



राहुरी सीमेन स्टेशन Rahuri Semen Station

एनडीडीबी डेरी सर्विसेज की एक इकाई • A unit of NDDB Dairy Services

IFB Reference: NDS:RAHURI:RGM:SSS:2425:LCB:SOLAR:001

Description of Work: Design, Supply, Erection, Testing And Commissioning Of Grid Connect 200 kWp Roof Top Solar Pv System With Accessories And All Statutory Permissions Of MSEDCL For Rahuri Semen Station, Rahuri, Dist. Ahmednagar-413722, Maharashtra.

Please note the following changes in the bidding document.

Corrigendum-I		
Section & Page Nos.	As per tender	Please read it as under (Revised)
Section I -	Event Close Date : 30/12/2024	Event Close Date : 07/01/2025
Invitation for Bids	Last Date and time for receipt of bids: 30/12/2024 (up to 15:00 Hrs.)	Last Date and time for receipt of bids: 07/01/2025 (up to 15:00 Hrs.)
Page No. 02	Time and date of opening of Offline bids Part I – Technical bid: 30/12/2024 (at 15:30 Hrs.) at Rahuri Semen Station, Rahuri-413722 (MH).	Time and date of opening of Offline bids Part I – Technical bid: 07/01/2025 (at 15:30 Hrs.) at Rahuri Semen Station, Rahuri-413722 (MH).

Note:

1. The above corrigendum shall form part of the bidding document. All other terms & conditions shall remain unchanged.
2. The bidders are requested to submit their bids before the due date and time.




Issued by

NDDB DS, Rahuri semen station



TENDER DOCUMENT

**FOR
DESIGN, SUPPLY, ERECTION, TESTING AND COMMISSIONING OF GRID CONNECT
200 KW_p ROOF TOP SOLAR PV SYSTEM WITH ACCESSORIES AND ALL
STATUTORY PERMISSIONS OF MSEDCL FOR RAHURI SEMEN STATION, RAHURI,
DIST. AHMEDNAGAR-413722, MAHARASHTRA.**

IFB Ref: NDS:RAHURI:RGM:SSS:2425:LCB:SOLAR:001

Issued by:

Rahuri Semen Station, Rahuri, Ahmednagar-413722

Section 1 INVITATION FOR BIDS

Rahuri Semen Station (A Unit of NDDB Dairy Services)
Near MPKV, Dalimb Phata, Khadambe-B, Rahuri Dist. Ahmednagar-413722 Maharashtra
Web: www.rahurisenstation.com Email – info@rahurisenstation.com
Contact No: 02426 299001

The Rahuri Semen Station for “sealed offers” from reputed eligible bidders for the following work:-

Tender Reference: NDS:RAHURI:RGM:SSS:2425:LCB:SOLAR:001

IFB REF.	1.1 Description	Estimated Cost/ E.M.D. Amount (In Rs.)	Event Start / Close Date	Pre-bid Meeting date, time & location	Last date & time - Submission & opening of Bids	Completion period
NDS:RAHURI: RGM:SSS:242 5:LCB:SOLAR: 001	DESIGN, SUPPLY, ERECTION, TESTING AND COMMISSIONING of GRID CONNECT 200 KWp ROOF TOP ON GRID SOLAR PV SYSTEM WITH ACCESSORIES AND ALL STATUTORY PERMISSIONS OF MSEDCL AT RAHURI SEMEN STATION, RAHURI.	Estimated Cost: Rs. 90.00 Lakh (inclusive of GST) EMD Rs. 1.80 Lakh (In the form of NEFT / RTGS OR Demand Draft in favor of “Rahuri Semen Station (A Unit of NDDB Dairy Services” payable at Rahuri, Maharashtra)	09.12.2024 / 30.12.2024 at 15:00 hrs.	16.12.2024 at 15:00 hrs At Rahuri Semen Station admin office	30.12.2024 Submission up to 15:00 Hrs. Opening of Technical Bids at 15:30 Hrs. At Rahuri Semen Station	06 (Six) Months From the date of issuance of Purchase Order (PO)

For further details or for downloading the bid documents, please visit web site www.rahurisenstation.com or contact Group Head (Purchase), Rahuri Semen Station, Rahuri (Email – info@rahurisenstation.com) on any working day. The intending bidders are required to submit their offer electronically through e-tendering portal.

Bidders to ensure that the EMD is delivered to the communication address mentioned in clause **(7)** of this section, **on or before the last date and time of receipt of bids as mentioned in the above table.**

Section 2 **Instructions to Bidder**

2.1 ELIGIBILITY AND QUALIFICATION REQUIREMENTS:

The bidders must meet the following minimum qualifying criteria:

- a. The bidder, in the same name and style, should be registered company in India and should be incorporated at least for last 3 years, at the time of original bid opening date. In case of change of name of bidder by merger/acquisition/change in status, the bidder may be eligible based on the documentary evidence.
- b. Bidder shall **either be an original manufacturer of PV modules or an Engineering Procurement Construction (EPC) Solar Company**. PV modules shall have IEC 61215, 61730, Part 1 & 2 certifications in India for Solar modules.
- c. SPV module manufacturers shall have ISO 9001-2008, 14001-2004 certifications.
- d. The bidder shall be in the Solar Photo voltaic business in the last 3 years
- e. The Bidder in the same name and style shall have successfully executed/ completed similar nature of works during the last 3 years ending last day of the month previous to the month in which bid is opened:
One contract of “200” KWp capacity and should have cumulatively executed minimum of “400” KWp capacity.
- f. Bidder should submit copies of completion certificates for completed projects.
- g. The bidder should have positive net worth for the last two financial years.
- h. The Bidder should not be blacklisted by any state or Central Government or organization of state or Central Government on the date of submission of bid.
- i. The Bidder should provide valid registration certificate issued by MNRE / MEDA and IEC certificate of (Tier 1) SPV Module & Inverter and test report from authorized test center of MNRE, GoI.
- j. The Bidder should have installed & commissioned 400KWp capacity (single or cumulative) Grid-connected roof top net metering systems (the list of projects commissioned has to be submitted along with the tender) Work Completion report of which should be provided. The copy of the Commissioning certificate and Work order / Contract / Agreement/ from the Client/Owner shall be submitted.

Important Note:

- i) Documentary proof to be submitted along with the technical bid for Sr. No. 1,2,3,4,5 & 6.
- ii) Bidder to give an undertaking confirmation in their letter head for Sr. No. 7.
- iii) Bids not supported with required/proper documents will be rejected.
- iv) Bidder should obtain statutory permissions from statutory bodies wherever required for execution of works.
- v) Selected bidder shall bind to operate and maintain the system as per the rules and regulations and modalities as prescribed by MSEDCL for effective functioning of the project.
- vi) Bidder should be site visit before submit the offer.**
- vii) Bidder shall quote for the complete system considering additional Electrical equipment / parameters required to MSEDCL. Bidder should strictly quote be

considering BOQ parameters. No claims will be entertained later on from the bidder side.

- viii) Pre-bid meeting shall be the part of Tender document. Decisions taken in the pre-bid meeting will be applicable to the tender. Minutes of pre-bid meeting will be uploaded on web-site. Accordingly, bidders have to quote the price and submit the necessary documents with the tender.
- ix) Shall manufacture/supply the material (module, inverter & battery) only as per the standards mention in tender document
- x) If a manufacturer of SPV system or System Integrator and shall provide the test certificate of SPV system issued by MNRE or its authorized test centers
- xi) He shall supply the material (module and inverter) As per IEC Standards mention in technical Specification.
- xii) For Grid connected Solar PV System i.e. 200 kW at Rahuri Semen Station, Rahuri, the manufacture/Supplier has to give the guaranteed generation i.e. To generate 1300 units per year per kWp for 3 years (1% per year depreciation concedering while calculation the unit generation) at available solar radiation in. If system produces less generation than below guaranteed generation then penalty of Rs. 8/- per unit will be charged. Accordingly, bidder has to quote.

Note:

For evaluation and comparison of bids, the purchaser may, at its discretion, ask the bidder for clarification on the bid. The shortfall information / documents shall be sought only in case of historical documents which pre-exist at the time of tender opening and which have not under gone change since then.

So far as the submission of the documents is concerned with regard to qualification criteria, after submission of the tender, only related shortfall documents shall be asked for and considered. For example, if the bidder has submitted a supply order without its completion / performance certificate, the certificate can be asked for and considered. However, no new supply order shall be asked for and considered so as to qualify the bidder.

- k. In addition to the above, the following information/documents should also be **submitted** along with the offline bid by the bidder for evaluation/determination of their eligibility:
 - I. Copy of Income Tax Returns for **three** previous financial year.
 - II. Copy of TDS certificate issued by the clients to substantiate the claim for the value of works executed in the private sector.
 - III. Copy of form 26AS for the last three financial years
- l. Even though the bidder meets the specified criteria, it may be disqualified if it has:
 - I. Made untrue or false declaration in the forms, statements and attachments submitted in proof of their qualification
 - II. Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion or financial failure etc.
 - III. If the bidder is overbooked beyond his capacity to execute the work as per required schedules.

- m. The Bidder should have valid registration under various Acts that may be applicable for the contract proposed. This shall include but not limited to Income Tax, Companies Act, GST, the building & other construction workers' welfare cess act, Employee State Insurance, Contract Labor, Provident fund etc.

2.2 Bidding Document

The fee/cost for bidding document is NIL.

