

Tender for
Design, Engineering, Supply, Installation, Testing,
Commissioning with 5 Year CMC for Aggregate 1.0 MW Grid
Interactive Solar PV Project at Vasai - Virar Municipal
Corporation Under Amrut Yojana in Maharashtra State

Tender No: MEDA/SOLAR/AMRUT/VASAI-VIRAR/2019-20/02, Dated 06th
June 2020.

Issued by



Maharashtra Energy Development Agency (MEDA)

(A Government of Maharashtra Institution)

S. No. 191/A, Phase - I, 2nd Floor,
MHADA Commercial Complex,
Opp. Tridal Nagar, Yerwada, Pune - 411 006.

Phone No: - 020 - 26614393 / 26614403

Fax No: - 020 - 26615031

E-mail ID: - solar@mahaurja.com

Website: - <https://mahatenders.gov.in>

MEDA Website: www.mahaurja.com

Table of Contents

Section	Content	Page. No
Section 1	Brief Information of Project	
1.1	Introduction	
1.2	About Project Location	
Section 2	Instructions to Bidders	
2.1	Notice Inviting Bid	
2.2	Clarifications and Amendments in the BID Document	
2.3	Scope of Work	
2.4	Qualification of the Bidder	
2.5	Submission of Bid	
2.6	Proforma / Schedules to be filled in along with Bid	
2.7	Signing of Bid	
2.8	Site Visit	
2.9	Language of Bid	
2.10	Composition of Bid	
2.11	Bid Currency	
2.12	Bid Validity	
2.13	Earnest Money Deposit (EMD), Security Deposit (SD) and Forfeiting of EMD	
2.14	Format, Signing, Sealing & Marking of Bid	
2.15	Deadline for Submission of Bid	
2.16	Late Bids	
2.17	Opening of Technical Bid	
2.18	Evaluation of Bid Document	
2.19	Award of Contract	
2.20	Signing of the Contract Agreement	
2.21	Disclaimer	
2.22	Check List	
Section 3	General Conditions of Contract	
3.1	Definitions	
3.2	Local Conditions	
3.3	Contract Agreement	
3.4	Responsibilities of Developer/Bidder	
3.5	Design	
3.6	Labour Laws	
3.7	Right to withdraw the BID and to reject any BID	
3.8	Risk and Responsibility	
3.9	Insurance	
3.10	Force-Majeure	
3.11	Claims, Disputes and Arbitration	
Section 4	Special Conditions of the Contract	
4.1	Completion of work	

4.2	Assignment Subletting of Contract and Purchased Items	
4.3	Submission of Bank Guarantee	
4.4	Submission Bank Guarantee for Guaranteed Generation	
4.5	Manuals	
4.6	Safety	
4.7	Water for Bidders Use	
4.8	Work schedule / Re-scheduling & progress of work	
4.9	Guarantee and Warranty	
4.10	Price Variation Taxes, Duties & Levies etc.	
4.11	Contract Drawings and Technical Specifications	
4.12	Peripheral Boundary Fencing	
4.13	Inspection & Testing	
4.14	Terms of Payment	
4.15	Power to Vary or Omit Work	
4.16	Death and Bankruptcy	
4.17	Liability for Accident and Damage	
4.18	Penalty / Liquidity Damages	
4.19	Replacement of Defective Plant or Materials	
4.20	Test on Commissioning	
4.21	Operation and Maintenance	
4.22	Land for the Project	
4.23	Clearance of Site on Completion	
4.24	Training of the Personnel	
4.25	Miscellaneous	
4.26	Judicial Jurisdiction	
Section 5	General Technical Specifications	
5.1	Type and Quality of Material and Workmanship	
5.2	Standards	
5.3	Drawings/Documents/Manuals	
5.4	Spare Parts, Tools and Site Consumables	
5.5	Manufacturing Requirements	
5.6	Electrical Works	
5.7	Instrumentation and Control Equipment	
5.8	Erection and Commissioning	
	Annexure	
1	Format for Submission of Technical Bid	
2	Format for Submission of Financial Bid	
3	Format for Power of Attorney	
4	Deviation Schedule	
5	Proforma of Bank Guarantee towards EMD	
6	Proforma of Performance Bank Guarantee	
7	Draft Contract Agreement	
8	Site Visit Report Letter	

SECTION - 1: Brief Information of Project and Activities

1.1 Introduction:

Maharashtra Energy Development Agency (hereinafter called "MEDA"), invites sealed Invitation of Bid for Design, Engineering, Supply, Installation, Testing, Commissioning with 5 Year CMC for Aggregate 1.0 MW Grid Interactive Solar PV project at Vasai-Virar Municipal Corporation Under Atal Mission for Rejuvenation and Urban Transformation (Amrut) Yojana in Maharashtra State.

The tender document is being intended for setting up of a grid connected solar power plants at Vasai-Virar Municipal Corporation in Maharashtra. **As per the Government of Maharashtra's Resolution dated 17 December 2018, MEDA is implementing Agency for these projects for the identified beneficiary departments under the Central Government's Amrut Mission. Apart from these, some of the solar power projects are being set up under the Government of Maharashtra's golden jubilee nagarotthana mission.** This project is intended to set up for meeting the captive power requirement of the water supply pumps and the sanitation project electricity requirement.

1.2 About Project Location:

The projects locations along with the estimated capacity have been listed in the table below:

Sr. No.	City	project site	project capacity (kW)	Contract Demand	SPV Proposed Location Coordinates	Plant Co-
1.	Vasai - Virar	140 MLD water Treatment Plant, Duktan, Palghar District (1000 kW SPV Plant)	1000	CD:3287 kW MSEDCL Consumer No 003659026060	Latitude: 19.6809N Longitude: 72.8753E 15.5 km from Palghar Station, 600 mtr from Duktan Bus Depot	

SECTION - 2 Instructions to Bidders

2.1 Notice Inviting Bid

Maharashtra Energy Development Agency (MEDA)
(A Government of Maharashtra Institution)
S. No. 191/A, Phase - I, 2nd Floor,
MHADA Commercial Complex,
Opp. Tridal Nagar, Yerwada, Pune - 411 006.

NOTICE INVITING BID

1. Maharashtra Energy Development Agency (MEDA) (hereinafter called "MEDA") is implementing a projects for Design, Engineering, Supply, Installation, Testing, Commissioning with 5 Year CMC for Aggregate 1.0 MW Grid Interactive Solar PV project at Vasai - Virar Municipal Corporation Under Amrut Yojana in the State of Maharashtra. Brief details are as follows:

1	Tender Reference No.	Solar/Amrut/Vasai-Virar/19-20/02, Dated 06th june 2020
2	Tender can be downloaded from	06/06/2019
3	Estimated Cost	Rs. 4.5 Cr (Rs. Four Crore Fifty Lakhs Only)
4	Tender document fee	Rs. 29,500/- (i.e. Rs. Twenty-Nine Thousand Five Hundred Only) including 18% GST through E-payment SBI Net Banking, RTGS and NEFT only (Non Refundable & Non-transferable)
5	Earnest Money Deposit (EMD)	Rs. 4.5 Lakhs (Rs. Four Lakhs Fifty Thousand)
6	Date and Time of Pre-bid Meeting and Venue	17/06/2020 Maharashtra Energy Development Agency, 2 nd Floor, MAHADA Commercial Complex, Opp Tridal Nagar, Yerwada Pune / Pre-bid meeting will be held in video conferencing as per Guidelines declared by govt.
7	Last date and time of submission of Bid	29/06/2020 up to 15.00 Hrs
8	Date and Time of opening of Technical Bids.	30/06/2020 at 15.00 Hrs. (Tentative)
9	Security Deposit	3% of the Contract Value in the form of DD or BG to be submitted by the successful bidder within 15 days after placement of LOI.

2. As a part of this effort, MEDA invites solar project developers, solar manufacturers, solar technology providers, Solar PV system integrators, solar entrepreneurs, EPC Contractors, to participate in the BIDs. Interested bidders are invited to submit their online bid proposal along with all supporting documents complete in all aspect on or before 29th June 2020 up to 15.00 hrs.
3. Bid documents which include Eligibility criteria, "Technical Specifications", various conditions of contract, formats, etc., can be downloaded from mahaetender website. Any amendment (s)/corrigendum/clarifications with respect to this Bid shall be uploaded on mahaetender portal of GoM: <https://mahatenders.gov.in>
4. The Bidder should regularly follow up for any Amendment/Corrigendum/Clarification on the above website.
5. The selection of successful bidder will be based on technical & financial bidding.
6. Director General MEDA reserves all rights to accept, cancel the BIDs or reject any or all bidders or change the conditions mentioned in BID documents at any stage or take any decision regarding implementation of these projects under Amrut Yojana.
7. All the documents submitted in tender should be original and true, in case, duplicate and fraudulent documents are submitted by bidder, Director General MEDA reserves all rights to reject the bid and take appropriate action against the bidder.

2.2 Clarifications and Amendments in the Bid Document

Project developers have to submit their queries on or before 12th June 2020, 15:00 Hrs through email only to :- remahaurja@gmail.com.

Seeking verbal clarifications and information from MEDA or its employees or its representatives shall not be in any way entertained. The Bidder(s) or their authorized representative(s) is /are invited to attend pre-bid meeting(s) at the MEDA office in Pune. During the pre-bid meeting MEDA will explain its views on the clarification / amendments sought by the interested bidders.

If any technical difficulties arise while filling up e-tender, please contact at 24 x 7 Help Desk Number 0120-4200462, 0120-4001002, 0120-4001005, 0120-6277787 at NIC.

Amendment in the BID Document: At any time prior to the deadline for submission of Bids, the MEDA may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the BID document by issuing clarification(s) and/or amendment(s). The clarification(s) / amendment(s) (if any) will be notified on maha tender website www.mahatenders.gov.in. only.

Director General MEDA reserves all rights to accept, cancel the Tender or reject any or all bidders or change the conditions mentioned in tender documents at any stage or take any decision regarding implementation of this MNRE scheme.

MEDA will not bear any responsibility or liability arising out of non-receipt of the information regarding amendments in time or otherwise. Bidders must check the website for any such amendment before submitting their Bid. All the notices related to this Bid which are required to be publicized shall be uploaded on above mentioned website.

2.3 Scope of Work

The successful bidder would be required to commission solar power plant and undertake CMC over a period of 5 years. The selected bidder has to undertake following activities as part of the scope of work during various stages of project execution:

- The Scope of the work includes design, supply, installation, commissioning, including CMC for 5 years from the date of its commissioning at the project location given under clause 1.2 above.

Selected Bidder has to set up and commission solar plant on or before 120 days from date of award of contract. If the Bidder fails to commission the sanctioned project within specified time, penalty as mentioned in the Liquidated Damage would be deducted.

- Selected bidder shall give the generation guarantee for electricity generation from solar plant at minimum of 15 lakh Units/1MW per year from commissioning of the project at consumption side energy meter in utility substation irrespective of any disintegration of efficiency of entire project. For Calculating the annual guaranteed generation grid down time should be consider to arrive at actual guaranty for complete one year. The commitment of guaranteed generation will rest up to the completion of Comprehensive Operation and maintenance period of the project. Any shortfall in generation below 15 lakh units (from 1 MW) shall recover from the developer at the prevailing MSEDCL tariff for that consumer. Monitoring of the compliance shall be done at the end of year till the completion of CMC period.
- The developer shall provide State of the art web based solar plant generation monitoring and data logging system shall be provided along with the solar power plant. MEDA and plant operators/User agency should be able to monitor all plant efficiency related parameters remotely. Cost of instrument, installation & monthly/yearly charges for first five years/ under CMC period shall be born by Developer. After five years instrument shall be handed over to beneficiary/ User Agency.

- Seeking permission for net-metering and grid connectivity of the solar PV system would be the responsibility of the Bidder in accordance with the prevailing guidelines of MSEDCL. Consumer / Municipal Corporation/ Council/ Nagar panchyat shall facilitate and provide required information & necessary documents for filling the application for net-metering application; however, the entire responsibility of getting the Solar Rooftop Net-metering permission from MSEDCL lies with Bidder only with the help of concern beneficiary institute. The bidder shall have to consider all the cost of net metering, possible modification requirements in incomer / suggestions of the electrical inspectorate / MSEDCL requirements to avail net metering for the consumer.
- Bidder shall bear whole project costs such as cost of engineering, procurement, testing & commissioning and maintenance of the solar power plant for the period of 5 years from the date of its commissioning.
- All approvals including approvals/consents required under regulation & local regulations, building codes and approvals required for distribution of utility etc. relating to installation and operation of the system and generation and supply of solar power from the project are to be obtained by the Bidder.
- All EPC work including the transportation of material and machinery to and from the project site will be the responsibility of the Bidder. Bidder shall bear all risks of loss and damage to any part of the solar power plant due to conditions not on account of MEDA and should comply with the standard safety guidelines for all the activities at site.
- All the water needed during installation of the solar power plant, cleaning, as well as pre and post installation shall be taken care by the bidder for the entire contract period. The bidder should also install water pipeline, water tank and pressurized water spray for cleaning the modules. Water required for cleaning the solar modules will be provided by the beneficiary at free of cost.
- Necessary underground cabling interconnection at LT distribution panel shall be done as per IE rules.
- Bidder will follow all electrical safety norms in installation of solar plant and during operation and maintenance of the plant.
- MEDA will not be responsible for any clearances and permits from any relevant authority of state of Maharashtra or Government of India.

