

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 personel to carryout any maintenance. This switch shall be locked by the utility personnel.

18.0 TOOLS & TACKLES AND SPARES:

A list of requisite spares in case of PCU/inverter comprising of a set of control logic cards, IGBT driver

cards etc. Junction Boxes. Fuses, MOVs / arrestors, MCCBs etc along with spare set of PV modules be indicated, which shall be supplied along with the equipment. A minimum set of spares shall be maintained in the plant itself for the entire period of warranty and Operation & Maintenance which upon its use shall be replenished.

19.0 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 SBI/ owner.

20.0 FIRE EXTINGUISHERS:

The firefighting system for the proposed power plant for fire protection shall be consisting of:

a) Portable fire extinguishers in the control room for fire caused by electrical short circuits
b) Sand buckets in the control room

The installation of Fire Extinguishers should confirm to TAC regulations and BIS standards. The fire extinguishers shall be provided in the control room housing PCUs as well as on the Roof or site where the PV arrays have been installed.

23.0 SAFETY MEASURES:

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

24.0 OPERATION & MAINTENANCE (O&M)

The bidder shall be responsible for Operation and Maintenance of the Roof top Solar PV system for a period of 25 years (or) time period up to the transfer of ownership to SBI, during which SBI will monitor the project for effective performance in line with conditions specified elsewhere in the bid document.

26.0 ACTION WHERE THERE IS NO SPECIFICATION

In case of any class of work for which there is no specification mentioned, the same will be carried out in accordance with the Indian Standards Specifications (IS)/ MNRE/ NISE/ BEE standards subject to the approval of the Bank

27.0 **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 shall be provided for the solar modules and the solar grid inverter to provide evidence of compliance with standards as specified by Ministry of New and Renewable Energy (MNRE). Bank reserves the right to ask for additional test certificates or (random) tests to establish compliance with the specified standards.

28.0 CONFIRMATION TO MNRE TECHNICAL SPECIFICATIONS AND STANDARDS

The Tenderer should ensure that all components and systems used under this Scheme shall strictly adhere to the Technical Specifications and Guidelines issued by MNRE , and as amended from time to time.

QUALITY CERTIFICATION, STANDARDS AND TESTING FOR GRID-CONNECTED ROOFTOP SOLAR PV SYSTEMS/ POWER PLANTS

Quality certification and standards for grid-connected rooftop solar PV systems are essential for the implementation of this technology. Hence, all components of grid-connected rooftop solar PV system/ plant must conform to the relevant standards and certifications given below:

Solar PV Modules/ Panels	
IEC 61215/ IS 14286	Design Qualification and Type Approval for Crystalline Silicon Terrestrial Photovoltaic (PV) Modules
IEC 61646 / Equivalent IS (Under Dev.)	Thin Film Terrestrial PV Modules
IEC 62108	Concentrator PV Modules & Assemblies
IEC 61701	Salt Mist Corrosion Testing of Photovoltaic (PV) Modules
IEC 61853- Part 1/ IS 16170: Part 1	Photovoltaic (PV) module performance testing and energy rating –: Irradiance and temperature performance measurements, and power rating
IEC 62716	Photovoltaic (PV) Modules – Ammonia (NH3) Corrosion Testing (As per the site condition like dairies, toilets)
IEC 61730-1,2	Photovoltaic (PV) Module Safety Qualification – Part 1: Requirements for Construction, Part 2: Requirements for Testing
Solar PV Inverters	
IEC 62109-1, IEC 62109-2	Safety of power converters for use in photovoltaic power systems – Part 1: General requirements, and Safety of power converters for use in photovoltaic power systems Part 2: Particular requirement for inverters. Safety compliance (Protection degree IP 65 for outdoor mounting, IP 54 for indoor mounting)
IEC/IS 61683 (as applicable)	Photovoltaic Systems – Power conditioners: Procedure for Measuring Efficiency (10%, 25%, 50%, 75% & 90-100% Loading Conditions)
IEC 62116/ UL 1741/ IEEE 1547 (as applicable)	Utility-interconnected Photovoltaic Inverters - Test Procedure of Islanding Prevention Measures
IEC 60255-27	Measuring relays and protection equipment – Part 27: Product safety requirements
IEC 60068-2 / IEC 62093 (as applicable)	Environmental Testing of PV System – Power Conditioners and Inverters
Fuses	
IS/IEC 60947 (Part 1, 2 & 3), EN 50521	General safety requirements for connectors, switches, circuit breakers (AC/DC): a) Low-voltage Switchgear and Control-gear, Part 1: General rules b) Low-Voltage Switchgear and Control-gear, Part 2: Circuit Breakers c) Low-voltage switchgear and Control-gear, Part 3: Switches, dis-connectors, switch-dis-connectors and fuse-combination units d) EN 50521: Connectors for photovoltaic systems – Safety requirements and tests
IEC 60269-6	Low-voltage fuses - Part 6: Supplementary requirements for fuse-links for the protection of solar photovoltaic energy systems
Surge Arrestors	