- ± The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Rahuri Semen Station (A Unit of NDDDB Dairy Services) hereinafter referred to as "the Purchaser", will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process. Interested eligible bidders may obtain further information from Head (Purchase), Address: Rahuri Semen Station (A Unit of NDDDB Dairy Services), Khadambe Dalimb Phata, Post MPKV, Rahuri Dist. Ahmednagar Maharashtra-413722, Ph. 02426-299001 Web: <https://www.rahurisenstation.com>.
- ii. Downloading the Document
- i. The bid documents will be available in the website at <https://www.rahurisenstation.com> and can be downloaded and used as tender documents for submission the offer.
- ii. It is hereby brought to the notice of all bidders that if any change/additions/deletions/alterations are found to be made by them in the tender and the same is subsequently noticed at any stage, even after award of the contract, the bidders are liable for all consequences thereof and Rahuri Semen Station shall be free to take suitable action as deemed necessary.

2.3 Content of Bidding Documents

- i. The services required, bidding procedures and contract terms are prescribed in the Bidding Documents. In addition to the Invitation for Bids, the Bidding Documents include:
- (a) Instructions to Bidder;
 - (b) Statutory and Legal Conditions of Contract;
 - (c) Scope of work and terms & conditions;
 - (d) Price Schedule;
 - (e) Form of Bid;
 - (f) Deviation statement;
 - (g) Format of Bank Guarantee for performance security;
 - (h) Format of Undertaking;
- ii. The Bidder is expected to examine all instructions, forms, terms and specifications in the Bidding Documents. Failure to furnish all information required by the Bidding Documents or submission of a bid not substantially responsive to the Bidding Documents in every respect will be at the Bidder's risk and may result in the rejection of its bid.

- iii. Bidder shall submitted its valid GST certificate, PAN copy, MSME certificate if available & Authorized dealer/Manufacturer certificate if available with bid documents.

2.4 Clarification of Bidding Documents

A prospective Bidder requiring any clarification of the Bidding Documents may notify the Purchaser in writing/fax/telex/email at the Purchaser's mailing address indicated in the Invitation for Bids. The Purchaser will respond in writing to any request for clarification of the Bidding Documents, which it receives not later than 7 days prior to the deadline for the submission of bids prescribed by the Purchaser. If required, written copies of the Purchaser's response (including an explanation of the query but without identifying the source of inquiry) will be uploaded in the websites mentioned.

2.5 Amendment of Bidding Documents

At any time prior to the deadline for the submission of bids, the Rahuri Semen Station may for any reason whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the bidding document by the issuance of amendment.

The amendment will be submitted to Rahuri Semen Station. Before submission of the bid, the bidder should check the Rahuri Semen Station website for any Corrigendum/additional information on the bidding document, if any.

However, non-information in changes/amendments put on website as Corrigendum to the prospective bidders shall not bind the Rahuri Semen Station to extend the deadline for the submission of the bids and non-compliance to such Corrigendum by the bidder shall result to non-responsiveness of the bid leading to rejection.

2.6 Preparation of Bid.

The Bid prepared by the Bidder and all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser, shall be written in the English language

2.7 Documents comprising the bid

The Bid prepared by the Bidder shall comprise the following documents:

- a. A complete description of Services the Bidder intends to provide and a price schedule completed in accordance with clause nos 2.9 and
- b. Earnest Money Deposit in accordance with Clause No.2.13
- c. Documentary evidence establishing bidder's eligibility and qualifications in accordance with Clause No. 2.11 and
- d. Documentary evidence establishing eligibility and conformity of services in accordance with Clause No. 2.12
- e. A price schedule completed in all respect.
- f. Even though the applicants meet the above criteria, they are subject to be disqualified if they have:

- i. Made untrue or false representations in the forms, statements and attachments submitted in proof of the qualification requirements; and or,
- ii. Record of poor performance such as abandoning the work, not properly completing the contract, inordinate delays in completion, or financial failures etc. (it should be part of evaluation)
- iii. Notwithstanding anything stated above, the purchaser reserves the right to assess the Bidders capabilities and capacity to execute the contract satisfactorily before deciding on award.

Any exceptions the Bidder wishes to take in any aspect of the bidding document or payment schedule including a justification for the exception in the format furnished in **Error! Reference source not found.**

2.8 Bid Form

- a. The Bidder shall complete the Bid Form furnished in the Bidding Documents and upload the same on the e-portal submit the same along with technical bid.
- b. All the required document duly signed should be submitted on or before the specified date and time at Rahuri Semen Station, Rahuri, Dist Ahmednagar-413722 (MS)

2.9 Bid Submission:

- a) The original bid, both technical and Financial Bids shall contain no interlineations or overwriting, except as necessary to correct errors made by the Consultants themselves. The person who signed the proposal must initial such corrections. Submission letters for both Technical and Financial bid should respectively be in the format of price schedule given at Section-
- b) An authorized representative of the Consultants shall initial all pages of the original Technical and Financial bid. The authorization shall be in the form of a **written power of attorney** accompanying the Proposal or in any other form demonstrating that the representative has been dully authorized to sign.
- c) The original and copy of the Technical bid along with EMD (if not paid through NEFT/RTGS) shall be placed in a sealed envelope clearly marked "TECHNICAL BID".
- d) Similarly, the original Price bid shall be placed in a sealed envelope clearly marked "PRICE BID" followed by the name of the Assignment/job.
- e) The envelopes containing the Technical bid (along with EMD if not paid by NEFT/RTGS), price bid, shall be placed into an outer envelope and sealed.
- f) This outer envelope shall bear the submission address, reference number be clearly marked "DO NOT OPEN, BEFORE [insert the time and date of the opening indicated in the Tender Document]". The Purchase shall not be responsible for misplacement, losing or premature opening if the outer envelope is not sealed and/or marked as stipulated. This circumstance may be case for bid rejection. **If the Price bid is not submitted in a separate sealed envelope duly marked as indicated above, this will constitute grounds for declaring the bid non-responsive.**

- g) The Proposals must be sent to the address indicated in the tender document and received by the purchaser no later than the time and the date indicated in the tender document, or any extension to this date in accordance with para 4.2 above. Any proposal received by the purchaser after the deadline for submission shall be returned unopened.
- a. The Bidder shall mention the final prices of the services under the Contract. Bidders must submit a bid for the full quantity specified under Scope of work, failing which, such bids will not be considered for evaluation and comparison and will not be considered for award.
 - b. The Bidder shall quote their prices (part B in the Price Schedule) as per the format given in Section V of the bidding document. The bidders are requested to quote their price considering following aspects: -
 - e. The quoted price shall be as per the description specified in the part B of price schedule-

2.10 Bid Currencies

For a service covered in this Bidding Document, prices shall be quoted in Indian Rupees only.

2.11 Documents Establishing Bidders' Eligibility and Qualifications

- a. Pursuant to Clause No. 2.8, the Bidder shall furnish, as part of its bid, documents establishing the Bidder's eligibility to bid and its qualifications to perform the Contract if its bid is accepted.
- b. The documentary evidence of the Bidder's eligibility to bid shall establish to the Purchaser's satisfaction that the Bidder, at the time of submission of its bid is eligible to bid as defined under Clause 1.
- c. The documentary evidence of the Bidder's qualifications to perform the Contract if its bid is accepted, shall establish to the Purchaser's satisfaction:
- d. That the Bidder has the financial and technical capability necessary to perform the Contract and meet the minimum qualifying criteria specified at clause 1. To this end, all bids submitted shall include the following information:
- e. Copies of original documents defining the constitution or legal status, place of registration and principal place of business of the company or firm or partnership etc.
- f. Details of experience and past performance of the bidder on the contract's similar nature within the last 3 years and details of current contracts in hand and other commitments.
- g. Bidders shall invariably furnish documentary evidence (Client's certificate) in support of the satisfactory completion of the services provided.
- h. Qualification and experience of key personnel for successful execution of the contract;
- i. Reports on financial standing of the Bidder such as profit and loss statements, balance sheets and auditor's report of the past three years etc.;
- j. Information regarding any current litigation in which the Bidder is involved.

Bidders who meet the criteria given above are subject to be disqualified, if they have made untrue or false representation in the forms, statements and attachments submitted in proof of the qualification requirements or have record of poor performance such as abandoning the work, not properly completing the contract etc.

2.12 Documents Establishing Eligibility and Conformity to Bidding documents

- a. Pursuant to Clause 2.8 the Bidder shall furnish, as part of its bid, documents establishing the eligibility and conformity to the Bidding Documents for all services, which the Bidder proposes to provide under the Contract.
- b. The documentary evidence of the services conformity to the Bidding Documents may be in the form of literature, drawing and data, and shall furnish:
- c. A statement of deviations and exceptions to the scope of work in the format furnished in the bidding document (Section VII (A)- Technical Deviation Statement Form).

2.13 Earnest Money Deposit (EMD)

The bid security shall be denominated in Indian Rupees only, and shall be in one of the following forms:

A bank guarantee issued by a Nationalized Indian bank or a foreign bank having branches in India, in the form provided in the Bidding Documents and valid up to **30-Apr-2025**. (For Format of BG Please refer **Error! Reference source not found.**)

OR

The EMD, shall be in the form of DD in favour of “NDDB DS RAHURI SS”, payable at Rahuri from any Nationalized Bank / Scheduled Bank/Commercial banks/ Foreign Banks having branches in India.