- Bidder shall take necessary permission from Chief Electricity Inspector for setting up the plant/commissioning of the plant.
- Bidder shall take permission from concerned authorities (Local/state/central) if required under any rules and regulations.
- The developer/bidder shall take necessary action for earthwork of site grading, tree cutting, filling, levelling & compacting of land as per the project requirement.
- The developer/bidder have to take statutory permissions from concern government departments for setting up the solar project
- Any damage caused to any assets of proposed buildings/site due to construction activities of the solar plant thereof will be the responsibility of the Bidder and it will be required to fix the damage or compensate an equivalent amount.
- Bidder has to comply with the Environmental, Occupational Health & Safety and Security requirements and has to ensure that adequate measures have been taken from their end for the safe working of their men and machines.
- The project progress will be monitored by MEDA and the work will be inspected for quality at any time during commissioning or after the completion of the project by MEDA officials.
- MEDA may depute a technical person(s) from its list of employee for inspection, third party verification, monitoring of system installed to oversee, the implementation as per required standards and also to visit the manufacturers facilities to check the quality of products as well as to visit the system integrators to assess their technical capabilities.

2.4 Qualification of the Bidder

- 2.4.1 General Eligibility Criteria:** The Bidder should be a legal entity duly incorporated in India under the relevant Law and engaged in any business related to renewable energy projects, electricity distribution, engineering services etc. The bidder shall submit a copy of Certificate of Incorporation/Memorandum of Association/Article of Association or any other relevant document(s) may be furnished along with the bid in support of above. In the Memorandum and Articles of Association, Article Number should be highlighted separately wherein above information has been stated.

Bidder will be declared as a Qualified Bidder based on meeting the eligibility criteria and as demonstrated based on documentary evidence submitted by the Bidder in the Bid.

2.4.2 Joint venture (JV)/ Consortium

- Consortium agreement/ joint venture is Permitted in this tender
- However, the joint venture partners must be only among the manufacturers of Solar PV Modules / Inverters and/or the PV System Integrator.
- Joint venture or consortium must be registered.
 - a. In case of Bid from Joint Venture, the Joint Venture Agreement and Power of Attorney for Joint Venture Agreement certified True Copy need to submit to MEDA.
 - b. There can be a maximum of 02 (Two) partners in a JV/ Consortium.
 - c. In case the bid is submitted by a Joint venture (JV)/ Consortium they must meet the tender requirements
 - d. The JV/ Consortium shall meet collectively 100% Financial & Technical Eligibility Conditions given in tender.
 - e. JV/ Consortium members can be partner to the single JV / Consortium arrangement only and they shall not be allowed to participate in multiple JV / Consortium & arrangements.
 - f. JV / Consortium member should not Bid independently and in JV/ Consortium both, in case of multiple bid JV/ Consortium & independently bid both bids will be disqualified
 - g. Work Order will be issued in the name of JV / Consortium firm
 - h. The single JV / Consortium arrangements shall be required to submit EMD along with the tender.

2.4.3 Technical Eligibility Criteria: Bidder should have prior experience of

- implementing grid connected solar power projects of at least 2MW.
- One project of 500 kW at single location should be installed by the bidder.

The Bidder need to submit documentary evidence like work order, work completion certificate, commissioning report etc.

2.4.4 Financial Eligibility Criteria:

Turn Over: Average annual Financial Turnover during the last 3 years, ending at 31st March 2018 should be at least Rs.9 Crores, without Sales/VAT/GST.

[Certified copies of the annual returns submitted to the 'Registrar of Companies' (R.O.C.) should be enclosed. For the last three years, a summarized sheet of turnover certified by registered CA may be enclosed.]

Net worth: The Individual bidder shall have a Net Worth (which is defined as "Net value of the assets - Net value of liabilities") for the last three Financial years (as per the latest audited balance sheet) of not less than 5 Crores.

2.5 Submission of Bid

The Bidder should submit the Bids online on mahaetender portal of GoM: <https://mahatenders.gov.in> as per the due date mentioned in Notice Inviting Bid.

Any bid received after the due date and time of submission on account of delay of any kind shall not be opened. Telegraphic/Faxed Bids shall not be considered.

2.6 Proforma /Schedule to be Filled in along with Bid

The bidder must furnish all required information in the specified Proforma/Schedule. If this information is not furnished, MEDA shall not be responsible for any error in evaluation of bid and the bidder shall have no claim whatsoever, on this account.

2.7 Signing of Bid

The person authorized to sign the bid document through the power of attorney shall put initials under official seal on each and every page of the bid. The bid submission form shall bear full signatures under official seal fully disclosing the Name, Designation and Relationship of the Signatory with the firm/bidder.

The Bidders should authorize a person for performing task related to the bid submission such as providing information, responding to enquires, signing of Bid etc. The bidders shall submit along with bid, a Power of Attorney in original authorizing the signatory of the person signing the bid. The person authorized through the power of Attorney shall be the single point of contact for the purposes of the Bid process. The proforma of the power of Attorney is given as Annexure 3

2.8 Site Visit

It is mandatory for the bidder to visit the site and obtain all the required information before submitting the BID document. Site visit report signed by authority of Municipal Corporation needs to be uploaded as a part of the technical BID as per the Annexure 8.

2.9 Language of BID

The bid, any correspondence and the documents shall be in English language.

2.10 Composition of Bid

The bid shall comprise two envelopes to be submitted simultaneously, one containing Technical Bid and Supporting documents and the other Financial Bid.

Envelop –I

The Envelop –I shall contain the following things:

- Bidder's Information Sheet
- Firm's Profile at a Glance
- GST registration Certificate
- PAN Certificate issued by appropriate authority.
- Income Tax returns of three previous assessment years. (2016-17, 2017-18, 2018-19)
- Installation and performance credentials - Work Orders & Completion Certificate
- CA Certified Turn Over for 2016-17 to 2018-19.
- Net Worth Certificate (If applicable)
- Nationalised / Scheduled Bank Solvency Certificate of at least 3 Crore.
- Udyog Aadhar / SSI / NSIC (If applicable)
- EPF & ESIC Registration Certificate
- Shop Act / Partnership firm registration certificate / Incorporation Certificate
- Self-Certification of No Barr/non-failure/blacklisted
- MNRE approved Lab Test Report in the name of Bidder. / In the name of JV/ Consortium Bidder
- Undertaking from Original Equipment Manufacturer mentioned in Test Report

The Bidder is expected to examine all instructions, forms, terms and specifications in the Tender Documents. Failure to furnish all information required, by the Bidder, documents or submission of a Bid not substantially responsive to the Tender documents in every respect or incomplete bid document will be at the Bidder's risk and may result in rejection of its Bid.

NOTE: It may be noted that Technical Bid (Envelope-I) shall not contain any information/document relating to Financial Bid. If Technical Bid contains any such

information/documents relating to price, the bidder will be declared as disqualified / outright rejected.

Envelop-II shall contain the following things:

- The Financial Bid quote in the given proforma.

Financial Bid shall contain:

- The bidder should quote the price including all taxes as against total contract tender estimate as shown in price schedule format.
- Installation, testing, commissioning charges includes "FOR" destination prices inclusive of packing, forwarding, freight, inland transportation, insurance, loading, unloading, supply, distribution, collection, testing inspection and any/ all charges incidental for successful design, supply, Installation, commissioning and comprehensive maintenance for five years of Solar Pumping System.
- Prices shall be quoted in Indian Rupees only.
- In no circumstances, escalation in the prices will be entertained.
- The Bidder shall complete the price schedule furnished in the Tender Document, Indicating the price of Solar plant towards Design, Manufacture, Supply, Transport, Installation, Testing and Commissioning of Solar plant as per the Technical specifications. MEDA will not pay any extra charges over and above rate quoted by the Bidder. The quoted price shall be 'FIXED', during the entire term of the Contract.
- Financial Bid uploaded with an adjustable price quotation will be treated as non-responsive and will be rejected.
- Any Bid not in accordance with above clauses of this Section will be rejected.

2.11 Bid Currency

Prices shall be quoted and payable in Indian Rupees only.

2.12 Bid Validity

Bids shall be valid for 180 calendar-days from the date of opening of technical bid. Bid with lesser validity will get disqualified. In exceptional circumstances, the MEDA may solicit the Bidder's consent to an extension of the period of validity. The request and the responses there to shall be made in writing.

2.13 Earnest Money Deposit (EMD), Security Deposit (SD) and Forfeiting of EMD

A. Earnest Money Deposit:

1. The Earnest Money Deposit to be paid online through respective portal. No interest shall be payable on the amount of Earnest Money. It shall be retained by MEDA.

EMD shall be returned to unsuccessful Bidders after acceptance of work order by successful Bidder and EMD of successful Bidder shall be returned after submission of security deposit.

B. Forfeiting of EMD:

The EMD paid or submitted by the Bidder shall be forfeited if:

1. The Bidder withdraws his tender before finalization of work order.
2. The Bidder does not accept work order.
3. The Bidder violates any of the terms and conditions of the tender.
4. The Bidder fails to deposit requisite Security deposit.
5. The Bidder fails / refuses to execute the order as herein, the Bidder shall be deemed to have abandoned the contract & such an act shall amount to and be construed as the Bidders calculated and wilful breach of contract, the cost and consequence of which shall be to the sole account of the Bidder and in such an event the MEDA shall have full right to claim damages thereof in addition to the forfeiture of EMD.

C. Security Deposit:

1. All Bidder (Excluding Start-up) shall furnish security deposit at 3% of the total contract value within 10 working days from the date of issue of work order by way of demand draft / Bank Guarantee of nationalized bank / Scheduled Bank in favour of Maharashtra Energy Development Agency, Pune.
2. Failure to comply with the terms of security deposit shall result into cancellation of work order without any further reference to the Bidder and the EMD shall be forfeited.
3. The security deposit shall be liable to be forfeited wholly or partly at the sole discretion of the MEDA, if the Bidder either fails to execute the work of above projects or fails to fulfil the contractual obligations or fails to settle in full his dues to the MEDA.

4. In case of premature termination of the contract, the security deposit will be forfeited, and the MEDA will be at liberty to recover the losses suffered by it & if additional cost is to be paid, the same shall be recovered from the Bidder.
5. The MEDA is empowered to recover from the security deposit for any sum due and for any other sum that may be fixed by the MEDA as being the amount or loss or losses or damages suffered by it due to delay in performance and / or non-performance and / or partial performance of any of the conditions of the contract and / or non-performance of guarantee obligations.
6. The security deposit shall be released to the Bidder only after contract is completed to the satisfaction of the MEDA.

2.14 Format, Signing, Sealing and Marking of Bid

- The bidders shall submit the requisite information/documents in the prescribed format.
- Strict adherence to the formats wherever specified, is required. Non-adherence to formats and/or submission of incomplete information may be a ground for declaring the Bid as non-responsive.
- The bids should be submitted in English language only.
- The document should be neatly typed and printed on A4 page. All the necessary enclosures should be attached to the BID document as per the requirement of BID to support the qualification of the bidder.

2.15 Deadline for Submission of Bid

The bidder shall bear all the costs associated with the preparation and submission of bid. MEDA will in no case be responsible or liable for those costs, under any conditions. The Bidder shall not be entitled to claim any costs, charges and expenses of and incidental to or incurred by him through or in connection with his submission of bid.

BIDs must be received on or before the date specified in Notice Inviting BID.

2.16 Late Bids

Any bid received after the dead line shall be outright rejected.

2.17 Opening of Technical Bid

Envelope-I, Technical Bid shall be opened on the time and date as mentioned in Notice Inviting BID.

2.18 Evaluation of Bid Document

The evaluation process shall comprise of two steps:

Step I – Evaluation of Technical Bid

Step II - Evaluation of Financial Bid

Evaluation of Technical Bid

The Technical Bid submitted by Bidders shall be scrutinized to establish responsiveness to the general, technical and financial requirements specified in this section.

The bids shall be considered as unsuccessful technical bids in case of any of the following situations:

- a) The Bids that are incomplete, i.e. not accompanied by any of the applicable formats inter alia covering letter, power of attorney, applicable undertakings, format for disclosure, tender fee etc.;
- b) Bid not signed by authorized signatory and /or stamped in the manner indicated in this Bid Document;
- c) BIDs having material inconsistencies in the information /documents submitted by the Bidder, affecting the Eligibility Criteria;
- d) Required information not submitted in the formats specified in this BID document;
- e) Bid not received by the Bid Deadline
- f) Bid having Conflict of Interest
- h) Bidder delaying in submission of additional information or clarifications sought by MEDA.
- i) Bidder makes any misrepresentation.

The evaluation of Bidder's Technical Eligibility will be carried out based on the information furnished by the Bidder as per the prescribed Formats and related documentary evidence in support of meeting the Eligibility Criteria – General, Technical and Financial as specified above. Non-availability of information and related documentary evidence for the satisfaction of eligibility criteria may cause the Bid to be non-responsive. MEDA reserves the right to call the shortfall from bidder.

Evaluation of Financial Bid

All the technically qualified bidders will be selected for opening of the financial Bid. Financial Bid (Envelope II) of the Qualified Bidders shall be opened and the date will be intimated on the bidding portal.

The bidder has to quote the Financial Bid in the prescribed format. Financial Bids of Qualified Bidders shall be ranked from the lowest (L1) to the highest and the L1 bidder shall be declared as the Successful Bidder.