BFC 17-102:2011	Lightening Protection Standard
IEC 60364-5-53/ IS 15086-5 (SPD)	Electrical installations of buildings - Part 5-53: Selection and erection of electrical equipment - Isolation, switching and control
IEC 61643-11:2011	Low-voltage surge protective devices - Part 11: Surge protective devices connected to low-voltage power systems - Requirements and test methods
Cables	
IEC 60227/IS 694, IEC 60502/IS 1554 (Part 1 & 2)/ IEC69947 (as applicable)	General test and measuring method for PVC (Polyvinyl chloride) insulated cables (for working voltages up to and including 1100 V, and UV resistant for outdoor installation)
BS EN 50618	Electric cables for photovoltaic systems
(BT(DE/NOT)258)	mainly for DC Cables
Earthing/ Lightning	
IEC 62561	Series (Chemical earthing) (as applicable)
IEC 62561-1	Lightning protection system components (LPSC) - Part 1: Requirements for connection components
IEC 62561-2	Lightning protection system components (LPSC) - Part 2: Requirements for conductors and earth electrodes
IEC 62561-7	Lightning protection system components (LPSC) - Part 7: Requirements for earthing enhancing compounds
Junction Boxes	
IEC 60529 IEC 529	Junction boxes and solar panel terminal boxes shall be of the thermoplastic type with IP 65 protection for outdoor use, and IP 54 protection for indoor use
Energy Meter	
IS 16444 or as specified by the DISCOMs	A.C. Static direct connected watt-hour Smart Meter Class 1 and 2 —Specification (with Import & Export/Net energy measurements)
Solar PV Roof Mounting Structure	
IS 2062/IS 4759	Material for the structure mounting
IEC 62548	PV arrays – Design requirements

QUALITY STANDARDS AND CERTIFICATIONS FOR A GRID-CONNECTED ROOFTOP SOLAR PV SYSTEM

Equivalent standards may be used for different components of the systems. In case of clarification, the following organizations/ agencies may be contacted:

- Ministry of New and Renewable Energy(MNRE)
- National Institute of Solar Energy(NISE)
- The Energy and Resources Institute(TERI)
- TUVRheinland
- UL

DECLARATION

(Successful bidder has to submit on Rs.200/- non-judicial stamp paper)

I / WE …… have gone through carefully all the Tender conditions and solemnly declare that I / we will abide by any penal action such as disqualification or black listing or determination of contract or any other action deemed fit, taken by, the Department against us, if it is found that the statements, documents, certificates produced by us are false / fabricated.

I / WE hereby declare that, I / WE have not been blacklisted / debarred / Suspended / demoted in any Government Department in any State due to any reasons.

Signature of the Tenderer

DECLARATION BY THE TENDERER

I/We

……

(Hereinafter referred to as Tenderer) being desirous of tendering for the work, under this tender and having fully understood the nature of the work and having carefully noted all the terms and conditions, specifications etc. as mentioned in the tender document do hereby declare that