OR

Bidders can pay/remit the EMD through NEFT/RTGS to Rahuri Semen Station Account (details mentioned below) and submitted along with technical bid. Bidder must inform the transaction details through email (info@rahurisenstation.com) as per enclosed format on or before 15:00 Hrs. on the Last Date for bid submission.

a. For NEFT/RTGS payment bank details are as under:

1. Beneficiary Name	NDDB DS RAHURI SS
2. Beneficiary Bank & Branch	AXIS BANK LTD, RAHURI
3. Account Number to be credited	916010016421863
4. RTGS/IFSC Code	UTIB0000742

b. In case of EMD submitted in the form of DD :

The EMD in the form of DD **[in original]** should be delivered latest by **15:00 hrs** on the date of submission of bids at communication address as stated in **clause 8**.

c. In case of EMD submitted through NEFT/RTGS :

The payment should be made on or before **15:00 hrs.** On the date of submission of bids.

For EMD payment made (either DD or RTGS/NEFT), the bidder is requested to send the communication by 15.00 PM on the date of submission of bids in following format through e-mail to info@rahurisemenstation.com with: **“Error! Reference source not found.**As subject line. The bidder is also required to submit the successful transaction details along with technical bid.

Name of the bidder	EMD Amount Paid in Rs.	LCB Ref. No.	DD No. with bank Details/ UTR No	Transaction date & time in case of NEFT/RTGS payment

For EMD refund through NEFT/RTGS, bank details in following format should be submitted.

1. Beneficiary Name		
2. Beneficiary Bank & Branch		
3. Account Number to be credited		
4. Type of Account to be credited		
5. RTGS/IFSC Code		

2.14 The EMD may be forfeited:

- a) If a bidder withdraws or modifies its bid during the period of bid validity
OR
b) In the case of the successful bidder, if the bidder fails to sign the Contract (i.e., return the signed copy of duplicate Purchase Order, and furnish Performance Security, if asked for)

Unsuccessful bidder’s bid security will be discharged / returned as promptly as possible but not later than 30 days after the expiration of the period of the bid validity of 120 days from the date of bid opening. The successful Bidder’s EMD will be discharged upon the Bidders executing the Contract i.e., return the signed copy of duplicate Purchase Order, and furnish the Performance Security, if asked for.

- c) Pursuant to Clause No.2.8 The Bidder shall furnish, as part of its bid, EMD as specified in the Schedule of Requirements.
- d) The EMD security is required to protect the Purchaser against the risk of Bidder's conduct, which would warrant the security's forfeiture, pursuant to Clause No. i)
- e) The EMD shall be denominated in Indian Rupees only, and shall be in one of the following forms:

- f) A Demand Draft in favor of NDDB DS RAHURI SS, payable at Rahuri from any Nationalized Bank / Scheduled Bank / Foreign Banks having branches in India.
- g) Any bid not accompanied with EMD in accordance with paras. a and b will be rejected by the Purchaser as non-responsive, pursuant to Clause 24.
- h) Unsuccessful Bidder's EMD will be discharged/returned as promptly as possible as but not later than 30 days after the expiration of the period of bid validity prescribed by the Purchaser, pursuant to Clause 16.
- i) The successful Bidder's EMD will be discharged upon the Bidders executing the Contract, pursuant to Clause 31, and furnishing the performance security, pursuant to Clause 32.
- j) The EMD may be forfeited: If a Bidder withdraws or modifies its bid during the period of bid validity specified by the Bidder on the Bid Form
- k) In the case of these successful Bidder, if the Bidder fails:
 - a. To sign the undertaking and contract in accordance with Clause 31;
 - And
 - b. To furnish performance security in accordance with Clause 32.

2.15 Period of Validity of Bids

- a. Bids shall remain valid for 120 days after the date of bid opening prescribed by the Purchaser, pursuant to Clause 19. A bid valid for a shorter period shall be rejected by the Purchaser as non-responsive.
- b. In exceptional circumstance, the Purchaser may prior to the expiry of initial validity period solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing (or by cable or telex or fax). The EMD provided under Clause 15 shall also be suitably extended. A Bidder may refuse the request without forfeiting its EMD. A Bidder granting the request will not be required nor permitted to modify its bid.

2.16 Format and Signing of Bid

- a. The uploaded bid shall be digitally signed by the Bidder or a person or persons duly authorized to bind the Bidder to the Contract. The latter authorization shall be indicated by written power-of-attorney accompanying the Bid.
- b. Any correction made in the Submitted bid document should be signed by authorized signatory.

2.17 Submission of bid

- a. The bidders, who downloaded the bidding documents, are eligible for submission of bids in their names only. **The complete bidding document** be submitted **along with the bid** without any modifications/alternations, as a token of their acceptance towards enclosed scope of work, terms and conditions unconditionally.
- b. The technical Bid (Part I) and commercial bid / price bid (Part II) have to be submitted offline in sealed envelope at Rahuri Semen Station, (A Unit of NDDB

Dairy Services) Near MPKV, Dalimb Phata, Khadambe-B, Rahuri Dist. Ahmednagar-413722 Maharashtra).

2.18 Deadline for Submission of Bids

- c. Bids must be submitted by the bidder at Rahuri Semen Station, (A Unit of NDDB Dairy Services) Near MPKV, Dalimb Phata, Khadambe-B, Rahuri Dist. Ahmednagar-413722 Maharashtra). The **EMD (in original) should be delivered to communication address as stated** below, on or before the last date and time of receipt of bids.
- a. The Purchaser may, at its discretion, extend this deadline for the submission of bids by amending the Bidding Documents in accordance with Clause 7, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

2.19 Late receipt of EMD

Any EMD received by the Purchaser after the deadline for submission of bid prescribed by the Purchaser, pursuant of Clause 19, the bid shall be rejected.

2.20 Modification and Withdrawal of Bids

- a. The Bidder cannot modify or withdraw its bid after the bid's submission.
- b. No bid can be modified subsequent to the deadline for submission of bids.
- c. No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Bid Form. Withdrawal of a bid during this interval may result in the forfeiture of Bidder's EMD, pursuant to Clause 15.7.

2.21 Bid Opening and Evaluation

The Rahuri Semen Station will open the Technical bids (of those bidders whose **Original EMD, in acceptable form**, have reached the office of Rahuri Semen Station, Rahuri as mentioned in clause no. 2.33 of this section) on the time and date stated in the IFB. Bidders can witness offline opening of bid.

Commercial bids will be opened electronically of only those bidders whose Technical Bid (Part-I) is found to be acceptable by Rahuri Semen Station. Such bidders will be intimated regarding date of opening of Part II- Commercial Bid separately.

The Rahuri Semen Station will examine the bids to determine whether they are complete, whether the requisite EMD have been furnished, whether the documents have been properly uploaded, and whether the bids are generally in order.

2.22 Preliminary Evaluation

The Purchaser will examine the technical bids to determine whether they are complete, whether required supporting documents have been furnished, and whether the bids are generally in order.

The purchaser will also examine whether the bid is complete. If the prices of certain item is found as "0" ("ZERO") it will be presumed that the bidder has included the cost of these items against some other items of the price bid. The bidder shall furnish the details of such inclusions separately.

If the Purchaser considers that with these omissions, the offered services is not functional, then the bid will be treated as incomplete and non-responsive.

Arithmetical errors – Not Applicable

Prior to the detailed evaluation, the Purchaser will determine the substantial responsive to the bidding documents. For purposes of these clauses, a substantially responsive bid is one, which conforms to all the terms and conditions of the Bidding Documents without material deviations. A material deviation is one which affects in any substantial way the functionality, scope, quality or performance of the deliveries or which limits in any substantial way inconsistent with the bidding documents, the Purchaser's rights or the bidder's obligations under the contract and the rectifications of which deviations would affect unfairly the competitive position of other bidders presenting substantially responsive bids. The Purchaser's determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.

A bid determined as not substantially responsive will be rejected by the Purchaser and may not subsequently be made responsive by the Bidder by correction of the non-conformity.

The Purchaser may waive any minor informality or non-conformity or irregularity in a bid which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of the Bidder.

2.23 Evaluation and Comparison of Bids

- a. The Purchaser will evaluate and compare the bids previously determined to be substantially responsive, pursuant to Clause 23. No bid will be considered if the complete requirement covered under the scope of work is not included in the bid. The unit price quoted should be after considering the discount, if any.
- b. The evaluation and comparison of bids will be done on the basis of quoted prices inclusive of applicable all taxes and duties, all statutory permission from MSEDCL or any other department charges if any as well as transportation mentioned in price schedule & clause 11.2 and 11.3.

2.24 Contacting the Purchaser

- a. Subject to Clause 2.23, no Bidder shall contact the Purchaser on any matter relating to its bid, from the time of the bid opening to the time the Contract is awarded.
- b. Any effort by a Bidder to influence the Purchaser in the Purchaser's bid evaluation, bid comparison or contract award decisions may result in the rejection of the Bidder's bid.

2.25 Post Qualification

- a. In the absence of pre-qualification, the Purchaser will determine to its satisfaction whether the Bidder selected as having submitted the lowest evaluated responsive bid is qualified to satisfactorily perform the Contract.
- b. The determination will consider the Bidder's financial, technical and servicing capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to Clause 2.13, as well as such other information as the Purchaser deems necessary and appropriate including details of experience and records of past performance.
- c. An affirmative determination will be a prerequisite for award of the Contract to the Bidder. A negative determination will result in rejection of the Bidder's bid, in which event; the Purchaser will proceed to the next lowest evaluated bid to make a similar determination of that Bidder's capabilities to perform satisfactorily.