2.19 Award of Contract

The bidder who has been notified as Successful Bidder, shall be given 15 days time from the date of issue of Letter of Intent for submission of following details:

- a) Detailed project technical specifications, engineering drawings of the solar power plant.
- b) Project execution plan giving details of activity and date of completion. (till the date of project commissioning)
- c) Plans and time required to get clearances for setting up of the project.
- d) Security Deposit of 3% of the Contract Value in the form of DD or BG to be submitted by the successful bidder within 15 days after placement of LOI.

2.20 Signing of Contract Agreement

- a) On submission of above documents the bidder will be called for signing of contract agreement. The bid document shall be the integral part of contract agreement and all the terms and conditions under the contract agreement shall be binding on the bidder irrespective of the fact that all of them may or may not be appeared in the contract agreement.
- b) The detailed project technical specifications, engineering drawings of solar power plant comprising of generation plants and distribution network, project execution plan submitted by the bidder after issue of LOI shall be a part of contract agreement and it is binding on the bidder to execute the entire work as per the specifications agreed upon.
- c) The costs of stamp duty / franking (0.1% of the project cost) and similar charges (if any) imposed by law in connection with entry into the contract agreement shall be borne by the bidder.

2.21 Disclaimer

Kindly Note:

- 1. This document is not transferable.
- 2. Though adequate care has been taken for preparation of this document, the Bidder shall satisfy himself that the document is complete in all respects. Intimation of any discrepancy shall be given to this office immediately. If no intimation is received from any bidder within ten days from the date of issue of the bid document, it shall

be considered that bid document is complete in all respects and has been received by the bidder.

3. Director General, MEDA reserves all rights to accept, cancel the BIDs or reject any or all bidders or change the conditions mentioned in bid documents at any stage or take any decision regarding implementation of the projects under Amrut Yojana.
4. While the BID document has been prepared in good faith, neither MEDA nor their employees or advisors make any representation, warranty, express or implied or accept any responsibility or liability, whatsoever, in respect of any statements or omissions herein, or the accuracy, completeness or reliability of information, and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability and completeness of this BID document, even if any loss or damage is caused by any act or omission on their part.

2.22 Check list

Check list of documents to be submitted along with the BID is as mentioned below:

Sr. No.	Particulars	Complied	Page-no / Flag
1	Filled in BID document duly signed and stamped at the bottom of each page.		
2	Power of Attorney		
3	Certificate of registration issued by Government organizations.		
4	Bidder Information Sheet		
5	Firm's Profile at a Glance		
6	Copy of the PAN card of the bidder's firm		
7	Copy of the GST Certificate of the bidder's firm		
8	Copies of Income Tax returns of 3 previous assessment years (2017-18, 2018-19, 2019-20)		
9	Chartered accountant certified turn over for FY 2016-17 to 2018-19.		
10	Bidder needs to have local registered office for execution of work and service centre in the state of Maharashtra. In case of non availability of such office, the bidder has to produce affidavit on Rs. 100/- stamp paper that they will open office within 1 month of issue of Lol. PPA will be signed only after submission of required documents in compliance of local office and service centre.		
11	Site Visit Report as per Annexure 8		
12	Supporting document in support of technical qualification as per bid document (Purchase orders / work completion certificates etc.)		

Sr. No.	Particulars	Complied	Page-no / Flag
13	Net Worth Certificate		
14	Nationalised / Scheduled Bank Solvency Certificate of at least 3 Crore.		
15	EPF & ESIC Registration Certificate		
16	Shop Act / Partnership firm registration certificate / Incorporation Certificate		
17	Self-Certification of No Barr/non-failure/blacklisted		
18	MNRE approved Lab Test Report solar module and inverter		

Section-3: General Conditions of Contract

3.1 Definitions

In the "Bid/Tender/Contract Document" as herein defined where the context so admits, the following words and expression will have the following meaning:

- a) **"Affiliate"** shall mean a company that either directly or indirectly
 - I. controls or
 - II. is controlled by or
 - III. is under common control with
 - IV. a Bidding Company (in the case of a single company) and **"control"** means ownership by one company of at least twenty six percent (26%) of the voting rights of the other company.
- b) **"Bid"** shall mean the Technical Bid and the Financial Bid submitted by the Bidder along with all documents/credentials/attachments annexure etc., in response to this BID document, in accordance with the terms and conditions hereof.
- c) **"Bidder"** shall mean Bidding Company or a Bidding Consortium submitting the Bid. Any reference to the Bidder includes Bidding Company / Bidding Consortium / Consortium, Member of a Bidding Consortium including its successors, executors and permitted assigns and Lead Member of the Bidding Consortium jointly and severally, as the context may require";
- d) **"Bidding Consortium or "Consortium"** shall refer to a group of companies that has collectively submitted the Bid in accordance with the provisions of this Tender Document;
- e) **"Bidding Company"** shall refer to such single company that has submitted the Bid in accordance with the provisions of this Tender document;
- f) **"Bid Deadline"** shall mean the last date and time for submission of Bid in response to this Tender Document as specified in Bid information Sheet;
- g) **"CEA"** shall mean Central Electricity Authority.
- h) **"CMC"** comprehensive maintenance contract shall mean the five years of annual comprehensive maintenance inclusive of all spares, parts, consumables, services etc.
- i) **"Commissioning"** means Successful operation of the solar power plant including the net meter and inspection / certification by electrical inspectorate.

- j) **"Company"** shall mean a body incorporated in India under the Companies Act, 1956;
- k) **Capacity Utilization Factor" (CUF)** means the ratio of the annual output of the plant in kWh to the units that the plant can produce with the installed plant capacity put in operational for 365 days x 24 hours. $CUF = \text{plant output in kWh} / (\text{installed plant capacity in kW} * 365 \times 24)$;
- l) **"Eligibility Criteria"** shall mean the Eligibility Criteria as set forth in Section 6 of this bid document;
- m) **"kWp"** shall mean kilo-Watt Peak;
- n) **"kWh"** shall mean kilo-Watt-hour;
- o) **"Lead Member of the Bidding Consortium" or "Lead Member"** shall mean the Member which fulfils the Financial Eligibility Criteria and submits the Bid and so designated by other Member(s) of the Bidding Consortium;
- p) **"Member of a Bidding Consortium" or "Member" or "Consortium Member"** shall mean each company in the Bidding Consortium which has executed the Consortium Agreement;
- q) **"Project"** means grid connected solar power project under net metering regulation of MERC.
- r) **"Project Cost"** shall mean the total price of the grid-connected solar power project including the maintenance of 5 years as discussed in the Bid document.
- s) **"Project capacity"** means Capacity of power generating plants/stations in kW offered by the Bidder.
- t) **"Project life"** means the life of the solar power plant which is considered as 25 years.
- u) **"Parent Company"** shall mean a company that holds at least twenty-six percent (26%) of the paid-up equity capital directly or indirectly in the Bidding Company or in the Member of a Bidding Consortium, as the case may be;
- v) **"Project Company"** shall mean Company incorporated by the bidder as per Indian Laws for installation, commissioning and maintenance of the solar power plant;
- w) **"RMS"** Remote Monitoring System/SCADA system/ Inverter based web monitoring system for remotely monitoring the real time plant functioning, monthly generation and performance etc.
- x) **"Financial Bid"** shall mean Envelope II of the Bid, containing the Bidder's Quote for Design, Engineering, Supply, Installation, Testing, Commissioning with 5 Year CMC

for Aggregate 1.0 MW Grid Interactive Solar PV project at at Vasai-Virar Municipal Corporation in the State of Maharashtra as per the format given in the bid document;

- y) **“Qualified Bidder”** shall mean the Bidder(s) who, after evaluation of their technical bid stand qualified for opening and evaluation of their Financial Bid;
- z) **“Successful Bidder(s) / Project Developers(s)”** shall mean the Bidder(s) selected by MEDA for implementation of the proposed solar power plant as per the terms of this bid documents, and to whom LOA will be issued;
- aa) **“Ultimate Parent Company”** shall mean a company which directly or indirectly owns at least twenty-six percent (26%) paid up equity capital in the Bidding Company or Member of a Consortium, (as the case may be) and/or in the Financially Evaluated Entity and such Bidding Company or Member of a Consortium, (as the case may be) and /or the Financially Evaluated Entity shall be under the direct control or indirectly under the common control of such company;

3.2 Local Conditions

The intending Bidders shall be deemed to have visited the Site details given in **Section-1** and get familiarized with local conditions before submitting the Bid. Non-familiarity with the Site conditions will not be considered a reason either for not carrying out the Works in line with the scope of work and proposed Technical Specifications or for any delay in performance.

3.3 Contract Agreement

The contract shall come into full force and effect on the date stated in the contract agreement.

3.4 Responsibilities of Developer/Bidder

Protection of the environment, rules and regulations: The developer/bidder shall take all reasonable steps to protect the environment, rules and regulations applicable while installation and maintenance of solar power plant. MEDA shall not be responsible for any violation of Law and environmental damage done by the developer/bidder.

Arranging electricity, water and gas etc.: The developer/bidder shall arrange power, water and other services he may require at the site at his own cost during installation and commissioning of the solar plant.

Site Data: The developer/bidder shall be responsible for verifying and interpreting all data provided by the concern beneficiary / MEDA. MEDA shall have no responsibility for the accuracy, sufficiency or completeness of data.

Safety Procedures: The developer/bidder shall comply with all applicable safety regulations during project execution and maintenance of the grid connected solar power project.

Data Recording: The developer/bidder shall keep proper records of daily power generation data of all power generation plants as well as the monthly power consumption data of all consumers.

Operating practices, standards, standard of performance: The developer/bidder shall follow the applicable practices/procedures /standards/SOP norms etc as applicable to the host utility in Maharashtra.

3.5 Design

General Design Obligations

The developer/bidder shall ensure proper design of grid connected solar power plant so as to optimize the power generation from the solar power plant. Developer needs to undertake the shadow analysis of the nearby objects so as to avoid such area for solar installation. Developer shall take utmost care in installation and commissioning and follow industries best practices.

Technical Standards and Regulations

The developer/bidder shall ensure the quality of equipments to be used in setting up of the grid connected solar power plants. The design, execution and the completed works shall comply with the relevant technical standards, design and operating limits, environmental laws, operation and safety standards, laws applicable etc.

Training

The developer/bidder shall carry out the training for one / two employees of the consumer who will be involved in day to day operation of the plant.

Operation and Maintenance (O&M) Manuals

Prior to commencement of the Tests on Completion, the developer/bidder shall prepare O&M manuals giving sufficient detail which can be used by O&M staff. Further, the O&M manuals supplied by the equipment suppliers shall be properly included in the O&M manuals to make it complete more useful for the O&M staff.

3.6 Labour laws

The developer/bidder shall comply with all the relevant provisions of Labour Laws.

3.7 Right to withdraw the BID and to reject any BID.

Director General MEDA reserves all rights to accept, cancel the tender at any time without assigning any reasons thereof. Director General MEDA reserves all rights to reject any or all bidders or change the conditions mentioned in tender documents at any stage or take any decision regarding implementation of this tender without assigning any reasons whatsoever.

MEDA reserve the right to interpret the Bid submitted by the Bidder in accordance with the provisions of the BID and make its own judgment regarding the interpretation of the same. In this regard the MEDA shall have no liability towards any Bidder and no Bidder shall have any recourse to the MEDA with respect to the selection process. MEDA decision in this regard shall be final and binding on the Bidders.

3.8 Risk and Responsibility

3.8.1 Indemnities

The developer/bidder shall indemnify and hold harmless the MEDA / beneficiary institute and its personnel, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of:

- i. Bodily injury, sickness, disease or death, of any person whatsoever arising out of or in the course of or by reason of the design, execution and completion of the Works and the remedying of any defects, unless attributable to any negligence, willful act or breach of the Contract by the MEDA, or any of their respective agents, and Damage to or loss of any property, real or personal (other than the Works), to the extent that such damage or loss:
 - a. Arises out of or in the course of or by reason of the design, execution and completion of the Works and the remedying of any defects.
 - b. Is not attributable to any negligence, fulfill act or breach of Contract by the MEDA or its personnel, their respective agents, or anyone directly or indirectly employed by any of them.

3.8.2 Developers Care of the Works

The developer shall be fully responsible for care of the works and equipments from the commencement of installation work to commissioning of the solar power plant and maintenance of the plant over the next 5 years CMC period.

3.9 Insurance

The Bidder shall be responsible and take an appropriate 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 etc. 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 i.e. from start of the project commissioning to completion of 5 years of CMC period. 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.

The bidder shall take up the matter with insurance company on its own for finalization of claims. All actions in connection with making and settling of claims, if any, will be carried out by the bidder at its own. MEDA shall not be liable for any payments for financial loss or non recovery of payment from the insurance company.

The bidder shall be responsible to make good the damage or loss by way of repairs and/ or replacement of equipment free of cost, irrespective of the fact whether claim is accepted by the insurance company or not, without waiting for settlement of claims

3.10 Force Majeure

3.10.1 Definition of Force Majeure:

The **Force Majeure "FM"** means exceptional event (s) / circumstance (s), here-in-after called the "**Eventualities**", which are:

- i. Beyond a Party's control,
- ii. Which such Party could not reasonably have provided against before entering into the Contract
- iii. Which, having arisen, a party could not reasonably have avoided or overcome, which is not substantially attributable to the other party.
- iv. FM may include, but not limited to, eventualities of the kind listed below, so long as conditions (i) and (ii) are satisfied
 - a) War, hostilities, invasion, act of foreign enemies,

- b) Rebellion, terrorism, revolution, insurrection, military, usurped power, or civil war, riot, commotion, disorder, strike or lockout by persons other than the developer's/bidder's Personnel/Employees of the contractor and Sub-contractors.
- c) Munitions of war, explosive materials, ionising radiation or contamination by radio-activity, except as may be attributable to the contractor's use of such munitions, explosives, radiation or radio- activity.
- d) Natural catastrophes such as earthquake, hurricane, typhoon or volcanic activity

3.10.2 Notice of Force Majeure:

- If a bidder is prevented from performing its obligation(s) under the Contract by FM, then it shall give notice to MEDA of the event/circumstances constituting the FM and specify the obligations, the performance of which is or will be prevented.
- The bidder shall, having given notice, be excused from performance of such obligations for so long as such FM prevents it from performing them.