1. The tenderer is fully aware of all the requirements of the tender document and agrees with all provisions of the tender document and accepts all risks, responsibilities and obligations directly or indirectly connected with the performance of the tender.
2. The Tenderer is fully aware of all the relevant information for proper execution of the proposed work, with respect to the proposed place of works/ site, its local environment, approach road and connectivity etc. and is well acquainted with actual and other prevailing working conditions, availability of required materials and labour etc. at site.
3. The Tenderer is capable of executing and completing the work as required in the tender and is financially solvent and sound to execute the tendered work. The tenderer is sufficiently experienced and competent to perform the contract to the satisfaction of Bank. The Tenderer gives the assurance to execute the tendered work as per specifications, terms and conditions of the tender on award of work.
4. The Tenderer has no collusion with other Tenderers, any employee of Bank or with any other person or firm in the preparation of the tender.
5. The Tenderer has not been influenced by any statement or promises by Bank or any of its employees but only by the tender document.
6. The Tenderer is familiar with all general and special laws, acts, ordinances, rules and regulations of the Municipal, District, State and Central Government that may affect the work, its performance or personnel employed therein.
7. The Tenderer has never been debarred from similar type of work by any Government Undertaking /Department. (An undertaking on Non-Judicial Stamp paper worth of Rs. 200/- in this regard shall be submitted)
8. The Tenderer accepts that the earnest money / security deposit may be absolutely forfeited by Bank if the selected bidder fails to sign the contract or to undertake the work within stipulated time.
9. This offer shall remain valid for acceptance for 3 (Three) months from the proposed date of opening of Tender.
10. All the information and the statements submitted with the tender are true and correct to the best of my knowledge and belief.

Signature of Tenderer

BIDDERS UNDERTAKING COVERING LETTER
(Letter shall be submitted on Bidder(s) Letter Head)

Ref No :
Date:

To

The Assistant General Manager(P&E),

Premises & Estate Department,

LHO, Hyderabad-500001

Dear Sir,

Sub: Supply, Installation and Commissioning of Grid connected Solar rooftop Power plants under State Net Metering Policy- reg.

Tender Reference: NIT:

1. We have examined the Tender for Supply, Installation and Commissioning of Grid connected Solar rooftop Power plants as specified in the Tender. We undertake to meet the requirements and services as required and as set out in the Tender document.

2. We attach our Technical Bid and Financial Bid in separate sealed covers as required by the Tender both of which together constitute our proposal, in full conformity with the said Tender.

3. We have read the provisions of Tender and confirm that these are acceptable to us. We further declare that additional conditions, variations, deviations, if any, found in our response shall not be given effect to.

4. We undertake, if our Bid is accepted, to adhere to the requirements as specified in the Tender or such modified plan as may subsequently be agreed.

5. We agree to unconditionally accept all the terms and conditions set out in the Tender document and also agree to abide by this Bid response for a period as mentioned in the Tender from the date fixed for bid opening and it shall remain binding upon us with full force and virtue, until within this period a formal contract is prepared and executed, this Bid response, together with your written acceptance thereof in your notification of Tender, shall constitute a binding contract between us and Bank

6. We affirm that the information contained in the Technical Bid or any part thereof, including its schedules, and other documents, etc., delivered or to be delivered to Bank is true, accurate, and complete. This proposal includes all information necessary to ensure that the statements therein do not in whole or in part mislead Bank as to any material fact.

7. We also agree that you reserve the right in absolute sense to reject all or any of the products/ service specified in the bid response without assigning any reason whatsoever.

8. It is hereby confirmed that I/We are entitled to act on behalf of our company/ organization and empowered to sign this document as well as such other documents, which may be required in this connection.

9. We agree to use only indigenous PV modules in this project.

10. We also declare that our Company/ Organization is not blacklisted by any of the State or Central Government and organizations of the State or Central Government.

11. We undertake to use the BOS components other than PV Modules and Solar grid tie Inverters as per the standards stipulated.

Signature of the authorized person:

Name of the authorized person:

Designation:

Name and Address of Bidder

Stamp of bidder

CERTIFICATE AS TO AUTHORISED SIGNATORIES

I, certify that I am (Name) …… (Designation) ……, and that (Name)…… who signed the above Bid has been duly authorized to sign the same on behalf of our Organization.