2.26 Award of Contract

Purchaser will award the contract to the successful bidder whose bid has been determined to be substantially responsive and has been determined as the lowest evaluated bid provided further the bidder is determined to be qualified to perform the contract satisfactorily as per clause 28.

2.27 Purchasers Right to Vary Quantities at the Time of Award.

The Purchaser reserves the right to vary the quantities at the time of award of the contract, if the need arises in consultation with the successful bidder.

2.28 Purchaser's Right to Accept Any Bid and to Reject Any or All Bids

Rahuri Semen Station (A Unit of NDDB Dairy Services) does not bind itself to accept the lowest bid. Rahuri Semen Station reserves the right to award the job either in part or full. Rahuri Semen Station at its sole discretion and without assigning any reason thereof, also reserves the right to accept any/or reject any or all bids.

Rahuri Semen Station (A Unit of NDDB Dairy Services) also reserves the right to annul the bidding process and reject all bids at any time prior to award of Contract,

without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for the Purchaser's action.

2.29 Notification of Award

- a. Prior to expiration of the period of bid validity, the Purchaser will notify the successful Bidder in writing by registered letter/courier/by cable/telex/fax/e-mail, to be confirmed in writing by registered letter/courier, that its bid has been accepted.
- b. The notification of award will constitute the formation of the Contract.
- c. Upon the successful Bidder's furnishing of performance security pursuant to Clause 31, the Purchaser will discharge the EMD of unsuccessful bidders, pursuant to Clause 15.

2.30 Signing of Contract

- a. As the Purchaser notifies the successful Bidder that its bid has been accepted, the bidder is requested to submit the "Undertaking" as provided in the Bidding Document, incorporating all agreements between the parties.
- b. Successful bidder needs to sign the Agreement (format given at **Error! Reference source not found.**)
- c. The "Undertaking" and "Acceptance copy of the contract" shall be returned within 15 days from the date of contract.

2.31 Performance Security

- a. Within 30 days of the receipt of notification of award from the Purchaser, the successful Bidder shall furnish the **performance BG (5% of total contract amount)** in accordance with the Conditions of Contract, in the Performance Security Form provided in the Bidding Documents or another form acceptable to the Purchaser. Bank guarantee issued only by Nationalized/Scheduled bank/commercial Banks/Foreign banks having branches in India will be accepted.
- b. Failure of the successful Bidder to comply with the requirement of Clause 2.31 or Clause 2.32 shall constitute sufficient grounds for the annulment of the award and forfeiture of the EMD, in which event the Purchaser may make the award to the next lowest evaluated bidder or call for new bids.
- c. If the bid of the successful bidder is seriously unbalanced in relation to the Rahuri Semen Stations estimate of the real cost of the work to be performed under the contract, the Rahuri Semen Station may require additional performance security to protect the Rahuri Semen Station against financial loss in the event of subsequent default of the successful bidder under the contract. The value of the additional

performance security shall be decided by the Purchaser based on mutual discussions with the successful bidder. The additional performance security shall be valid until the completion of contract or the Purchaser may decide as.

2.32 Address for Communication:

General Manager
Rahuri semen station (A unit of NDDB Dairy Services)
Khadambe-B, Dalimb phata, Post MPKV Rahuri,
Dist – Ahmednagar, Maharashtra – 413722
info@rahurisemenstation.com
Con No. 02426 299001

2.33 Bid Form

- a. The Bidder shall complete the Bid Form (Format given as **Error! Reference source not found.**) furnished in the Bidding Documents and provided the same along with technical bid.
- b. All the required document duly sealed & signed should be submitted before the specified date and time at Rahuri Semen Station, Rahuri office.

2.34 Place of Opening of bid : Rahuri Semen Station office at Rahuri.

Section 3 **Terms and Conditions**

3.1 Performance Security:

The Performance Security of 5% of the contract price shall be denominated in the currency of the contract or in a freely convertible currency acceptable to the Purchaser, and shall be in the following form:

- a. A bank guarantee issued by a Nationalized Indian Bank or a foreign bank having branches in India valid for 45 days beyond the CMC period i.e. up to 03 years.

OR

- b. Demand Draft issued by Nationalized Bank/ Scheduled Bank/ Foreign Bank having branches in India in favour of the NDDB DS RAHURI SS payable at RAHURI.

The performance security will be discharged by the Purchaser and returned to the Supplier not later than 30 days following the date of completion of Supplier's performance obligation, including any warranty obligations, under the Contract

3.2 Date of Delivery:

Date of delivery prescribed shall be deemed to be the essence of the purchase order/contract. Each unit of an item shall be delivered to destination not later than the delivery date specified in the order.

Bidder should follow the project timelines and also bound to complete the progress of project work as per given below mile stones or else he will be liable for Penalty against incomplete milestone.

Sr. No.	Milestone	Work Status
1	In 15 days	Structure Supply
2	In 45 days	Structure Installation
3	In 60 days	Supply of Solar Panels & Inverter
4	In 90 days	Installation of Solar Panels & Inverters
5	In 120 days	Commissioning of Solar Project with installation of Net-meter

3.3 Liquidated Damages:

If the bidder fails to deliver any or all the goods or perform the services within the time period(s) specified in the purchase order/contract, purchaser shall, without prejudice to its other remedies under the purchase order/contract, deduct from the purchase order/contract price, as liquidated damages, a sum equivalent to:

(a) ~~0.5% of full contract value for each completed week of delay~~

OR

(b) 0.5% of the value of the delayed items/services only, for each completed week of delay

Week comprising of 7 days including holidays and any incomplete week shall be ignored for the calculation of liquidated damages.

Purchaser may without prejudice to any other method of recovery, deduct the amount of such damages from any payment in its hands, due or which may become due to the Contractor. The payment or deduction of such damages shall not relieve the Contractor from his obligation to complete the Works, or from any other of his obligations and liabilities under the Contract.

The total amount so deducted shall not exceed 10% of the purchase order/contract value. Once the maximum is reached, purchaser may consider cancellation/ termination of purchase order/ contract, and forfeiture of performance security and/or Retention amount.

3.4 Termination of Contract:

A. Termination for Default

The Purchaser, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate the Contract in whole or in part:

- (i) if the Supplier fails to deliver any or all of the Goods within the period specified in the Contract, or within any extension thereof granted by the Purchaser;
- (ii) if the Supplier fails to perform any other obligation under the Contract;
or
- (iii) if the Supplier, in the judgment of the Purchaser has engaged in fraud and corruption in competing for or in executing the Contract.

B. In the event the Purchaser terminates the Contract in whole or in part, pursuant to Clause 4.1(a), the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Related Services similar to those undelivered or not performed, and the Supplier shall be liable to the Purchaser for any additional costs for such similar Goods or Related Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

Purchaser shall be free to cancel the order either in full or in part, in the case of non-delivery of material/ non-completion of installation/ services within the stipulated delivery period or breach of any of the clauses mentioned herein. In the event of cancellation of order, the supplier/ contractor will be liable to refund the advance, if paid, along with interest at the rate of 9% per annum on the advance paid for the entire period for which the advance was lying with the supplier/ contractor/ service providers. The supplier/ contractor has no right to forfeit the advance amount received by him.

3.5 Termination for Convenience

- (a) The Purchaser, by notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.
- (b) The Goods that are complete and ready for shipment within twenty-eight (28) days after the date of issuance of the termination notice, shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:
 - (i) to have any portion completed and delivered at the Contract terms and prices; and/or
 - (ii) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and Related Services and for materials and parts previously procured by the Supplier

3.6 Terms of Payment:

70% shall be released within 30 days after successfully Supply of Structure, Solar Panels & Inverters, 25% shall be released within 30 days after satisfactory completion of supply, installation, testing and commissioning of said Solar system at site along with following documents:

- Joint Inspection Report duly signed by beneficiary, Bidder representative, official.
- Submission of Project Insurance policy documents effective from date of commissioning of the project for period of 01+1+1 years (3 Years) covering damage by natural calamities, fire, forceful damage of project, theft, etc.
- System Photograph accompanying official taken during joint inspection.
- Warranty/Guaranty Certificate of materials used in project.

- Serial Wise Test Reports of Panel comprising I-V curve and detail parameters of each panel.
- Test Report of inverter and batteries (if applicable)
- Comprehensive Maintenance Contract (CMC) document as per clause mentioned in section IV “Technical Specification of SPV Solar Plant” for 3 years on the letter head of bidder.

Releasing 5% within 30 days against the submission of performance security valid till CMC period i.e. up to 03 years

All the bank guarantees should be in the pro-forma prescribed by purchaser and from a Nationalized Bank or a foreign bank having branches in India. The performance and retention bank guarantees should be valid up to 45 days beyond the warranty period.

3.7 Insurance:

In case where the purchase order is placed on “free delivery at site” including unloading basis, no insurance premium will be paid by purchaser. In such a case, all required insurance policies (Transit risk insurance policy, storage insurance policy, All risk policy, Workmen Compensation policy, Third Party insurance etc.) may be obtained by the supplier/ contractor to safeguard their own interests and to protect the material against transit hazards, storage (at Site) for damage/ loss. The bidder has to submit documents related to labour insurance and material insurance made by him till work completion, also bidder should submit 1% charge of total contract value by Bank Guarantee valid till work completion period at office as regards ‘Labour Welfare Cess’ according to the law.