3.10.3 Consequences of FM

- If the bidder is prevented from performing any of his obligations under the Contract by FM of which notice has been given, and suffers delay and /or incurs cost by reason of such FM, the bidder shall be entitled to an extension of time for any such delay, if completion is or will be delayed.

3.11 Claims, Disputes and Arbitration

3.11.1 Disputes

Dispute (s), if any, shall be settled by mutual agreement through Amicable Settlement (Sub-Clause 3.11.2 (Amicable Settlement)) and in case of failure, through Arbitration Under Sub-Clause 3.11.3 (Arbitration.)

3.11.2 Amicable Settlement

Both parties (the developer/bidder and the MEDA) shall attempt to settle the dispute amicably before the commencement of arbitration. However, unless both Parties agree otherwise, arbitration may be commenced on or after the forty-fifth day after the day on which notice of dissatisfaction was given, even if no attempt at amicable settlement has been made.

3.11.3 Arbitration

Unless settled amicably, any dispute shall be finally settled by arbitrator(s) who shall be appointed from amongst the suitably qualified person(s) to be agreed by both the parties for arbitrations.

Section-4: Special Conditions of Contract

4.1 Completion of Work

The solar project should be commissioned up to 120 days from the date of award of contract.

4.2 Assignment, Subletting of Contract and Purchased Items

The bidder is free to sublet any part of the contract of supply, erection and commissioning of solar power plant. However, bidder will have to undertake maintenance of solar plant at its own. In case of maintenance of power generating equipment where specific skill sets required for maintenance which is generally available with the equipment suppliers in that case such works can only be sub-contracted.

4.3 Submission Bank Guarantee

The bidder/developer shall furnish Security Deposit in the form of bank guarantee of any Nationalized bank of value equivalent to 3% of the agreement value / contract value towards successful completion of scope of work for Design, Engineering, Supply, Installation, Testing, Commissioning with 5 Year CMC for Aggregate 1.0 MW Grid Interactive Solar PV project at Vasai-Virar Municipal Corporation Under Amrut Yojana in the State of Maharashtra or the part of assigned work. The developer/bidder shall submit the BG within 15 days of issue of Lol. The BG shall be valid for the period of at least 12 months.

Performance security shall be submitted in the form of a Bank Guarantee duly executed on non-judicial stamp paper of requisite value.

4.4 Submission Bank Guarantee for Guaranteed Generation

The bidder/developer shall furnish bank guarantee of any Nationalized / schedule Bank valid for period of 5 years of value equivalent to 10% of the agreement value / contract value towards guaranteed generation. The bank guarantee shall be valid for the period of 5 years of CMC period. Bidder shall submit this BG before release of the last 20% payment. The bank guarantee towards guaranteed generation will be forfeited in case of short fall in guaranteed generation.

4.5 Manuals

The developer/bidder shall furnish 3(Three) sets of bound copies of erection, commissioning, operation & maintenance manuals giving detailed instructions, procedures, precautions for all the equipments used in the solar power plant.

4.6 Safety

All equipments and installations in the solar power plant shall be safe to the personnel working for O&M of the project and the personals and animals passing nearby such installations. Solar power project shall comply to the operations and safety provisions enlisted under the relevant safety rules and regulations / statutory requirement issued by the State Government and the Central Government as well as to: i. Indian Electricity Rules ii. Indian Electricity Act

4.7 Water for Bidders Use

The bidder shall make his own arrangement to meet the water requirement during erection, installation, commissioning of the solar power plant. The Municipal Corporation may provide source. The Bidder need to make his own arrangement for storage and pumping of water required at site.

4.8 Work-schedule/re-scheduling & Progress of Work

Developer shall submit a detailed PERT chart of activities within 15 (Fifteen) days after the date of receipt of LOI. The developer /bidder shall submit the progress report on monthly basis to the MEDA during the project execution period. Also, during the bidders contracted project maintenance (CMC) period of 5 years the developer/bidder shall submit assist the plant operator to develop quarterly report of daily energy generation from the power generating plants.

4.9 Guarantee and Warrantee

The Bidder shall ensure that the equipments and goods used in the installation and commissioning of the solar plant have sufficient guarantees and warrantees. It will be the responsibility of the project developer/bidder to get the faulty instruments replaced or repaired without affecting the availability of power supply to the consumers of the solar power project. Further, any expenses to be incurred on availing such guarantees/warrantees/repairs will have to be borne by the developer/bidder till the completion of CMC period.

4.10 Price Variation, Taxes, Duties & Levies etc.

The price quoted by the bidder shall remain valid for 180 days from the date of opening of the technical bid. The bidder shall take care of the variations in prices/taxes/duties/levies of the materials, labors, supplies etc and quote the price appropriately. The quote shall include all the taxes and duties. MEDA shall not entertain any addition in project cost.

4.11 Contract Drawings and Technical Specifications

Within 30 (Thirty) days from the signing of contract the bidder shall submit the following documents:

- 1) Drawings of power plants and power distribution line
- 2) Technical specifications of the power plant and distribution network
- 3) Bill of material of the solar power project
- 4) Single line diagram of all power generation plants and distribution network approved by appropriate authority.
- 5) Front view and General Arrangement diagrams for panel(s).
- 6) Control and schematic drawings for control / protection, Lightning protection, drawings showing coverage of all equipment, structures, etc.

Before commissioning of the solar project the bidder/project developer shall submit following documents:

- 1) The technical documents and specifications of the equipments submitted by the suppliers of power generation plant, catalogues for each type of equipment, relays, meters etc., installation and commissioning manuals for each equipment, relay etc.,
- 2) Operation manual of power plant
- 3) O & M manuals indicating trouble shooting procedure for all equipment
- 4) Type Test Certificates for all the major equipment
- 5) Details of Test results, for test conducted at works for all equipment
- 6) Details of Test results, for tests conducted at site for all equipment
- 7) Overall General Arrangement (GA) of all the panels/equipment
- 8) Spare part list, numbers and ordering procedure for all recommended spares
- 9) Static and dynamic loading of each equipment

4.12 Peripheral Boundary Fencing:

The bidder shall provide peripheral barbed Net fencing is to demarcate the boundary and to keep away the unauthorized access to the solar plant. The height must be minimum of 2 meter from the ground level. The boundary wall must be provided with a rugged main entry gate (s).

4.13 Inspection & Testing

The bidder/developer shall procure the standard quality materials complying with the relevant IS standards. The inspection and testing of the materials purchased will be the responsibility of bidder/developer. The bidder/developer shall have to submit the test certificates and inspection reports of the equipments.

Pre dispatch inspection: Successful bidder shall inform MEDA for pre dispatch inspection at their manufacturing facility or storage place by prior intimation of 15 days. After getting clearance from MEDA supplier may dispatch the material and site.

Commissioning inspection: MEDA shall witness the commissioning and trial run tests of the installed power generating sets and the distribution network.

4.14 Terms of Payment

a. 60% of site wise project cost will be released after supply & successful installation of the solar plant duly certified by developer, Divisional General Manager MEDA & authorized person of User Agency along with submission of Insurance policy documents for CMC period and along with RMS installation report which should be duly certified by Developer Divisional General Manager MEDA & authorized person of User Agency.

b. 20% of the site wise project cost shall be released on receipt of one-month successful performance report generated automatically through Remote monitoring System which should be duly certified by Developer, Divisional General Manager MEDA & authorized person of User Agency.

c. 20% of the site wise project cost shall be released on submission of commissioning report of the project & submission of next two-month successful performance report generated automatically through Remote monitoring System which should be duly certified by Developer, Divisional General Manager MEDA & authorized person of User Agency. And, submission of Performance Bank Guarantee (PBG) of 10% of total project cost from any Nationalized / schedule Bank valid for period of 5 years. This PBG can be in 5 equal parts respectively valid for 1,2,3,4 and 5 years from the date of commissioning and the expired PBG should be released every year (all five PBG should be submitted at time of release of final 20% payment). In case if "you" does not provide service during the warrantee period, PBG should be forfeited, and "you" shall be blacklisted.

The developer shall furnish bank guarantee of any Nationalized / schedule Bank valid for period of 05 years of value equivalent to 10% of the total project cost towards guaranteed generation. The bank guarantee shall be valid for the period of 5 years of CMC period. Developer shall submit this BG before release of the last 20% payment.

Deduction:-

4.14.1 The TDS at the source will be deducted as per the Govt. rule and regulations.

4.14.2 MEDA will issue necessary certificates of TDS deduction

For claiming the payment, the project developer will have to submit the following documents:

- 1) Submission of Performance Bank Guarantee in the format given in the bid document.
- 2) Monthly progress report during the project installation and commissioning. (for first installment)
- 3) Submission of commissioning report. (for first installment)
- 4) Submission of one month's performance report (for second installment)
- 5) Submission of next two month's performance report (for third installment)

4.15 Power to Vary or Omit Work

The bidder/developer is required to submit technical specifications, drawings and bill of material of individual power plant component of the proposed solar power project within one month from the signing of the contract. The bidder/developer has the powers to deviate in the technical specifications till the time of submission of the bids. Thereafter, no alterations, amendments, omissions, additions, suspensions or variations of the work shall be made by the developer. However, some exceptions may be granted in the change in specifications due to the site requirements or due the material availability be allowed. The developer will have to get such amendments in the specifications approved from the MEDA.

Omission of some of the execution work, than that specified by the developer during submission of specifications and bill of materials shall not be allowed. MEDA shall assess the cost of work omitted and can reduce the price on prorated basis.

4.16 Death and Bankruptcy

If the developer/bidder dies or commit any act of Bankruptcy, or being a corporation commence to be wound up except for reconstruction purposes or carry on its business under a Receiver, the executors, successors, or other representative in law of the estate of the developer or any such Receiver, liquidator, or any person in whom the contract may become vested, shall forthwith give notice thereof in writing to the MEDA.

During such process the developer/receiver/liquidator shall take all reasonable steps to continue operations of the project.

4.17 Liability for Accidents and Damage

The developer shall be responsible for the loss, damage of the solar power plant till the commissioning and handing over of the plant. The developer shall be responsible for any such loss, damage and depreciation occurring during procurement, erection, commissioning and operation of the solar power plants.

The developer shall indemnify and keep the MEDA harmless against all actions, suits, claims, costs, or expenses arising in connection with injuries other than such as may be attributable to the developer or his employees.

4.18 Penalty / Liquidity Damages

If the systems are not installed and commissioned within the stipulated period as mentioned in the work order the Bidder shall be required to pay penalty of 1/2% (half percent) per week, maximum up to 10% of the total cost of the systems and the amount shall be recovered either from the amount due to the Bidder or from Performance Bank Guarantee.

If Successful bidder is not able to complete the project in due time, the same shall be get done through other contractor and the Successful bidder has to bear all the cost incurred against the balance work left by him for the completion of project.

Any shortfall in generation below guaranteed generation of 15 lakhs kWh / 1MW shall be recover from the developer at the prevailing MSEDCL tariff for that consumer subject to maximum 10% of project cost up to the CMC period of 5 years. Monitoring of the generation guarantee compliance shall be done at the end of each year till the completion of CMC period.

4.19 Replacement of Defective Plant or Materials

If during the progress of the work the MEDA notifies in writing to the Developer/Bidder about the unsound or imperfect work or has supplied any plant of inferior in quality than that specified, the developer/bidder, on receiving details of such defects or deficiency shall, at his own expense, within such time as may be reasonably necessary for making it good, proceed to alter, reconstruct or remove such work, or supply fresh materials up to the standard of the specification. In case the developer fails to do so, the MEDA may, assess the difference in cost of standard and substandard work and consider the same for reduction of bid price on prorated basis.

4.20 Test on Commissioning

The developer/Bidder shall undertake all necessary tests at the time of commissioning of the project to ensure the satisfactory and safe operation of the project. The developer shall inform well in advance to the MEDA regarding the commissioning tests to be carried out along with its schedule. The officials of MEDA or their authorized representative may witness the commissioning tests. The commissioning certificate of electrical inspectorate, MSEDCL is required to be submitted to MEDA.

As per GR dtd. 17.12.2018 MEDA will hand over the solar power plant to concern Municipal Corporations/Councils/Nagar Panchyat after one year from commissioning.

Plant Power Performance Ratio Testing

The successful bidder shall be required to meet minimum guaranteed generation with Performance Ratio (PR) at the time of commissioning. PR should be shown minimum of 75% at the time of inspection for initial commissioning acceptance.

Plant Energy Performance Ratio Testing

The overall energy performance ratio of the system shall exceed 75%. (Sum total of the system energy losses shall not exceed 25%). Capacity Utilization Factor (CUF) as per the GHI levels of the location during the O&M period shall be maintained above minimum CUF of 15% for CMC period of 5 years. Correction shall be applied based on grid non availability more than 3%. In case of exceeding the grid non availability of 3% on annual basis, the bidder shall timely inform the beneficiary department / local body /MEDA about the issues. In case of plant shut down / shut down on incomer if the solar plant remains close, such electricity loss shall be considered for loss in generation.