Date:

Signature:

Seal:

ARTICLES OF AGREEMENT

(Successful bidder has to submit on Rs.200/- non-judicial stamp paper)

ARTICLES OF AGREEMENT made the ---- day of _____ (month) 2022 between Assistant General Manager (P&E), State Bank India, Premises & Estate Department 3rd Floor, Koti, Hyderabad of (herein after called the "Employer") of the one part and _____, ---------- (hereinafter called "The Contractor") of the other part, where as the Employer is desirous of getting the work of " _____"

executed and has caused drawings, conditions of contract, specifications and schedule of quantities etc., describing the works prepared by SBI, Hyderabad.

AND WHEREAS the SAID DRAWINGS numbered as per list attached inclusive of and the conditions of contract, specifications and schedule of quantities etc., have been signed by or on behalf of the parties hereto.

AND WHEREAS THE CONTRACTOR has agreed to execute upon and subject to the conditions set forth in the Schedule hereto (hereinafter referred to as "Said Conditions") the works shown upon the said drawings and described in the same specifications and included in the said schedule of quantities for such sum as may be ascertained to be payable in terms of the Bills of Quantities, and which sum is estimated to be Rs. _____ (Rupees_____ (hereinafter referred to as "Said Contract Amount").

NOW IT IS HEREBY AGREED AS FOLLOWS:

1. In consideration of the said sum 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 in the said drawings and described in the said specifications.
2. The Employer shall pay the contractor the said sum or such sums as shall become payable hereunder at the times and in the manner specified in the said conditions.
3. The term "Employer" in the said conditions shall mean the said M/s State Bank of India , or in the event of their ceasing to be the Employer for the purpose of this contract, such other person as shall be nominated for that purpose by the Employer , not being a person to whom the contractor shall object for reasons considered to be sufficient by the Arbitrator mentioned in the said conditions provided always that no persons subsequently appointed to be the Employer under this contract shall be entitled to disregard or over-rule any previous decision or approval or direction given or expressed by the Employer.

4. Tender documents containing work order Notice to the Contractor, Conditions of Contract, Appendix thereto, Special Conditions of Contract, Specifications and Schedule of Quantities with the rates entered therein, shall be read and studied as forming part of this agreement and the parties hereto shall respectively abide by and submit themselves to the conditions and stipulations and perform the agreement on their part respectively in such conditions contained.
5. The contract is neither a fixed lump-sum contract or a piece work contract, but is a contract to carry out work in respect of the entire works to be paid for according to actual measured quantities, including variations from BOQ at the rates contained in the Schedule of rates and Probable bill of quantities or as provided in the said conditions.
6. The Employer through the Architect, reserves to himself the right of altering the drawings and natures of the work, of adding/substitution to or omitting any items of work or having portions of the same carried out through alternate agencies without prejudice to this contract.
7. Time shall be considered a the essence of this agreement and the contractor hereby agrees to commence the work soon after the site is handed over to him or date of issue of work order to execute the work, as provided for in the said conditions and complete the entire work in **3 months** subject to nevertheless to the provisions for extension of time.
8. This agreement and contract shall be deemed to have been made in Hyderabad and any questions or dispute rising out of or in any way connected with this Agreement and Contract shall be deemed to have arisen in Hyderabad and only the courts in Hyderabad shall have jurisdiction to determine the same. The limitation period will be 90 days from the date of dispute having arisen.
9. The contract may also be put to an end at any time by the Bank upon giving seven days notice to the Installer. The Installer agrees for Supply, Installation and Commissioning of solar power plant of rooftop with 60 months warranty as per clause and as per the Terms & Conditions given below.

a) **Installation & Completion Schedule**

The entire work involving Supply, Installation and Commissioning of SPV rooftop shall be completed within 3 months from the date of issue of work order by the purchaser

b) Service:

Empanelled Installer shall have office/ service centre in the state of Telangana.