3.8 Rejection:

Purchaser reserves the right to reject the goods either in full or in part, if at the time of delivery, it is noticed that the goods supplied do not conform to the specifications/ description given in the purchase order. The rejections, if any, will be intimated to the supplier in writing within a reasonable time. The supplier will be liable and responsible to repair/ replace the rejected goods within the original delivery period. No extra payment shall be made for such replacement to the supplier/ contractor for freight, unloading and insurance etc. Till the repair/ replacement is made, the rejected goods shall be lying at supplier’s risk, cost and responsibility. If the supplier does not arrange to repair/ replace the rejected goods within the original delivery period, purchaser may dispose off such goods at supplier’s risk and in the manner, purchaser thinks fit. Purchaser shall be at liberty to purchase the quantity of items rejected from other parties without giving any notice and at supplier’s risk & cost and recover the additional expenditure, if any, from any of the outstanding dues of the supplier/ contractor. Purchaser shall be entitled to recover the expenses made by Purchaser on storage and handling of such rejected goods till the goods are removed from Purchaser’s premises/ stores.

3.9 Guarantee:

The supply of equipment as well as installation, if entrusted, shall have to be carried out by the supplier/ contractor to the entire satisfaction of Purchaser. The supplier/ contractor shall also guarantee to repair/ replace without any extra cost, the items or parts thereof, if found defective, due to bad design, workmanship or substandard material brought to the attention within 36 calendar months from the date of putting on use/ commissioning or 36 calendar months from the date of receipt of material at site, whichever is earlier. If it is necessary to send the defective equipment or parts thereof to supplier/ contractor's works for repair/ replacement without forming any precedence, the cost of repacking, loading, unloading, transportation to supplier/ contractor's site and back will be borne by the supplier/ contractor. The guarantee does not cover any damage resulting from normal wear and tear or improper attendance or mishandling of the equipment during repairs by personnel other than the supplier/ contractor or his authorised agents. In case of installation jobs, the contractor will have to guarantee the complete installation for satisfactory performance for a minimum period of one year from the date of commissioning of the plant. Any defect arising out of faulty erection/ installation or use of substandard material or workmanship shall have to be rectified by the contractor at his own cost.

A guaranteed automatic generation report in day/date wise format of minimum 1300 units (KWh)/ kW/ from SPV power project is expected for a period of 1 year, 1st Year & 1% degradation per years for next 25 years if the total generation pertaining to this period (initial two months) observed to be less, then penalty of Rs.8/- per unit will be levied and the supplier/bidder will have to pay penalty amount in the form of D.D. Payable to NDDDB Dairy services Rahuri Semen Station.

After completion of one-year period from the date of installation of the project, total generated units will be counted and if those units are found less, necessary penalty as mentioned above will be levied. The penalty amount will be paid to the beneficiary in the form of Demand draft. However, if the generated units are below than expected (minimum 1300 units (KWh) 1st Year & 1% degradation per years for next 25 years) per KWp per year from SPV power plant calculated for days in a year, then, in such case, the penalty amount paid by the supplier/bidder will be refunded to the concerned by is also aware that during Load shedding, shadow of trees, not cleaning the panels on time, interrupted voltages of MSEB, the generation of Grid Tied Solar Systems may get hamper. Cleaning part will be covered through signing an AMC Contract with Solar Contractor.

For rest of the years till expiry up to 03 years, necessary Bank guarantee submitted by the bidder will be considered to take care of active guaranteed generation of the project which will be expected as 1300 units (KWh)/ KW/ year. If generation in these years found to be less, then penalty will be levied as Rs.8/ unit.

3.10 Warranty:

The supplier/ contractor must provide a warranty as per below table from the date of commissioning of 200 KWp solar system for the satisfactory performance of the supplied equipment according to the designed/ rated/ installed capacity or any other norms fixed by Purchaser. If the equipment remains out of order during this period, the warranty will be accordingly extended by period the equipment was out of order due to non-repair by the supplier/ contractor.

Sr. No.	Item Description	Product Warranty period	Performance Warranty period
1	Solar Panel	10 years	25 years
2	Invertor	10 years	10 years
3	All other accessories (Balance of systems)	3 Years	3 Years
4	Solar Street lights	05 Years	05 Years

Note-

- Product warranty means piece to piece replacement
- Performance Warranty means unit generation as per standard

3.11 Drawings, Specifications & Manuals:

Wherever applicable, prior to commencement of fabrication, the supplier/ contractor shall have to submit for Purchaser's -- approval three sets of drawings of all the items ordered for supply, showing overall dimensions with typical sections, details of service connections and their equipment, details of drive units etc. for each equipment. Soft copy of the final (As built) drawings shall be submitted. In case of items for which drawing are provided by Purchaser, the supplier/ contractor shall fabricate/ manufacture the items strictly in accordance with these drawings and any other instruction given by Purchaser. For such items, there is no need for the supplier/ contractor to submit the drawings to Purchaser for approval prior to commencement of fabrication/ manufacture. Where documents and drawings are supplied to the supplier/ contractor by Purchaser, the same must be treated as confidential, must not be copied, reproduced, transmitted or disclosed otherwise in whole or part, nor duplicated, modified, divulged or discussed with any third party nor used in any other way without the consent of Purchaser in writing. All such documents and drawings, shall be the property of Purchaser and they must be returned to Purchaser after execution of the order. Wherever applicable, 3 sets of equipment manual should be provided along with the consignment.

3.12 Variation

- (a) The Purchaser can make any variation of the form, quality or quantity of the Works or any part thereof that may, in his opinion, be necessary and for that purpose, or if for any other reason it shall, in his opinion be desirable, he shall have power to order the Supplier to do and the Supplier shall do any of the following:
- a. Increase or decrease the quantity of any work included in the contract,

- b. Omit any such work,
 - c. Change the character or quality or kind of any such work,
 - d. Change the levels, lines, position and dimensions of any part of the works, and
 - e. Execute additional work of any kind necessary for the completion of the works and no such variation shall in any way vitiate or invalidate the contract, but the value, if any, of all such variations shall be taken into account in ascertaining the amount of the Contract price.
- (b) All extra or additional work done or work omitted by order of the Purchaser shall be valued at the rates and prices set out in the contract if in the opinion of the Purchaser, the same shall be applicable. If the contract does not contain any rates or prices applicable to the extra or additional work, then suitable rates or prices shall be agreed upon between the Purchaser and the Supplier, with consideration of Overhead & Profit limiting to 15%. In the event of disagreement, the Purchaser shall fix such rates or prices as shall, in his opinion, be reasonable and proper.

3.13 Sub-Contract:

In the event of awarding sub-contract to any party/parties by the supplier/contractor for the manufacture/supply/erection of any parts/spares/components that will be used in ordered equipment, the supplier/contractor must furnish the details about their sub-contract also. The responsibility regarding quality, quantity, guarantee/warranty of the materials supplied by the sub-contractors' rests on the supplier/contractor.

3.14 Spares:

If asked for, the supplier shall provide a list of spare parts, which will be required for the plants and equipment supplied for at least **three** years of normal operation with the names and the addresses of the manufacturers from whom these can be procured. The list should contain the code numbers of the parts, which are required to be procured, in addition to the machine number, models etc.

3.15 Inspection:

On placement of order, the equipment under the purview of supply should be inspected by the supplier's own technical experts at the supplier's works and such inspection report should be forwarded to Purchaser in triplicate. However, Purchaser reserves its right to inspect at any stage of fabrication/manufacture of the equipment/material. The supplier should intimate the Purchaser without fail, when the equipment is ready for inspection including the stage wise inspection. The supplier should not proceed with further manufacture and/or despatch of equipment, without obtaining a clearance certificate from Purchaser. The supplier should forward to Purchaser the Test Certificates, wherever applicable, obtained from concerned authorities/ principal manufacturers either regarding quality or any other details of the items utilised in the process of manufacture/fabrication

3.16 Dispatch Instructions:

The materials are to be despatched to the destination by the mode of transport specified in order under intimation to Purchaser. Depending on the type of material, the supplier shall have to carry out proper packing/ crating to avoid breakages in transit. Other details of despatch such as consignee's particulars etc. are mentioned in the purchase order. For using any mode of transport other than the specified one, prior concurrence from Purchaser in writing should be obtained. All consignments should be despatched on freight paid basis irrespective of price basis. In the event of freight payable extra by Purchaser, the supplier shall have to obtain Purchaser's prior approval and produce necessary documentary evidence in support of claims. Unless otherwise stated, the original RR/LR should be sent directly to the consignee along with three copies of invoice and two copies of Delivery Challan/e-way bills and Packing List.

3.17 Demurrage:

The supplier shall bear and reimburse to Purchaser the full demurrage, if any, paid by reason of delay on their part in forwarding the original despatch documents to the destination mentioned in the purchase order.

3.18 Submission of Bills:

Bills in triplicate stating therein the purchase order reference along with necessary copies of despatch documents are to be submitted as per instructions given in the purchase order. Unless otherwise stated, the payment shall be made by Crossed Account Payee cheque according to the terms of payment mentioned in the purchase order.

3.19 Electricity:

Electricity required for execution of works at site will be provided 0.5% off total billing. However, necessary arrangements for tapping/connection etc. will have to be made by the contractor at his own cost.