4.21 Operation and Maintenance

The developer/bidder shall maintain the solar power project for 5 years in efficient and safe manner. The developer shall undertake maintenance of the project at its own cost. Following minimum O&M activities shall be executed within the CMC period.

- Cleaning of solar PV modules with soft water, wet and dry mops at 15 days cycle
- DC String / Array and AC Inverter monitoring: Continuous and computerized.
- AC Energy monitoring: Continuous and computerized.
- Visual Inspection of the plant: Monthly
- Functional Checks of Protection Components and Switchgear: Quarterly.
- Inverter, transformer, data acquisition, energy meters and power evacuation checks: Half Yearly.
- Support structure and terrace water-proofing checks: Yearly.
- O & M log sheet shall be provided and maintained.
- The repair/replacement work shall be completed within 48 hours from the time of reporting the fault.
- A half yearly performance report of the plant inclusive of energy generation data shall be provided as per approved format.
- All recorded data for the first 5 years shall be preserved in both manual and computer format and submitted at the time of handing over.

On completion of first year of project operation, the plant will be handed over to the beneficiary department. The Beneficiary department shall submit the plant performance report to MEDA. MEDA shall monitor and release the yearly O&M payment to the developer up to the completion of CMC period of 5 years. It will be the responsibility of the beneficiary department to execute AMC with the developer for the period from 6th year to 10 years with the agreed payment terms.

The Beneficiary department and MEDA will have the right to terminate the O&M contract at any point of time in case the O&M services of developer are not satisfactory.

4.22 Land for the Project

The required land / roof area for setting up the solar project will be provided by the beneficiary department free of cost.

4.23 Clearance of Site on Completion

On completion of installation and commissioning works, the developer/bidder shall clear away and remove from the site all the remaining construction equipment, surplus materials, rubbish and temporary works of every kind, and leave the whole of the site and works of every kind clean and in a workmanlike condition.

4.24 Training of the Personnel

The developer shall train the operator for to undertake the work of operation of the solar power plant. Wherever required developer shall assist the plant operator under the expertise of its equipment suppliers so that the persons employed for operation of the project will have upto date knowledge of the systems.

4.25 Miscellaneous

Storage of consumables, spares & parts, equipments, tools etc. shall be maintained at site by the bidder at its own cost.

4.26 Judicial Jurisdiction

All disputes arising out of and touching or relating to subject matter of the Agreement / Contract shall be subject to jurisdiction of local courts of (Pune) and the High Court of (Bombay).

Section-5: General Technical Specifications

5.1 Type and Quality of Material and Workmanship

The design, engineering, manufacture, supply, installation, testing and performance of the equipment shall be in accordance with latest appropriate IEC/Indian Standards. The specifications of the components should meet the minimum technical specifications mentioned.

The bidder shall ensure successful maintenance on the solar power plant over the period of 5 years. Further, the electricity supplied from the solar power plant shall be within the allowed voltage and frequency range/ within the permitted power quality standards.

5.2 Standards

Standard(s) referred to shall mean the current Edition/Revision together with Amendments issued. A list of some of the Standards is given as below:

Technical specifications, standards for solar PV system

Standards	Details
Solar PV Modules/Panels	
IEC 61215/ IS 14286	Design Qualification and Type Approval for Crystalline Silicon Terrestrial Photovoltaic (PV) Modules
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 (NH ₃) 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
IEC 62804	Photovoltaic (PV) modules -Test methods for the detection of potential-induced degradation. IEC TS 62804-1: Part 1: Crystalline silicon (mandatory for applications where the system voltage is > 600 VDC and advisory for installations where the system voltage is < 600 VDC)
IEC 62759-1	Photovoltaic (PV) modules –Transportation testing, Part 1: Transportation and shipping of module package units
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 requirements for inverters. Safety compliance (Protection degree IP 65 for outdoor mounting, IP 54 for indoor

	mounting)
IEC 60255-27	Measuring relays and protection equipment –Part 27: Product safety requirements
IEC 60068-2 (1, 2, 14, 27, 30 & 64)	Environmental Testing of PV System –Power Conditioners and Inverters a) IEC 60068-2-1: Environmental testing -Part 2-1: Tests -Test A: Cold b) IEC 60068-2-2: Environmental testing -Part 2-2: Tests -Test B: Dry heat c) IEC 60068-2-14: Environmental testing -Part 2-14: Tests -Test N: Change of temperature d) IEC 60068-2-27: Environmental testing -Part 2-27: Tests -Test Ea and guidance: Shock e) IEC 60068-2-30: Environmental testing -Part 2-30: Tests-Test Db: Damp heat, cyclic (12 h + 12 h cycle) f) IEC 60068-2-64: Environmental testing -Part 2-64: Tests -Test Fh: Vibration, broadband random and guidance
IEC 61000 –2,3,5 (as applicable)	Electromagnetic Interference (EMI) and Electromagnetic Compatibility (EMC) testing of PV 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, disconnectors, switch-disconnectors 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
Surge Arrestors	
IEC 62305-4	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	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)	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)
Junction Boxes	
IEC 60529	Junction boxes and solar panel terminal boxes shall be of the thermo-plastic 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

5.2.1 Solar Photovoltaic Modules

a. The Solar PV should be of Mono-Crystalline Silicon of Tier 1 / BIS approved make. The module type must be qualified as per IEC 61215 latest edition. SPV module conversion efficiency should be equal to or greater than 15% under STC. Modules must qualify to IEC 61730 Part I and II for safety qualification testing. Certificate for module qualification from IEC or equivalent to be submitted as part of the bid offer.

b. The PV module shall perform satisfactorily in humidity up to 508% with temperature between 0°C to + 55°C. Since the modules would be used in a high voltage circuit, the high voltage insulation test shall be carried out on each module and a test certificate to that effect must be provided.

c. The predicted electrical degradation at the end of the period of 12 years shall not be more than seven (7) per cent of the full rated original output.& for remaining period of next 8 year shall not be more than fifteen (15%) percent of full rated output.

d. Manufacturers / suppliers should confirm that they are supplying PV module which withstand harsh environmental conditions.

e. Other general requirement for the PV modules and subsystems shall be the following:

i. 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 more than 3 (three) per cent from the respective arithmetic means for all modules and/or for all module strings, as the case may be.

ii. Except where specified, the front module surface shall consist of impact resistant, low-iron and high-transmission toughened glass.

iii. The module frame, if any, shall be made of a corrosion-resistant material which shall be electrolytically compatible with the structural material used for mounting the modules.

iv. 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 IP65 rated.

5.2.2. Module Mounting structure and General Arrangement

- a. Suitable method and arrangement of structures to be selected so as to optimize installed capacity. The bidder is responsible to rectify damages if any during the installation of PV panels.
- b. Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, and nuts and bolts. All support structure material should be of hot dip galvanizing or of Aluminum frame structures with adequate strength and in accordance with relevant BIS/international standards.
- c. Structures shall be supplied complete with all members to be compatible for allowing easy installation at the site.
- d. The structure should be capable of withstanding a wind load of 150 km/hr after installation.
- e. The structures shall be designed for simple mechanical and electrical installation. There shall be no welding requirement or complex machinery at the installation site.
- f. Estimated cost is for standard structure height so bidder has to quote as per considering slandered structure height as per prevailing method for ground mounted structure.
- h. The height of the MMS shall be maintained in such a way that PV modules will be at height 1.5 mtr from the flood line.
- i. The supplier/developer shall specify installation details of the PV modules and the support structures with appropriate diagrams and drawings. Such details shall include, but not limited to, the following:
 - i) Determination of true south at the site;
 - ii) Array tilt angle to the horizontal;
 - iii) Details with drawings for fixing the modules;
 - iv) Structure installation details and drawings;
 - v) Electrical grounding (Earthing);
 - vi) Inter-panel/ Inter-row distances with allowed tolerances;
 - vii) Safety precautions to be taken.

5.2.2.1 Requirement of cost for additional elevated structures to be born by Municipal Corporations/ Council/ Nagar Panchyat:

- a. The cost discovered by MEDA for this tender has considered as per prevailing method for ground mounted structure. The height of structure in such a way that the trailing edge of the panels will remain at 2 to 3 feet (+/- 10%) above the ground level as per requirement of specific site and other related things/accessories.
- b. In case Municipal Corporations/ Council/ Nagar Panchyat are willing to opt elevated structures of any specific heights for utilise the area below the solar structures or avoid future water lodging and related to flood control line. then, the additional costs of such elevated structures will be determined by Municipal Corporation/ Council /Nagar Panchyat in consultation with the bidder. Then such additional costs shall be deposited by the concerned Municipal Corporation / Council/ Nagar Panchyat upfront to MEDA to initiate the work as per the desired structures heights.

5.2.3 DC Distribution Box

- i) DC Distribution panel to receive the DC output from the array field.
- ii) DC DPBs shall have sheet from enclosure of dust & vermin proof conform to IP 65 protection. The bus bars are made of copper of desired size. Suitable capacity MCBs/MCCB shall be provided for controlling the DC power output to the PCU along with necessary surge arrestors.

5.2.4 AC Distribution Panel Board

AC Distribution Panel Board (ACDB) shall control the AC power from inverter, and should have necessary surge arrestors. Interconnection from ACDB to mains at LT Bus bar to be carried out and complete equipment along with metering to be installed in the ACDB. Requirement/specifications of ACDB may be changed as per site conditions. An ACDB to be provided at the cable terminating point emanating from inverter for interconnection control of dedicated electrical loads. All switches at the, circuit breakers, connectors should confirm to IEC 0947, part I, II and III.

5.2.5 Inverter

- a) The Inverter continuous power rating shall be above 90% of the total Array Capacity.
- b) Inverter technical data sheet:-

- The inverter shall continuously control the utility interface within the stipulated range:-
 - On three Phase side:-
 - Output voltage 415(+12.5-20%) VAC
 - Frequency 50Hz (+3 HZ, -3 Hz)
 - Maximum current ripple 3% PP
 - Reactive Power 0.95 inductive to 0.95 capacitive
- c) Disconnection, Islanding and automatic reconnection after the grid failure is restored inverter shall have facility to reconnect the inverter automatically to the grid following restoration of grid, subsequent to grid failure condition. The system should have integrated system control and software for plant control and remote communication with web monitoring to monitor individual strings/MPPT/Inverter.
- d) **Grid-tide String Inverter Detailed Specifications:** Inverter is used to convert DC power produced by SPV modules, in to AC power and adjust the voltage & frequency levels to suit the local grid conditions. The inverter shall interconnect and feed power in synchronization with DG set in the absence of utility supply.

Common Technical Specification:

- Control Type: Voltage source, microprocessor assisted, output regulation
- Output voltage: 3 phase, 415 V ac (+12.5 %, - 20 % V ac)
- Frequency: 50 Hz (-6 Hz, +5 Hz)
- Total Harmonic Distortion: less than 3%
- Inverter efficiency: 98.2 % and above at full load,
- Other important Features/Protections required in the inverter
- ✓ Automatic morning wake-up and nightly shutdown
- ✓ Mains (Grid) over-under voltage and frequency protection
- ✓ Fool proof protection against islanding.
- ✓ Array ground fault detection.
- ✓ LCD and piezoelectric keypad operator interface Menu driven
- ✓ Automatic fault conditions reset for all parameters like voltage, frequency and/or black out.
- ✓ MOV type surge arresters on AC and DC terminals for over voltage protection from lightning-induced surges.

- e) inverter should be rated to operate at 0 to 55 deg. Centigrade unless provision for air conditioning is included in inverter
- f) All parameters should be accessible through an industry standard communication link. The inverter shall be self-commuted and shall utilize a circuit topology and components suitable for meeting the specifications listed above at high conversion efficiency and with high reliability. The Inverter shall give the preference to feed the Loads from Solar Energy being produced and shall draw the additional power from mains to meet the load requirements in the case load is more than solar energy being produced. Conversely it should feed the solar power to the Grid if the load is less than the solar energy generated. The inverter shall also have the ability for automatic starting, transfer and no-break transfer to an optional generator for extended grid failure periods.
- g) Since the inverter is to be used in solar photo voltaic energy system, it should have high operational efficiency.
- h) In inverter there shall be a direct current isolation provided at the output by means of a suitable isolating transformer.
- i) The inverter output shall be 415 VAC, 50 Hz 3 phase. The inverter shall be capable of operating in parallel with the grid utility service and shall be capable of interrupting line-to-line fault currents and line-to ground fault currents.
- j) The inverter shall be able to withstand an unbalanced output load to the extent of 30%
- k) The inverter shall include appropriate self-protective and self-diagnostic features to protect itself and the PV array from damage in the event of inverter component failure or from parameters beyond the inverter's safe operating range due to internal or external causes. The self-protective features shall not allow signals from the inverter front panel to cause the inverter to be operated in a manner which may be unsafe or damaging. Faults due to malfunctioning within the inverter, including commutation failure, shall be cleared by the inverter protective devices and not by the existing site utility grid service circuit breaker.
- l) The inverter shall go to shut down/standby mode, with its contacts open, under the following conditions before attempting an automatic restart after an appropriate time delay; in sufficient solar power output.
 - Insufficient Solar Power Input-When the power available from the PV array is insufficient to supply the losses of the inverter, the inverter shall go to a

standby/shutdown mode. The inverter control shall prevent excessive cycling during rightly shut down or extended periods of insufficient solar radiation.