The Installer shall visit the site at least once in a quarter, to attend routine maintenance, during the 5 years warranty period. However, in case of malfunctioning of the system, the tenderer/bidder shall attend for rectification of defects within 3

working days from the date of lodging complaint.

c) **. Installation and Commissioning location:**

The Grid Connected Solar rooftop Power Plants shall be installed and commissioned at State Bank India, said branch premises under Net Metering Scheme.

d) The validity of tender and the price accepted will be for 3 months.

e) The following documents shall be deemed to form and be read and constructed as part of this Contract.

i. Technical Specifications

ii. Tender Terms and Conditions

iii. Detailed final offer of the Successful Bidder

AS WITNESS our hand this _____ day of _____ 2022

Signed by the said in the presence of:

1) Witness Signature: Contractor Signature:

Name:
Address:

2) Witness Signature: Employer Signature

Name:
Address:

MAKES

SLnO	Equipment Name	Make
1.	SOLAR PANELS	
2.		ADANI/ Renewsys/ Vikram Solar/ BHEL/ Waaree Solar/ Trina Solar/ Goldi Green Technologies Pvt. Ltd/ Tata Power Solar Systems Ltd/BEL/REIL/HHV
3.	GRID-TIE STRING INVERTERS	ABB/ SMA/ FRONIUS / DELTA/ POWER ONE/SCHNEIDER/
4.	POWER CABLES	UNISTAR / FINOLEX/Polycab/KEI
5.	CONTROL CABLES	UNISTAR / LAPP/ FINOLEX/Polycab/KEI
6.	LT SWITCHGEAR	L&T / SIEMENS / SCHNEIDER/C&S/ LEGRAND
7.	STEEL MEMBERS	TATA / VIZA .STEEL/SAIL (GI coating done)
8.	EARTHING/ LIGHTNING ARRESTER	ERICO / OBO BETTERMANN INDIA/ Citel /Erico / Dehnguard / Indelec / Inmbus / Liva
9.	WEATHER MONITORING STATION	KIPP & ZONNEN / EPPLEY / EKO INSTRUMENTS
10.	DC Cables	KEI/KEC/UNIVERSAL/NICCO/KEI
11.	SOLAR CHARGE CONTROLLER	MORNINGSTAR/SCHNEIDER/ BLUE SKY/ GENASUN/ MIDNITE SOLAR/ OUTBACK POWER/ MAGNUM ENERGY
12.	String Combiner Box	Robotina/Trinity Touch/Hensel/Cape Electric

Important: Please Tick (/) the make of materials considered in the Tender.

The vendor has to comply with all State & Central Government norms for choosing the make, supply and erection.

PRICE BID

The cost of Solar power plants shall include all necessary components as per respective technical specifications such as inverter, bi-directional meter, cables, MCBs, switches, fuses, earthing, lightning arrestors and PV mounting structure along with masonry and related civil works etc, getting necessary approvals from Government Authorities., as per the site requirement and shall be a lump-sum turnkey price:

Sl No	Description	Unit	Qty	Unit Rate	Total Amount (Excluding GST)
1	Supply, Installation, testing and commissioning of 28**KWp ON GRID rooftop** Solar Power Plant WITH NET METERING at RBO Kothagudem building The scope of work includes a) Supply & Installation of Bi-directional meter. b) Submission of monthly reports to respective Offices.* *(Including warranty period of 5 years)	Per KWp	28		
				Discounts if any	
				Grand Total	

Note:

1. The quoted price is inclusive of all taxes(except GST), duties, freight with insurance up to site, for installation within the State of Telangana, GST will be reimbursed by the Bank.
2. The scope of work includes supply & installation of earthing & lightning arrestors on each building and supply of Bi-Directional meter with bidder cost. Getting the approvals from the various departments for installation of Bi-Directional meter with his cost including fee payable to TSSPDCL/ any Government bodies.
3. Bidder has to interlock all the PV modules structures with 50X50X4 mm MS angle and take support from the parapet wall to avoid damages due to wind flow (The scope of work including civil work for mounting structure of PV module).
4. Amount payable to the successful bidder(s) is based on the installed capacity.
5. Provision with surge protection for LAN port, to access & view the parameters which are displayed in the inverter in internet.

6. Bidder has to lay suitable earth flat/strip from earth pit to each array of solar power plant including inverter. Earth strip should be painted with two coats of red oxide primer and one coat of anti rust green paint with his cost.
7. The scope of work includes laying of suitable size armored cable from ground floor main panel to AC DB(IP65) which will be installed by the bidder near inverter(Max length of the cable is 50 Rmt)
8. Submit the Technical Data Sheets for approval.