3.20 Force Majeure:

The terms and conditions mutually agreed upon shall be subject to Force Majeure Clause. Neither the supplier/ contractor nor Purchaser shall be considered in default in performance of his/their obligations hereunder if such performance is prevented or delayed because of war, hostilities, revolution, civil commotion, strike, epidemic, accident, fire, wind, flood, earthquake or because of any law, order, proclamation, regulation or ordinance of any Government or of any act of God or any other cause whether of similar or dissimilar nature, beyond the reasonable control of the party affected. Should one or both the parties be prevented from fulfilling his/their contractual obligations by a state at Force Majeure lasting continuously for a period of six months, the two parties should consult each other regarding the future implementation of the contract/purchase order.

3.21 Arbitration:

In the event of any dispute in the interpretation of the terms of this agreement/ purchase order or difference of opinion between the parties on any point in the purchase order arising out of or in connection with the agreement/ accepted purchase order or with regard to performance of any obligation hereunder by either party, the parties hereto shall use their best efforts to settle such disputes or difference of opinion amicably by mutual negotiations. In case no agreement is reached, either party may forthwith give to the other, a notice in writing of the existence of such question, dispute or difference of opinion and the same shall be referred to the adjudication of sole arbitrator to be appointed by the Purchaser whose decision in the matter shall be final and binding on the parties. The arbitration proceedings shall be governed under the provisions of the Indian Arbitration & Conciliation Act, 1996 and the rules thereunder or any statutory modification thereof for the time being in force. In this agreement/purchase order, venue of such arbitration shall be Rahuri.

3.22 Jurisdiction:

Courts at Ahmednagar alone shall have jurisdiction regarding any matter arising out of this agreement.

Section 4 **Special Terms and Conditions:**

The following are the General Terms and Conditions of Contract for Supply, Installation and commissioning of SPV Power Plant, as per the specifications given in the document.

- a) Bidder shall be responsible for any damage occurred, if any, at the site during the execution of work.
- b) The Bidder should provide appropriate tools and equipment's to the workmen and ensure that those are in proper working condition and the workmen use the appropriate tools and take precaution "PLEASE NOTE THAT ANY ACCIDENT TO THE WORK MEN / PUBLIC / ANIMALS / PROPERTY BOTH MOVABLE AND IMMOVABLE SHALL BE ENTIRE AND SOLE RESPONSIBILITY OF THE BIDDER AND ANY PROCEEDING ARISING OUT OF THE SAME SHALL BE AT THE BIDDER'S RISK AND COST, NDDDB-DS RAHURI SEMEN STATION OR ITS EMPLOYEES WILL NOT BE RESPONSIBLE FOR ANY SUCH INCIDENT".
- c) Bidder should provide necessary manufacture's test certificates for materials being used for the work. Power curve of all the panels erected by manufacturers shall be provided.
- d) The selected Bidder is bound to work on the guideline provided by from time to time. Guidelines if issued in future by, the changes proposed will also be applicable without augmentation in project cost till the completion of 3 years CMC period.
- e) The Bidder shall carry out the work strictly according to the specifications as per given in Section-IV and complete the work within stipulated time.
- f) It is the responsibility of Bidder to submit the reports for systems installed & commissioned and certificates for undertaking the responsibility of maintenance of the systems to with a copy to Beneficiary. Bidder shall also impart training to the user for regular Operation & Maintenance of the systems and certificate in this respect should be submitted.
- g) Bidders should give guarantee for the general performance of the system against any manufacturing defects from the date of commissioning to warrantee period. For any manufacturing

defects, supplier shall replace defective parts at free of cost during the warranty period and shall keep the system functional. Over and above general warrantee, Product & performance warrantee/guarantee consider.

- h) Officials will do inspection as and when necessary, during the execution of work and thereafter subsequent to installation and commissioning of the work for the purpose of issuing final completion certificate.
- i) In the event of any discrepancy observed in specifications, the specifications given by will be final. In the event of dispute arising any time, related to this work and document, decision of the Rahuri Semen Station, or his nominee shall be final.
- j) At its discretion may visit supplier's factory for testing / inspection at any time during the period of supply and installation of the systems.
- k) Will not pay any interest on any amount, due to the Bidders.
- l) During the inspection, if any deviations in Technical Specifications are observed, reserves right to test any solar module / system at any authorized test center of MNRE. Bidder shall provide the facilities for getting the sample tested & the supplier shall bear the cost for the same.
- m) If the supplier fails to complete the work or partially completes it then, reserve right to cancel the work order and get it done from other supplier and any loss due to this shall be recovered either from any amount due to the supplier or from his Security Deposit.
- n) At the time of inspection of , manufacturer or supplier has to submit the I.V. curves and test reports of supplied PV modules to respective officer.
- o) The Wiring must be carried out in casing-capping / conduit which are suitable as per site condition.
- p) It will be responsibility of the Bidder for payment of additional charges towards (Net metering of 200kWp) in r/o Consumer No. _____, B.U. ____ (as per MSEDCL norms) under the signature of concerned beneficiary and get the work done from MSEDCL before installation of net meter at the project site. The concerned bidder/ Manufacturer can start this activity parallel

while initiating the project activities at site.

- q) It will be responsibility of the Bidder for procurement and installation of Net Meter and its required accessories in the system.
- r) It will be responsibility of the bidder to provide required Wi-Fi system through any network for real time monitoring of the system using internet and data for initial 1-year period, latter the bidder/ supplier may handover the Wi-Fi system to the beneficiary for its maintenance.
- s) It will be responsibility of the Bidder to ensure the satisfactory performance of the system.
- t) The Bidder shall provide the display board of size 3ft x 3ft that gives detailed information of system along with the contact details of manufacturer. This will help the beneficiary during 3 years CMC period.
- u) The Bidder shall comply with the provision of contract labor (Regulation and Abolition) Act 1970, minimum wages Act 1948, payment of the wages Act 1963 Workmen's Compensation Act 1961, the contract labor (Regulation and Abolition) Act 1979 and all other related Acts and any modification thereof or any law relating thereto and rules made there under from time to time.
- v) If previous performance of any Bidder found unsatisfactory, he will be disqualified.
- w) If any information / confirmation on any point of these tender conditions are required Bidder may contact / write to Rahuri Semen Station, giving tender reference no. etc.
- x) In the event of dispute during installation & commissioning of the systems related to the work and documents, decision of the Rahuri Semen Station, shall be final.
- y) The Rahuri Semen Station, reserves the rights to distribute the work among the Bidders who are eligible and have submitted the offers.
- aa) Once the Bidder submit his offer and subsequently if not interested to work, in such case will forfeit his EMD amount.
- bb) At the time of placing work order and during the implementation can revise the technical terms and conditions if revised by MNRE,

which will be binding on the Bidder.

- cc) The Rahuri Semen Station, reserves the right to select L2 Bidder i.e. second lowest Bidder to complete the work, if L1 i.e. lowest Bidder fails to fulfill tender conditions or fails to complete the work.
- dd) It is binding on the successful Bidder to submit original certificates, documents required by.
- ee) shall not be responsible for any loss or damage of any material when installing SPV power plants.

3.24 Deduction: -

- i. The TDS at the source will be deducted as per the Govt. rule and regulations.
- ii. will issue necessary certificates of TDS deduction

Note that if bidder does not provide insurance against Labour and Material will process insurance at “Director of Insurance” and will deduct 1% of contract value against insurance claimed by them and 1% of contract value deduction against “Labour Welfare Cess” from payment towards successful bidder Deduction: -

4.1 Maharashtra State Electricity Distribution Company Limited (MSEDCL) WORK TERMS & CONDITIONS

- i. The bidder has to complete all the necessary formalities and documentation required towards execution of the work on behalf of the purchaser at his own cost.
- ii. The bidder is permitted to carry out the work with their men and material after Paying 1.3% Normative Charges (i.e. Supervision Charges) (Total payable Amount of Estimate against 1.3% ORC scheme) i.e. schedule charges as per MERC order dt. 08/09/2006 to MSEDCL.
- iii. Before starting the work, it should be confirmed that the material being used by the party is as per the MSEDCL specifications.
- iv. The execution of the work should be strictly as per the MSEDCL supervision.
- v. NOC from Local Body & Owner of premises to be obtained & verify all documents before issuing Demand Note.
- vi. All necessary permission/clearances/Testing Charges from respective departments and financial implications thereof will be the responsibility of the bidder and should be paid accordingly.
- vii. The works should be guaranteed for as per performance & product warranty (As per clause No. 3.10) a minimum period of 10 years, balance of equipment's for 03 years & solar street lights for 05 years from the date of complete handing over of the works. All material

- should be purchased from approved vendor only and should be inspected from competent authority before erection.
- viii. While carrying out the work it will be the responsibility of the applicant & work executing contractor for carrying of the work and safety as per standard Method of construction such as proper earthing & guarding of HT/LT lines should be done. It should be ensured that the Bidder provides adequate insurance cover before commencing the works and any incident there off will be the responsibility of the bidder. MSEDCL will not be in any way responsible for any compensation there off or any liabilities thereof.
 - ix. The estimate is sanctioned subject to the condition of all old materials (like T/F, Dist. Box, poles, Conductor, Cables etc.) which are removed against augmentation / Reinstallation / Re-erection of existing infrastructures should be credited to respective MSEDCL work supervising office stores by the bidder.
 - x. If the expenditure incurred over and above the estimated cost while execution of work in MSEDCL supervision, the difference amount of 1.3% supervision charges in that respect to be recovered. The bidder should quote accordingly.