- Utility-Grid Over or Under Voltage -The inverter shall restart after an over or under voltage shutdown when the utility grid voltage has returned to within limits for a minimum of two minutes.
- Utility-Grid Over or Under Frequency - The inverter shall restart after an over or under frequency shutdown when the utility grid voltage has returned to the within limits for minimum of two minutes.
- The inverter generated harmonics measures at the point of connection to the utility services when operating at the rated power shall not exceed a total harmonic current distortion of 3 percent, a single frequency current distortion of 3 percent and single frequency voltage distortion of 1 percent, when the first through the fiftieth integer harmonics of 50 Hz are considered.
- The high voltage and power circuits of the inverter shall be separated from the low-voltage and control circuits. The internal copper wiring of the inverter shall have flame resistant insulation. Use of PVC is not acceptable. All conductors shall be made of standard copper.
- The inverter shall withstand a high voltage test of 2000 Vrms, between either the input or the output terminals and the cabinet (chassis).
- Full protection against accidental open circuit and reverse polarity at the input shall be provided.
- The inverter shall not produce Electromagnetic Interference (EMI) which may cause malfunctioning of electronic and electrical instruments including communication equipment, which are located within the facility in which the inverter is housed.
- The inverter shall have an appropriate display on the front panel to display the instantaneous AC power output and the DC voltage, current and power input. Each of these measurement displays shall have an accuracy of 1 percent of full scale or better. The display shall be visible from outside the inverter enclosure. Operational status of the inverter, alarms, trouble indicators and ac and the dc disconnect switch positions shall also be communicated by appropriate messages or indicator lights on the front cover of the inverter enclosure.

m) Integration of PV Power with Grid:

The output power from SPV would be fed to the inverters which converts DC produced by SPV array to AC and feeds it into the 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. Once the Mains comes into service PV system shall again be synchronized with Mains supply and load requirement would be met to the extent of availability of power. 4 pole isolation of inverter output with respect to the grid connection need to be provided.

5.2.6 Data Acquisition System / Plant Monitoring

This unit should perform the following:

- Individual Array monitoring
- Measurement and/or recording of energy parameters.
- Simple data logger or energy meter to record the energy data on a predetermined interval basis.
- Measurement & continuous acquisition of ambient air temperature, solar radiation, PV module temperature, individual string current, inverter output voltage and current, output frequency
- Operating state monitoring and failure indication- Representation of monitored data's in graphics mode or in tabulation mode.
- Controlling & monitoring the entire power system through remote a local terminal.
- Necessary hardware & software shall have to be supplied by the successful bidder. Both the software and hardware required for interfacing the plant including modems, Printers, UPS, Cellular device are to be supplied and installed by the successful bidder.
- Remote control/ Instrumentation: The microprocessor control unit should have the provision for installation of RS 232/485 communication link, should have control and monitoring capability (by personal computer) be desired. All parameters, status and indicators and targets accessible through the local operator interface may be accessed remotely through these ports. Optional analog outputs (0-5VDC) for AC powers, DC current, DC Voltage can be supplied to interface with external data acquisition systems. Optional contacts inputs from an external SCAD/RTU or other remote control device can be provided within the inverter enclosure for remotely disabling or resetting the unit.

5.2.7 Lightning Protection

- Complete PV plant array area, all the inverter stations and the control rooms shall be protected from lightning. The protection system will be based on early streamer emission lightning conductor air terminals. The air terminals shall provide an umbrella protection against direct lightning strike covering a radial distance of minimum 107m or as per sites requirement. The air terminal shall be capable of handling multiple strikes of lightning current and should be maintenance free after installation. Lightning arrester provided within PV plant area shall be located such that there is no shading effect on PV modules during effective sunshine hours typically from 9am to 4pm.
- Earthing stations for the lightning discharges shall be provided with clamps, fasteners, conductors and test links of phosphorus bronze and located at 200mm above ground level in an easily accessible position for testing.
- The Code of practice shall be as per latest IEC standard for protection of building and allied structures and NFC 17-102 2011 edition for Early Streamer Emission lightning protection.

5.2.8 Surge Protection

Internal surge protection shall consist of three MOV type surge-arrestors connected from +ve and -ve terminals to earth (via Y arrangement)

5.2.9 Earthing Protection

Each array structure of the PV yard should be grounded properly. In addition the lightning arrester/masts should also be provided inside the array field. Provision should be kept inside the array field. Provision should be kept for shorting and grounding of the PV array at the time of maintenance work. All metal casing/shielding of the plant should be thoroughly grounded in accordance with Indian electricity Act./IE Rules.

5.2.10 Grid Islanding

Disconnection of the PV generator in the event of loss of the main grid supply is to be achieved by in built protection within the power conditioner. This may be achieved through rate of change of current, phase angle, unbalanced voltage or reactive load variants. Operation outside the limits of power quality as described in the technical data sheet should

cause the power conditioner to disconnect the grid. In case of the above, tripping time should be less than 0.5 seconds. Response time in case of grid failure due to switch off or failure based shut down should be well within 5 seconds. In case of use of two or more Inverters of total capacity, suitable equipment for synchronizing the AC output of both the Inverters to the ACDB/Grid should be provided.

Automatic reconnection after the grid failure is restored: Inverter shall have facility to reconnect the inverter automatically to the grid following restoration of grid, subsequent to grid failure condition. The system should have integrated system control and software for plant control and remote communication with web monitoring to monitor individual strings and complete power plant from Inverter.

5.2.11 Cables

- a) Cabling in the yard and control room: Cabling in the yard shall be carried out as per IE Rules.
- b) Wires: Only FRLS copper wires of appropriate size and of reputed make shall have to be used
- c) Cables Ends: All connections are to be made through suitable cable/lug/terminals; crimped properly & with use of Cable Glands.
- d) Cable Marking: All cable/wires are to be marked in proper manner by good quality ferule or by other means so that the cable can be easily identified. Any change in cabling schedule/sizes if desired by the bidder/supplier be got approved after citing appropriate reasons. All cable schedules/layout drawings have to be got approved from the purchaser prior to installation. All cable tests and measurement methods should confirm to IEC 60189.
- e) Multi Strand, Annealed high conductivity copper conductor
 - PVC type 'A' pressure extruded insulation
 - Overall PVC insulation for UV protection and confirm to IEC 69947
 - Armored cable for underground laying
 - All cables shall conform to BIS standards (IS 694) and (IS 1554)
 - The size of each type of cable selected shall be based on minimum voltage drop, however, the maximum drop shall be limited to 2%
 - Selected cable should carry a current density of minimum 1.2Amp/Sq.mm.

- All electrical cables / wires inside the building to be fixed in Rigid Steel Conduit for wiring inside the building
- Proper laying of cables have to be ensured in appropriate cable trays, pipes / trenches as per site requirement.
- For laying / termination of cables, latest BIS / IEC codes / standards be followed.

5.2.12 Miscellaneous

- Proposed tentative BOM indicating major components shall be submitted
- Two copies of engineering, electrical drawings including detailed SLD are to be supplied.
- All items against which no make has been mentioned must confirm to ISI standards
- For complete electro-mechanical works, Bidders shall supply complete design, details and drawings for approval by PMC before progressing with installation work.

5.2.13 SCADA and Remote Monitoring System

- The Bidder shall ensure that the Facility at all times:
 - a. Have SCADA installation/ any other continuous communication facility for transferring the data of Solar Energy generated from the Facility's switchyard / MSEDCL Substation to the State Grid's Sub-Station / Control room;
 - b. Have installed Special Energy Meter (SEM) with telecommunication facility with availability based tariff (ABT) feature as per relevant CEA specifications / regulations as may be applicable.
 - c. Moreover, it shall be mandatory to provide real time visibility of electricity generation to MSLDC at Airoli, Navi Mumbai, Maharashtra or MSEDCL through RTU-DC, V-SAT or any other standard protocol decided by MSEDCL.

5.3 Drawings/Documents/Manuals

- Two sets of Engineering, electrical drawings and Installation and O&M manuals are to be supplied. Bidders shall provide complete 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.
- Approved ISI and reputed makes for equipment be used.
- For complete electro-mechanical works, Bidders shall supply complete design, details and drawings for approval to MEDA before progressing with the installation work

5.4 Spare Parts, Tools and Site Consumables

5.4.3 Spare Parts

All the spare parts supplied shall be of same material / workmanship and interchangeable with the corresponding parts of the executed work, protected against corrosion and marked Approved with identification labels. Spare parts supplied shall not be given to the sub-contractors for use during erection and commissioning for replacing the defective or damaged original components of his supplies of works.

The developer/bidder shall maintain adequate types of bolts, screws, nuts, fuse wires, cables, conductors, consumables, etc.

5.4.4 Fire Extinguishers

- The fire-fighting system for the proposed power plant for fire protection shall be consisting of:
- Portable fire extinguishers in the control room for fire caused by electrical short circuits
- Sand buckets in the control room
- The installation of Fire Extinguishers should conform to TAC regulations and BIS standards. The fire extinguishers shall be provided in the control room housing PCUs as well as on the site where the PV arrays have been installed.

5.5 Manufacturing Requirements

5.5.3 Materials

Materials used, shall be new and of first class quality free from rust, defects and imperfections. Inspection records of all materials shall be compiled before actual use. The bidder shall maintain the inspection records of materials of major components. Materials of limited shelf life shall not be used after their expiry date.

5.6 Electrical Works

5.6.1 General

- All components shall be of approved design.
- Works shall be pre-assembled to the extent possible in the contractor's workshop complete with all devices and wired up to common terminal blocks.
- Short-circuit calculations shall be evaluated giving full evidence that every electrical component can withstand the maximum stresses under fault conditions, for fault levels and durations under the worst conditions. All Works shall be suitable for the prevailing climatic conditions.

5.6.2 Clearances

Clearances shall be provided as per the Indian Electricity Rules and Standards for ready access for O & M whilst the remaining sections of Equipment are alive.

5.6.3 Terminal Boxes and Earthing

The terminal leads, terminals, terminal boxes and associated equipment shall be suitable for terminating the respective type of cables and meeting the technical standards and specifications. Terminal boxes should be properly earthed.

5.6.4 Control Panel Wiring

- All wiring connections shall be readily accessible and removable for test etc. Wiring between terminals of the various devices shall be point to point.
- Multi-conductor cables shall be connected to the terminal blocks in such a manner as to minimize crossovers. Approved claw washers of crimp type connector shall be used to terminate all small wiring. Each conductor shall be individually identified at both ends through a system providing ready and permanent identification, utilizing approved slip-on ferrules.
- Markers may be typed individually or made up from sets of numbers and letters firmly held in place. Open markers will not be accepted. These must withstand a tropical environment and high humidity and only fungus proof materials will be accepted. Ferrules of adhesive type are not acceptable.

5.6.5 Cubical and Control Panel

- Cubicles / control panel enclosures shall be of sheet steel (minimum thickness: 2.5 mm), rigid, self-supporting construction and supplied with channel bases.
- Fitted with close fitting, gasketed, hinged, lift-off doors capable of being opened through 180 deg. The doors shall have integral lock and master key.
- Cubicles/panels shall be vermin proof. Removable gland plates shall be supplied and located to provide adequate working clearance for cable terminations. Cables and wiring shall enter from bottom or top as Approved. Instruments, control knobs and indicating lamps shall be flush mounted. Relays and other devices sensitive to vibration shall not be installed on doors or hinged panels, and no equipment shall be installed on rear access doors.

5.6.6 Earthing

- Provision shall be made for earthing all equipment. All structural metal work and metal chassis shall be connected to earth.
- Earthing conductors shall be at least equal in cross-sectional area to the supply conductors and capable of carrying the fault current.
- Earthing shall be carried out confirming the relevant IS and electrical Inspectorate requirements.
- Proper concrete chamber and chamber cover shall be provided for each earthing and value of earth resistance should be displayed.
- Separate earthing shall be provided for system earthing and LA earthing
- AC / DC earthing shall be provided separately or can be interconnected as per the inverter manufacturers specifications / suggestions
- All the MMS, Battery bank, inverter, AJB etc. shall be have fixed earthing with earthing strip
- SCADA, CCTV, and any other communication systems, LA shall be provided special earthing.
- Chemical earthing shall be as per IEC 62561 Series (Part 1,2)
- Number of earthing shall be as per the installed capacity of the solar PV system

5.6.7 Labels and Plates

- Labels of approved material, size, lettering and arrangements shall be provided for all instruments, relays, control switches, push buttons, indication lights, breakers, etc. No levels are required if function is indicated on the device.
- Instruction plates in the Contract and selected local language, the sequence diagrams or instructions for maintenance shall be fitted on the inside of the front door of the electrical switchboards.
- Information display containing the project capacity, no of beneficiaries, name of developer, Name of MEDA and funder should be displayed at prominent location.

5.6.8 Warning Labels

- Warning labels shall be made of synthetic resin with letters engraved in the Contract and selected local language as Approved.
- For indoor circuit breakers, starters, etc., transparent plastic material with suitably contrasting colours and engraved lettering would be acceptable.

5.6.9 Labels for Cables

- Each cable shall have approved non-corrosive labels detailing identification number of the cable, voltage, and conductor size permanently attached to each end.

5.6.10 Single Line Diagrams

- The control room shall be furnished with a copy of the final as-built single-line diagram detailing all electrical data and denominations, separate for each individual switchgear/distribution board/MCC.

5.6.11 Key System for Electric Boards/Control Panels

- The LOTO systems have to be provided for the ACDB.

5.7 Instrumentation and Control Equipment

General

- The Works shall be pre-assembled to the extent possible in the contractor's workshop.
- All instrumentation and control functions shall be shown on the piping and instrumentation diagrams. Symbols to be used shall be as per ISO Standards and Identification system (tag numbers) as per the Approved Works identification system.
- Shielded cables shall be used for the control and supervisory equipment.

Sizes of Indicators, Recorders, Etc.

- Meters, instruments and recorders shall be of standard size. The front glasses shall be anti-glare type.

Tests

- Single components and pre-erected assemblies shall undergo functional and routine tests in the contractor's workshop. Ready mounted control and supervisory system shall undergo functional tests on Site. Calibration tests shall be made on all-important pressure gauges and other instruments.

Measuring Systems

- Measuring ranges of indicators, transducers, etc. shall be selected in such a way that the rated value of the measured magnitude covers approx. 75% of the range. All local instruments shall, as far as practicable, be mounted vibration free. Wherever required, damping elements shall be used.
- Weather monitoring system and equipment's required to undertake PR testing shall be provided and the data of the same should be made available on the web based platform. The PR and other parameters should be made available on real time basis.

5.8 Erection and Commissioning

Operational Tests

- As far as practicable, operational test shall be carried out on all Works, simulating operating conditions.
- Parts to be delivered by sub-contractors shall be tested either at the premises of the sub-contractor or of the developer, as approved.

Site Inspection and Tests

- During erection, commissioning and trial run, the developer/bidder shall perform all inspections and tests in the presence of the representatives of MEDA.
- Unless otherwise specified, all costs for testing at site and of the works and charges associated with it shall be borne by the developer/bidder. The developer/bidder shall delegate his experts to perform the tests at site.

Commissioning Tests

- Commissioning tests shall be carried out with standard procedures and practices on all generating units and other equipment to verify their rating characteristics. Field acceptance test reports shall be prepared by the developer/bidder and submitted to MEDA for approval.

Annexure -1: Format for Submission of Technical BID

To,

Date:

General Manager (Solar)

Maharashtra Energy Development Agency (MEDA)

S. No. 191/A, Phase - I, 2nd Floor,

MHADA Commercial Complex,

Opp. Tridal Nagar, Yerwada,

Pune - 411 006.

Sub: Submission of technical bid for "Design, Engineering, Supply, Installation, Testing, Commissioning with 5 Year CMC for Aggregate 1.0 MW Grid Interactive Solar PV project at Vasai - Virar Municipal Corporation Under Amrut Yojana in the State of Maharashtra."

Tender No:

Dear Sir,

We, (M/s. ---name of bidder) are submitting the technical bid for undertaking the above captioned work. We have examined the tender document and understood the scope of work very well. We are hereby submitting following information:

1	Name of the Bidder	
2	Address with Pin code	Registered Address Correspondence Address
3	Phone Number	
4	Fax Number	
5	E-mail	
6	Status- Company/Society/NGO/Association/others (enclose necessary documents)	
7	Registration number	
8	Permanent Account No.(PAN) (enclose necessary documents)	
9	GST No. (enclose necessary documents)	
10	Name of Contact Person	
11	Telephone No(s). E-mail	Landline(s): Mobile(s): E-mail ID :
12	Bank Details for Electronic Payment	Name of the Bank:

		Address of Branch: Account No.: Type of Account:
13	9 digit MICR code printed at the bottom, next to cheque no.	
14	IFSC (for RTGS)/NEFT Code of the Bank	
15	Proposed capacity	1.0 MW Grid Interactive Solar PV Project at Vasai - Virar Municipal Corporation
16	Brief information of past activities carried out showing expertise in undertaking such similar assignments	
	Existing technical manpower in the organization	
17	Total turnover in FY 2018-19 FY 2017-18 FY 2016-17 (enclose necessary documents)	
18	Detailed Technical Description of the proposed Solar PV Ground Mounted Grid Connected System with relevant drawings (Plant layout, SLD) and Typical Specification Sheet for MW SPV Plant including IEC certificate of solar module.	

We hereby declare that

- 1) the above information is true and correct
- 2) Our Tender shall be valid for a period of 90 days from the date of opening of the technical bid in accordance with the Tendering Document, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- 3) All the documents submitted in tender should be original and true, and we are aware that in case, duplicate and fraudulent documents are submitted by us; Director General MEDA reserves all rights to reject the bid and take appropriate action against us.
- 4) If our Tender is accepted, we commit to furnish bank guarantee of Rs --- within allotted time.
- 5) We offer to execute the work in conformity with the Bid documents

Date:.....

(Signature).....

Place:.....

(Name).....

(Designation).....

..

(Common Seal).....

Annexure- 2: Format for submission of Financial Bid

To,

Date:

General Manager (Solar)

Maharashtra Energy Development Agency (MEDA)

S. No. 191/A, Phase - I, 2nd Floor,

MHADA Commercial Complex,

Opp. Tridal Nagar, Yerwada,

Pune - 411 006.

Sub: Submission of financial bid for "Design, Engineering, Supply, Installation, Testing, Commissioning with 5 Year CMC for Aggregate 1.0 MW Grid Interactive Solar PV Project at Vasai - Virar Municipal Corporation Under Amrut Yojana in the State of Maharashtra."

Tender No:

Dear Sir,

We, the undersigned [insert name of the 'Bidder']having read, examined and understood in detail the BID Document for Implementation of the above mentioned project and hereby submit our price bid for executing the solar power project.

Sl. No	Description of Items	Total Price excluding GST	Total Value of GST	Total Price including GST	Total Price including GST (in words)
1	2	3	4	5=3+4	
1	Design, Engineering, Supply, Installation, Testing, Commissioning with 5 Year CMC Grid Interactive Solar PV project Under Amrut Yojana at Vasai - Virar (1000 kW – One Location)				

Note:

1. The above mentioned price will be released as per terms given in the Tender Document.
2. Conditional proposal shall be summarily rejected.
3. In the event of any discrepancy between the values entered in figures and in words, the values entered in words shall be considered.
4. This offer shall remain valid for a period of 180 (One Eighty days) from the due date of opening of technical Bid on above subject.

Yours faithfully,

(Signature).....

(Name).....

Organization Name

Address and Seal.....

Annexure- 3: Power of Attorney

(To be on non-judicial stamp paper of appropriate value in accordance with Stamp Act relevant to place of execution)

Know all men by these presents, We (name and address of the registered office of the Developer) do hereby constitute, appoint and authorize Mr./Ms. (name & residential address) who is presently employed with us and holding the position of as our true and lawful attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to submission of our Bid for "Design, Engineering, Supply, Installation, Testing, Commissioning with 5 Year CMC for Aggregate 1.0 MW Grid Interactive Solar PV project at Vasai-Virar Municipal Corporation Under Amrut Yojana in the State of Maharashtra." in response to the BID issued by MEDA (No dated), including signing and submission of the Bid and all other documents related to the Bid, including but not limited to undertakings, letters, certificates, acceptances, clarifications, guarantees or any other document which the MEDA may require us to submit. The aforesaid Attorney is further authorized for making representations to the MEDA, Pune and providing information / responses to MEDA, Pune representing us in all matters before MEDA, Pune and generally dealing with MEDA, Pune in all matters till the completion of the bidding process as per the terms of the above mentioned Tender Document.

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

All the terms used herein but not defined shall have the meaning ascribed to such terms under the BID document.

Signed by the within named

(Insert the name of the Developer)

through the hand of

Mr. ... (Name of the authorized person) duly authorized by the Board to issue such Power of Attorney

Dated this day of

Accepted

.....

Signature of Attorney

(Name, designation and address of the Attorney)

Attested

.....

(Signature of the executant)

(Name, designation and address of the executant)

.....

Signature and stamp of Notary of the place of execution

Common seal of has been affixed in my/our presence pursuant to Board of
Director's Resolution dated.....

WITNESS

1. Name & Signature

2. Name & Signature

Annexure-4: Deviation Schedule

Bidder's Proposal Ref. No. and Date

Bidder's name and address

To

General Manager (Solar)

Maharashtra Energy Development Agency (MEDA)

S. No. 191/A, Phase - I, 2nd Floor,

MHADA Commercial Complex,

Opp. Tridal Nagar, Yerwada,

Pune - 411 006.

Dear Sir,

We declare that the following are the only deviations and variations from and exception to the specifications contained in bid document No. dated..... for Design, Engineering, Supply, Installation, Testing, Commissioning with 5 Year CMC for Aggregate 1.0 MW Grid Interactive Solar PV project at Vasai-Virar Municipal Corporation Under Amrut Yojana in the State of Maharashtra. The schedule has been filled, except these deviations subject to the approval and acceptance by MEDA. The entire work shall be performed as per your specifications and documents. Further we agree that additional conditions if any found elsewhere in our offer other than those stated below, shall not be given effect to.

Clause No.	Reason	Page	Statement of variation and deviation

Signature and seal of the bidder

Note: Use additional sheets of the format, if required.

Annexure 5: Proforma of Bank Guarantee Towards EMD

(To be on non-judicial stamp paper of appropriate value in accordance with Stamp Act relevant to place of execution)

To,

Date:

General Manager (Solar)

Maharashtra Energy Development Agency (MEDA)

S. No. 191/A, Phase - I, 2nd Floor,

MHADA Commercial Complex,

Opp. Tridal Nagar, Yerwada,

Pune - 411 006.

Ref:- Bank guarantee towards EMD

Dear Sir,

M/s. having its registered office at(hereinafter called "The bidder") is participating in the bid called for "Design, Engineering, Supply, Installation, Testing, Commissioning with 5 Year CMC for Aggregate 1.0 MW Grid Interactive Solar PV project at Vasai-Virar Municipal Corporation Under Amrut Yojana in the State of Maharashtra". The conditions of bid aforesaid provide inter alia that the bidder shall pay the Maharashtra Energy Development Agency, Government of Maharashtra (hereinafter referred to as the 'MEDA') a sum of Rs.4,50,000/- (Rupees Four Lakhs Fifty Thousand only) per MW as earnest money deposit (EMD) in the form and manner and subject to the terms mentioned therein. The form of payment of EMD includes a guarantee executed on behalf of and at the request of the bidder by our Nationalized Bank undertaking full responsibility to indemnify MEDA in case of default.

The said has approached us and at their request and consideration of the promises, we.....(Name of Bank) having our office at.....(add of bank) have agreed to and hereby give such guarantee as is hereinafter mentioned in your favour.

1. We of (hereinafter called "The Bank") do hereby unconditionally and irrevocably guarantee to you the due payment of the said sum of Rs (Rupees.....only) by the bidder to you and undertake and agree with you that if default shall be made by the bidder in performing any of the terms and conditions of bid document or in payment of any money payable to you i.e. MEDA shall be the sole judge and its decision communicated to us in this regard shall be final and conclusively binding on us, it shall not be open to ask you reasons/details in this regard and we shall have no right to question the same or to make reference to the bidder in any manner whatsoever and we shall on the mere first demand pay to you without demur and/or protest and without notice or reference to the bidder by demand draft payable at Pune a sum of Rs.

.....(Rs.....only) or such portion thereof not exceeding the said sum as you may from time to time require/demand and you can look to us as the principal debtor.

2. You will have the full liberty without reference to us and without affecting this guarantee, postpone for any time or from time to time the exercise of any of the powers and rights conferred on you under the said bid with the said bidder and to enforce or to forbear from enforcing any powers or right or by reason of time being given to the said bidder which under law relating to the sureties would but for the provision have the effect of releasing us. Any such time/indulgence/forbearance and/or any act or omission or commission on your part will not vitiate this guarantee.
3. Your right to recover the said sum of Rs(Rs.....only) from us in the manner aforesaid will not be affected or suspended by reason of the fact that any dispute(s) are pending before any officer, Tribunal of Court or Arbitrator(s)/Umpire.
4. The guarantee herein contained shall not be determined or affected by the liquidation or winding up, dissolution or change of Constitution or insolvency of the said bidder but shall in all respects and for all purposes be binding and operative until full payment is received by you as if this is a continuing guarantee to secure your ultimate dues in this premises.
5. We have power to issue this guarantee in your favour under Memorandum and Articles of Association and undersigned has full power to do under the Power of Attorney dated granted to him by the Bank.
6. We will have no right of subrogation against unless all your dues as aforesaid are paid in full. We do hereby waive our rights of surety ship, which are inconsistent with all or any provisions hereof.
7. You will be at liberty to alter the terms and conditions of the said bid and/or to take any other security/guarantee/promissory notes from the bidder or others which will not affect/vitiate/discharge this guarantee.
8. This guarantee will bind our successors and assigns and will remain operative irrespective of any change in the constitution of our Bank and/or the bidder.
9. Our liability under this guarantee is restricted to Rs.(Rs.....only) and this guarantee shall remain enforce till and unless a claim to enforce the guarantee is filed with us within six months from the date of expiry hereof all your rights under the said guarantee shall be forfeited and we shall be relieved and discharged from all liabilities thereunder.

Yours faithfully,

.....Bank

Signature of a person duly authorised

to sign on behalf of the bank.

Annexure 6: Proforma of Bank Guarantee Towards Performance Guarantee

(To be on non-judicial stamp paper of appropriate value in accordance with Stamp Act relevant to place of execution)

To,

General Manager (Solar)

Maharashtra Energy Development Agency (MEDA)

S. No. 191/A, Phase - I, 2nd Floor,

MHADA Commercial Complex,

Opp. Tridal Nagar, Yerwada,

Pune - 411 006.

Dear Sir,

Ref: Contract no. dated

For.....M/s.....of.....(hereinafter called "the developer") have been awarded the contract for..... by Maharashtra Energy Development Agency, (MEDA), Pune.