Section V

Technical Specification for
DESIGN, SUPPLY, ERECTION, TESTING AND COMMISSIONING OF ON GRID CONNECT 200 KWp ROOF TOP SOLAR PHOTO VLOTAIC (PV) SYSTEM WITH ACCESSORIES AND ALL STATUTORY PERMISSIONS OF MSEDCL FOR RAHURI SEMEN STATION, RAHURI, DIST. AHMEDNAGAR-413722, MAHARASHTRA.

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TECHNICAL SPECIFICATION FOR THE DESIGN, MANUFACTURE, SUPPLY, ERECTION, TESTING AND COMMISSIONING OF SPV SYSTEM WITH ACCESSORIES

1.0 INTRODUCTION

This section of the bidding document outlines the technical specifications for the Design, Manufacture, Supply, Erection, Testing and commissioning of the Solar PV based grid-connected power generation system for **Rahuri Semen Station, Rahuri, Dist. Ahmednagar, Maharashtra** as per details mentioned in the scope of work and technical specifications.

The technical specifications provided are in brief and not intended to bring out all the details of design and fabrication of the equipment or equipment components. The successful Bidder shall be responsible to undertake all the works involving in the design, engineering, manufacture, erection, testing and commissioning of the SPV based power generation system which shall also comprise of Balance of Plant items. Performance period (defect liability period) and Operation & Maintenance as per performance & product warranty period is included in the Scope of works.

Bidders are to note their full responsibility in the overall timely implementation of the project on Turnkey basis, within the battery limits defined in this bidding document.

The work to be carried out shall conform to high standards of engineering design & workmanship. The equipment offered shall be capable of performing in continuous commercial operation to meet specified performance standards and acceptable to the purchaser/client. No exclusions of any nature are acceptable, other than those specifically detailed in this bidding document.

Bidders are required to provide all technical data/information wherever asked for. Any bid not following the bid format structure or provided with insufficient technical data/information/documents may be liable to be considered as non-responsive.

The Purchaser will interpret the meaning of various equipment specification and drawings submitted by the bidder and shall have the right to reject any material/equipment, which in their opinion is not in full accordance to tender specifications.

2.0 FUNCTIONAL REQUIREMENT:

- The system should generation of 3 phase power at **415 V** through Solar Photovoltaic (SPV) panels installed on metal roof sheet in the area

earmarked for SPV installation. Solar Array system shall be designed to deliver a total power output of **200 KWp** consisting of separate Array systems, installed on earmarked area.

- Power cables from the SPV system upto the LT PCC (underground & pipe bridge/building) at Existing Electrical Substation will be laid as a part of work.
- This system **shall be of Grid connected type**, capable of exporting power to grid, after **Integration** with existing Power Control Centre/ LT PCC panel.
- Existing 11 KV-HT meter at Rahuri Semen Station- Substation shall be replaced with **Bi-directional meters**. Removal of existing HT meter, CT/PT unit and installation of new bi-directional meter & check meter, New CT/PT (after testing/calibration) are included in scope of work
- **Necessary controls and instruments** for the remote monitoring/ recording of performance parameters of the system as per technical specifications provided in the tender.
- MMS for Solar panel, Concrete pedestals shall be executed as per layout & site conditions.
- Instruments for weather station shall be supplied.
- Fire extinguisher for near inverter area ABC/CO2 6 Kg.(related as per Inverter)
- Water points for cleaning the panels shall be provided by Bidder.
- Submission of all relevant documents, test certificates, drawings, for approval from statutory authorities i.e. CEIG and approval/consent from MEDA are included in the scope of work contract.

3.0 BASIS OF DESIGN:

3.1 Plant Location: Rahuri Semen Station (A Unit of NDS Dairy Services), Khadambe Dalimb Phata, Post MPKV, Rahuri Dist. Ahmednagar Maharashtra-413722, Ph. 02426-299001 Web: <https://www.rahurisemenstation.com>

Locational details:

Latitude	19.23° N
Longitude	74.38° E
Relative Humidity for performance	80 %
Design wind velocity	As per IS 875
Seismic co-efficient	As per IS 1893
Area Classification	Safe & non-hazardous
Nearest railway station	Rahuri
Nearest Airport	Shirdi

Note: Maximum ambient temperature during summer may reach 55°C.

3.2 Plant Design :

- Solar PV Modules of **minimum 540 Wp, Mono PERC** type is required for the system.
- Solar PV module should be selected for conversion efficiency greater than or equal to 21.10% at STC conditions.
- The system shall be grid tied rooftop Solar PV system for power export to the grid.
- Tropical protection shall conform to **BS:CP:1014:1963** entitled for Protection of electrical equipment against climatic conditions or IS:3202

- Solar Modules arranged in strings with a maximum accrued voltage of **800 VDC/string**.
- Invertor based 3 phase power generation, suitable for handling a total of 3 phase power in each array is to be selected.

3.3 Integration to existing electrical system :

- AC cables from the invertor/ ACDB shall be connected to a feeder of the existing Power control Centre through (underground & pipe bridge/building) LT arm. Al., as per scope of work.

Note: Existing 11 KV-HT meter at Rahuri Semen Station- Substation shall be replaced with **Bi-directional meter & Check meter**.

3.4 System capacity and parameters:

- Generation of 3 phase power for peak output of **200 KWp**.

3.5 Type of SPV :

Solar Photovoltaic system, as mentioned below, shall be offered by the bidder as per detailed specifications;

Mono crystalline PERC (Passivated Emitter Rear Contact technology) Cell Terrestrial module of minimum 540 Wp.

3.6 Roof sheet layout of Rahuri Semen Station- Substation.

- SPV modules shall be installed as arrays on the metal roof sheet for the new plant building.
- Total rooftop Area available is ~ **5700 m²**.
- The works scope included all structural works required like for solar Panel supports on the roof sheet and terrace, cable tray supports, etc.
- Earth pits, grouting, cut-outs for cable entry etc. as required as per site condition, shall be a part of work.

LIST OF DRAWINGS RELATED TO SOLAR PV:

- The following drawings are enclosed for the guidance of the Bidder. However, Bidder shall submit the execution drawings for approval of Purchaser before commencing the work.

Sr. No.	Description	Drawing No.
1.	SLD for Solar PV	AN.NDS-00000-02-00
2.	Bull shed layout showing Solar PV location,	AN.NDS-00000-01-00
3.	Site Layout	NDS.01.31.02.00 dtd. 20.07.2015
4.	Existing LT PCC Panel drawing	RYB/DEWPCCP/GAD

3.8 MINIMUM REQUIREMENT

Description	Mono crystalline PERC Module of minimum 540 Wp
For 200 KWp system	371 module (maximum)

Note: Bidder shall offer to supply above modules with abovementioned technology for a Minimum required modules indicated above.

3.9 STATUTORY REQUIREMENTS

All works shall be in accordance to the latest MNRE guidelines and statutory requirements in respect to Factories, Electrical inspectorates. Any other statutory approval, if required, is included the scope of work. Safety, good engineering practices and other statutory regulations/ requirements shall comply with that being followed in the country.

NOTE: IF THERE IS A DESCRIPANCY IN THE TECHNICAL SPECIFICATION REQUIREMENT MENTIONED UNDER SECTION IV & SECTION VI, THEN THE TECHNICAL SPECIFICATION UNDER SECTION VI SHALL SUPERCEED SECTION IV

4.0 SCOPE OF WORK AND TECHNICAL SPECIFICATIONS:

Part A	Design & Supply of 200 KWp Solar PV system with string invertors & integration to existing electrical network
Part B	Labor job for Installation, Testing & Commissioning of 200 KWp Solar PV system with string invertors & integration to existing electrical network. Performance period (defect liability period) and Operation & Maintenance of 12 months is included in the Scope of works.
Part C	Supply installation & commissioning of 30watts 25 Nos solar street lights with bracket/clamp. (without pole & foundation work)

The scope of the work for the bidding document is as follows:

Design, detailed engineering, manufacture, inspection at manufacturer's works, packing, forwarding, unloading, erection, testing, commissioning, achieving rated equipment and plant capacity and handing over to purchaser's satisfaction of **SPV system & components**, as per the brief description at Rahuri Semen Station.

It will be the responsibility of the successful bidder to decide the no. of solar panels in each building, based on the terrace area available and take instruction from the purchaser from time to time.

4.1 SPV system - 1 set:

Supply of SPV system having required solar aperture area of the collector, to deliver the required power generation of **200 KWp** in accordance to the functional requirements and the basis of design described above.

SOLAR PHOTOVOLTAIC:

4.1.1 SOLAR PV Module:

S. No.	Parameter	Requirement	Remarks
1.	Cell Type	Mono-crystalline silicon PERC solar cells (Terrestrial)	IEC 61215 ; IEC 61730 ; IEC 61701 ; IEC 62716
2.	Module Capacity Rating (Pmax)	540 Wp	144 half cut cells per module
3.	Junction box	IP 67/IP 68 protected certified 4 rail, potted	Schottky Bypass diode- 3 nos
4.	Module Efficiency	≥21.10%	Under STC
5.	Construction requirements	Overall size : 2267 X 1135 X 32/35 mm (Min) Front glass: 3.2mm thk, Low Iron, high transmission, AR coated tempered glass. Encapsulation – Ultra clear PID free EVA(Ethylene Vinyl Acetate) Backside – UV protected reflective back sheet. Frame – 18μ Silver Anodized Aluminium Alloy, twin wall profile (screwless) complete with mounting holes, earth-points, drain holes etc. Overall weight < 32 kgs	
6.	Weather conditions	Satisfactory performance in relative humidity upto 100%	
		Withstand temperature between -40°C to 85°C	
		Withstand wind speeds upto 200 km/hr .	
7.	Manufacturer identification	A strip containing following details should be laminated inside the module, so as clearly visible from front side.	
		Name of supplier or distinctive logo	
		Model or type no.	