The conditions of the contract aforesaid provide inter alia that the developer shall pay the MEDA a sum of Rs. (Rupees.....only) as performance guarantee in their form and manner and subject to the terms therein mentioned. The form of payment of performance guarantee includes a guarantee executed on behalf of and at the request of the developer, by our nationalized bank undertaking full responsibility to indemnify MEDA in case of default.

The said developer has approached us and at their request and in consideration of the promises we.....[Name of Bank] having our office at.....[Address of Bank]having agreed to and hereby give such guarantee as is hereinafter mentioned in your favour.

1. We.....of.....(hereinafter called "the bank") do hereby unconditionally and irrevocably guarantee to you the due payment of the said sum of Rs. (Rupeesonly) by the developer to you in terms of the said conditions of contract and their due performance of the obligations in this behalf and undertake and agreed with you that if default shall be made by the developer in performing any of the terms and conditions of the contract or in payment of any money payable to you i.e. MEDA shall be the sole judge and its decision communicated to us in this regard shall be final and conclusively binding on us, it shall not be opened to ask you reasons/details in this regard and we shall have no right to question the same or make reference to the developer in any manner whatsoever and we shall on mere first demand pay to you without demur and / or protest and without notice or reference to the developer by

demand draft payable at Pune a sum of Rs.such portion thereof not exceeding the said sum as you may from time to time require/demand and you can look to us as the principal debtor.

2. You will have the full liberty without reference to us and without affecting this guarantee, postpone for any time or from time to time the exercise of any of the powers and rights conferred on you under the said contract with the said developer and to enforce or to forbear from enforcing any powers or rights or by reason of time being given to the said developer which under law relating to the sureties would but for the provision have the effect of releasing us. Any such time/indulgence/forbearance and/or any act or omission or commission on your part will not vitiate our guarantee.
3. Your right to recover the said sum of Rs.(Rs.....only) from us in the manner aforesaid will not be affected or suspended by reason of the fact that any dispute(s) are pending before any officer, tribunal or court or arbitrator(s)/umpire.
4. The guarantee herein contained shall not be determined or affected by the liquidation or winding up, dissolution or change of constitution or insolvency of the said developer but shall in all respects and for all purpose be binding and operative until full payment is received by you as if this is a continuing guarantee to secure your ultimate dues in the premises.
5. We have power to issue this guarantee in your favour under memorandum and articles of association and the undersigned has full power to do under the power of attorney dated granted to him by the Bank.
6. We will have no right of subrogation against the developer unless all your dues as aforesaid are paid in full. We do hereby waive our rights of surety ship, which are inconsistent with all or any provisions hereof.
7. You will be at liberty to alter the terms and conditions of the said contract and/or to take any other security/guarantee/promissory notes from the developer or others which will not affect/vitiate/discharge our guarantee.
8. The guarantee will bind our successors and assigns and will remain operative irrespective of any change in this constitution of our bank and/or the developer.
9. Our liability under this guarantee is restricted to Rs. and this guarantee shall remain in force tilland unless a claim to enforce the guarantee is filed with us within six months from the date of expiry hereof all your rights under the said guarantee shall be forfeited and we shall be relieved and discharged from all liabilities there under.

Yours faithfully,

.....Bank
by its constituted attorney
**Signature of a person duly authorised
to sign on behalf of the bank**

Annexure-7: Draft Contract Agreement

This agreement, made this _____ day of _____ 2014, between Maharashtra Energy Development Agency (MEDA) having its office at, S. No. 191/A, Phase - I, 2nd Floor, MHADA Commercial Complex, Opp. Tridal Nagar, Yerwada, Pune - 411 006. (hereinafter referred to as "MEDA") of the one Part and

_____ [name and address of selected developer] (hereinafter referred to as "Developer") of the other Part.

Whereas, MEDA has published the (Tender No.....dated.....) for selection of developer for "Design, Engineering, Supply, Installation, Testing, Commissioning with 5 Year CMC for Aggregate 1.0 MW Grid Interactive Solar PV project at Vasai-Virar Municipal Corporation Under Amrut Yojana in the State of Maharashtra" through competitive bidding.

And

Whereas, the developer has participated in the above referred bidding process and submitted its bid and subsequently MEDA selected the developer for the development of said project under the terms and conditions as contained in this contract document.

NOW THEREFORE THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement, words and expression shall have the same meanings as are respectively assigned to them in the 'Contract Documents' hereinafter referred to, and they shall be deemed to form and be read and construed as part of this Agreement.
2. Contract Documents: The contract shall be performed strictly as per the terms and conditions stipulated herein and also following documents shall be deemed to form and be read and construed as part of this Agreement
 - a. Tender issued by MEDA (including any further clarifications/ amendments issued by MEDA in this regard)
 - b. Bid submitted by the Developer
3. For administrative purposes[Name/Designation of responsible staff of MEDA] has been assigned to administer the project and to provide the Developer with all relevant information needed to carry out the assignment.
4. This agreement, its meaning and interpretation and the relations between the parties shall be governed by the Laws of Union of India.
5. Developer shall commission the solar power project of 1.0 MW on or before 120 days from date of award of contract. Additional time of 3 months shall be granted for getting the net metering agreement signed with MSEDCL. List of project locations and MW capacity is enclosed. Time schedule shall be strictly adhered to and the

Developer shall plan and perform the work in accordance to the time schedule as agreed by MEDA.

6. This agreement will become effective upon signing of this agreement by both parties. The developer will complete the work of Design, Engineering, Supply, Installation, Testing, Commissioning with 5 Year CMC for Aggregate 21.562 MW Grid Interactive Solar PV project at 13 Municipal Councils/Corporations Under Amrut Yojana in the State of Maharashtra. It is binding on the developer to maintain the solar project as specified in Bid document for a period of 5 years from the date of commissioning. The price shall be disbursed to the developer as per the methodology specified in clause 8 of this agreement. In case the developer failed to maintain the project up to the agreed period of 5 years, MEDA shall recover the amount on pro-rata basis from the developer by adopting appropriate measures. The MEDA decision in this regard will be final and binding on the developer.
7. The developer has to Design, Engineer, Supply, Install, Test, Commission & Maintain the Grid Interactive Solar PV project for 5 years as per the technical specifications proposed in the bid document or with the proposed deviations duly accepted by MEDA for setting up of this project. The developer shall execute the work as per the technical specifications, drawings and bill of material submitted by him on receipt of the Lol. Developer shall maintain the plant for 5 years from the date of commissioning. During the maintenance period developer shall undertake cleaning of solar modules with minimum 15 days cleaning cycle or less as per the soiling condition at site. Developer shall submit quarterly generation report and maintenance activities undertaken by him as a quarterly reporting within 10th day of start of new quarter.
8. The developer shall request MEDA through written form for releasing the appropriate price value for each stage of payment. The written request should accompany all the necessary documents as given in the terms and conditions for the release of payment in the 'contract documents'. After scrutinizing the performance of the project, MEDA will release the payment. The amount of payment disbursement will be as per the terms and conditions of payment disbursement as follows:

60% of the total project cost will be released after supply, installation & successful commissioning of the solar plant duly certified by Bidder, Officer of MEDA & authorized person of User Agency in the State of Maharashtra along with submission of Insurance policy documents effective from date of commissioning for CMC period. And, along with RMS report in prescribed format soft and hard copy	60% of the Bid Value
--	----------------------

which should be duly certified by Officer of MEDA, authorized person of User Agency.	
20% of the total cost shall be released on receipt of one-month successful performance report.	20% of the Bid Value
<p>20% of the total cost shall be released on submission of next two-month successful performance report along with RMS report in prescribed format soft and hard copy which should be duly certified by Officer of MEDA, authorized person of User Agency. And, submission of Performance Bank Guarantee (PBG) of 10% of total project cost from any Nationalized / schedule Bank valid for period of 5 years. This PBG can be in 5 equal parts respectively valid for 1,2,3,4 and 5 years from the date of commissioning and the expired PBG should be released every year (all five PBG should be submitted at time of release of final 20% payment). In case if "Bidder" does not provide service during the warrantee period, PBG should be forfeited, and "Bidder" be blacklisted (in case of "Consortium": all the partners be blacklisted).</p> <p>The bidder/developer shall furnish bank guarantee of any Nationalized / schedule Bank valid for period of 5 years of value equivalent to 10% of the agreement value / contract value towards guaranteed generation. The bank guarantee shall be valid for the period of 5 years of CMC period. Bidder shall submit this BG before release of the last 20% payment.</p>	20% of the Bid Value

9. The Developer will be responsible for appropriate insurance coverage. In this regard, the Developer shall maintain worker's compensation, employment liability insurance for their staff. The Developer shall also maintain comprehensive general liability insurance, including contractual liability coverage adequate to cover the indemnity

of obligation against all damages, costs, and charges and expenses for injury to any person or damage to any property arising out of, or in connection with, the services which result from the fault of the Developer or its staff. The Developer shall provide the MEDA with certification thereof upon request.

10. The Developer shall indemnify and hold harmless the MEDA against any and all claims, demands, and/or judgments of any nature brought against the MEDA arising out of the activities by the Developer and its staff under this Contract. The obligation under this paragraph shall survive the termination of this Contract.
11. The developer shall provide periodic review report of the project, as given in the 'contract agreement', on mutually agreed format to MEDA. Also as when requested by MEDA, the developer shall provide the project related information.
12. The Developer shall ensure access to and all other assistance for the inspection of the sites and works by MEDA and/or its nominee(s)/Officers/ authorized 3rd party any time before and/or after the work is started during its execution and after the works are completed for the entire duration of the project.
13. Any dispute arising out of the Contract, which cannot be amicably settled between the parties, shall be referred to adjudication/arbitration in accordance with Arbitration & Conciliation Act 1996.
14. This Agreement may only be amended or supplemented by a written agreement between the Parties.
15. All agreements, correspondence and communications between the Parties relating to this Agreement and all other documentation to be prepared and supplied under the Agreement shall be written in English, and the Agreement shall be construed and interpreted in accordance with English language. If any of the agreement, correspondence, communication or document is prepared in any language other than English, the English translation of such agreements, correspondences, communications or documents shall prevail in matters of interpretation.
16. Any notice to be served on the either party shall for the purpose of these presents be deemed to be sufficiently served, if it is left at Registered Office as mentioned in the preamble of the Agreement, and such notice shall also be deemed to be properly and duly served if it is sent by registered post to such address as aforesaid, and such service shall be deemed to have been made at the time at which the Registered letter would in the ordinary course be delivered even though returned unserved on account of refusal of the party to accept such notice or any other reason whatsoever.

In witness whereof the Parties thereto have caused this Agreement to be executed by their duly authorized representatives on the date day and year contained on the first page.

Signed by the within named

1.

(Signature and Name of the authorized person duly of the Developer)

on behalf of(Insert the name of the Developer)

Dated this day of

2.

(Signature and Name of authorized representative of MEDA) on behalf of Maharashtra Energy Development Agency, Government of Maharashtra, Pune

Dated this day of

Common seal of has been affixed pursuant to Board of Director's Resolution dated.....

WITNESS

1. (Signature)

Name.....

Designation

2. (Signature)

Name.....

Designation

Annexure-8: Site Visit Report Letter
(To be submitted on letterhead of bidder)

Date: _____

To,

General Manager (Solar)

Maharashtra Energy Development Agency (MEDA)
S. No. 191/A, Phase - I, 2nd Floor,
MHADA Commercial Complex,
Opp. Tridal Nagar, Yerwada,
Pune - 411 006.

Subject: Site Visit Report Letter for _____ Site, _____ District under technical bid for "Design, Engineering, Supply, Installation, Testing, Commissioning with 5 Year CMC for Aggregate 1.0 MW Grid Interactive Solar PV project at Vasai-Virar Municipal Corporation Under Amrut Yojana in the State of Maharashtra." -

Ref: MEDA's Tender No.

Sir,

This has reference to above referred tender for Design, Engineering, Supply, Installation, Testing, Commissioning with 5 Year CMC for Aggregate 1.0 MW Grid Interactive Solar PV project at Vasai-Virar Municipal Corporation Under Amrut Yojana in the State of Maharashtra. I / We hereby declare that we have visited site and enclosing the survey form duly signed by the representative of the consumer.

I / We made ourselves acquainted with site conditions, approach to site, requirement of land, soil conditions, availability of water, requirement of tender conditions etc.

I / We verified all details required to execute the projects. I / We have no problems in undertaking the projects and complete them in the given time period as per required specification & terms and conditions of the tender.

Thanking you

Yours faithfully,

(Signature of Bidder)

Name of Bidder -----

Designation -----

Seal:

Survey Form

Name of Beneficiary	
Address	
Latitude	
Longitude	
MSEDCL Consumer No	
Contract Demand	
Voltage level of connection	1ph, 230 V / 3 Ph , 440 V/11 kV/ 33 kV /66 kV
Proposed Capacity of Solar Plant	
Nature of Shadow free area	Roof top / Ground mounted
Area available for solar installation in Sq. mtr	
Proposed area suitable for installation of solar plant	Yes / No
The proposed area falls under flood line	Yes / No
Is there requirement to increase structure height to avoid submergence of structure	Yes / No
Is there requirement to provide drainage system for flood water	Yes / No

Declaration: I / we have visited the proposed site for installation of solar plant. The site is found to be suitable for installation of solar plant of --- kW capacity.

Surveyed by:

Name and Sign of Bidder Organization:

Witnessed by Representative of Consumer

Name and Sign