		Sr. No.	
		Year of make	
8.	Performance Ratio (PR)	>75%	IEC 61724
9.	Identification & traceability (RFID tag information)	Name of the manufacturer	Separately for solar cell & module
		Date & year of manufacture	
		Country of origin	
		I-V curve of the module	
		Peak wattage, I_m , V_m , FF, Unique Sr. No., Model No. of module	RFID shall be inside the module laminate
		Date, year of IEC PV qualification certificate.	
Name of test lab issuing IEC certificate.			
10.	Module mounting structure(MMS) for shed	All fasteners shall be Stainless steel 304	
		MMS (minimum 3 set of MMS for 2-tier arraignment of Solar PV module in order to avoid sagging) shall be of Anodized Aluminium frame for roof sheet of shed. Silicon sealant shall be used for to avoid water entry wherever roof sheet penetrations done for MMS mounting and Mounting and routing of other components like conduits, cable trays and earth strips etc. on roof sheet. It shall be design as per wind velocity IS 875 and Seismic co-efficient IS 1893. All fasteners shall be Stainless steel 304	
11.	Product/PV module & performance Warranty for peak output capacity	Product warranty – 10 years Performance warranty – 90% for 10 years 80% for 15 years	

Water points:

Minimum eight (8) water points for module cleaning shall be provided. Water pipe shall be tapped from nearest water line & extended with a 20 mm GI B class pipe. Each water point shall have a SS ball valve and a 25 mts long heavy duty water hose. Required no. of cleaning wipers with long handles shall be provided for module cleaning.

Cleaning system for SPV:

1. 1 nos. high pressure/piston pump (single phase) complete with heavy duty hose and spray gun with nozzle. The pump shall be wheel

- mounted for easy carting. (Make & Model of pump : BOSCH (AQT 35-12)
2. Equal number of Water points (soft water) shall be provided at suitable locations to enable proper cleaning. These points shall be complete with ball valves, 1” head duty water hose, nipple, clamps etc.
 3. Electrical power points (de-contactor type) and flexible cable upto the High pressure pump.
 4. Necessary cleaning brush (4 Nos.) to clean the PV modules shall be provided.

4.2 EARTHING PROTECTION:

The intent of this specification is to define the requirement for the supply, installation, testing and commissioning of the earthing system (Class 1 as per IS:3043 latest amendment). Digital indicator with necessary electrical accessories for indication of “ohm value” of each earthing pit shall be provided.

Chemical (pipe in pipe / maintenance free) type Copper Earth Pits:

Complete with masonry chambers and CI hinged covers. Maintenance free, chemical filled, dual pipe electrode technology, 40 X 6 mm copper flat, 02 meter long pure copper pipes, outer pure copper pipe – 76 mm dia., 2 mm thick & inner pure copper pipe - 42 mm dia., 2 mm thick, with special conducting compound material (CCM) filled in both pipes, with 50 KG of moisture booster to be filled to retain moisture around the outer pipe in the pit, duly tested & certified by CPRI/ERDA.

Surge Protection Device (SPD):

1.	Three (3) MOV type arrestors to be provided from “+ve” & “-ve” terminals to earth connected in Y arrangement, for internal surge protection under earth fault condition to withstand of continuous PV –DC voltage.
2.	Device shall have safe disconnection
3.	Short circuit interruption arrangement through integrated DC in-built bypass fuse connected in parallel.
4.	Extinguishing arc safety to protect against fire safety.
5.	Nominal discharge current (I_n) at 8/20 μ s – 10 kA min
6.	Maximum discharge current(I_{max}) at 8/20 μ s – 20 kA min
7.	Visual indication (mechanical flag) in modules to monitor life

Lightning arrestors at building:

Providing and fixing lightening arrestor conform to IEC 62305, made of 25 mm dia 1000 mm long CU tube having 5 spikes at the top with thick CU base plate/ saddling & clamping complete as required. Including

copper electrode (2 Nos. - pipe in pipe, 3 mtr long as per above specifications) type earth pit and copper strip of 25 x 3 mm.

Earthing of MMS, PV Module Array (DC Earthing) installed on each roof/terrace:

1.	PV modules and balance of system are to be earthed against serious earth faults as per IEC 60364.
2.	Modules, Module supporting structures, string, array etc have to be looped with earthing wire 6 mm ² Copper flex. PVC insulated wire.
3.	GI flat 25 X 3mm required between each string and string to earth electrode.
4.	Pipe-in-pipe type GI earthing electrode(chemical earth) shall be used – Minimum 2 nos/as per Standard required with earthing chamber, cover etc as per above specifications.

Earthing of Each Inverter, AC Isolator Box/Junction Box (AC Earthing):

1.	Inverter & Junction Box are to be earthed against serious earth faults as per IEC 60364.
	GI 25 X 3mm required for earthing of Inverter and AC junction Box.
3.	Pipe-in-pipe type GI earthing electrode(chemical earth) shall be used – Minimum 2 nos/as per standard required with earthing chamber, cover etc as per above specifications.

Earthing of Power Distribution Panel, ACDB, (AC Earthing):

1.	Power Distribution Panel, ACDB are to be earthed against serious earth faults as per IEC 60364.
2.	Copper flat 25 X 3mm required for earthing of Inverter and AC junction Box.
3.	Pipe-in-pipe type Copper earthing electrode(chemical earth) shall be used – Minimum 2 nos/as per standard required with earthing chamber, cover etc as per above specifications.

- *The conductors from the lightning arrestor upto the earth pit shall be properly clamped at every 1m interval.*
- *Proper earth pit chamber made from concrete shall be installed.*
- *Earthing strips, earthing chambers shall be painted in approved colour shade.*

4.3 INVERTER/ POWER CONDITIONING UNIT:

Functionality:

The unit shall convert DC produced by SPV array to 3 phase 415 V and adjust the voltage & frequency as per grid conditions. There shall be one unit shall receive output from all solar panels.

S.No.	Parameter	Requirement
1.	Output (AC)	As per site requirement
2.	DC : AC ratio	1:1
3.	Max. Input Voltage	1000 V (DC)
4.	No. of MPPT	2 nos independent trackers (min)
5.	Requirements	Built in AC/DC switch DC fuse SPD in DC & AC side Built- in energy data logger
6.	Efficiency	More than 98%
7.	THD	< 3 % (at normal power)
8.	AC voltage	3 phase 415 V (Range : 320 -480V)
9.	PF at nominal power	>99%
10.	Protection	DC reverse connection AC short circuit Overvoltage protection (DC & AC) Leakage current PV string current monitoring
11.	Isolation	Transformer-less
12.	Allowable relative humidity	0-100%
13.	Degree of protection	IP65
14.	Cooling method	Forced air cooling
15.	Display/ communication	20 X 4 Graphic LCD/ RS 485
16.	DC connection type	MC4 (Max. 4 mm ²)
17.	Operating range	-to 25 to 60°
18.	Night consumption	< 2 W
19.	Standards	IEC 62109, IEC 61727, IEC 62116, IEC 60068, IEC 61683
20.	Warranty	10 years

Note :

- *Inverter shall be mounted suitably as per site condition.*
- *Certificates are mandatory and to be submitted with tender.*
- *Invertor voltage range shall be reconfigured as per site requirements.*

- Components & circuit boards mounted inside the enclosure should have clearly identifiable permanent designations, supported with drawings.
- Bidder shall study/ measure the voltage range at the point of interconnection of the PV system consistently for a week to adjust the input/output within the acceptable voltage window of the transformer. Appropriate tap setting shall be conveyed.

4.4 Solar Street lights

Semi integrated solar street light

Criteria	System Requirement
System type	Semi Integrated with clamp & rod (Without pole & foundation work)
Luminary	30 Watt
Lumens	3800
LED	High Power LED cool white 6000k-6500k
Battery	12.8V/Li-ion/LiFePO4 Battery Pack
Solar Charging Time	01 Day
Lighting Time	02 Night
Waterproof	IP 65
Material	Aluminum Alloy
Working Temperature	-25°C To 65°C
LED Working Life	More Than 50,000 hrs.
LED Chip	3W, 18 Nos of LED chip
Warranty	5 Years system
Solar Module	Min 60 Wp Max. 80 Wp
Mode	33% Brightness Run mode, 100% Brightness on PIR detection

4.3 CABLES & ACCESSORIES

FUNCTIONAL REQUIREMENTS

DC Cables shall be installed between PV panel strings upto inverter as per site requirements. AC cables shall be laid between inverter till point of evacuation.

Cables shall be laid in MS Hot-dip galvanized perforated tray /GI A class pipe conduit properly terminated at both ends and dressed in the tray.

DC CABLE (From SPV upto Inverter)

Size	1C X 4 mm ² , to be selected for a maximum voltage drop of 1%
Temperature range	-10° C to +80°C
Voltage grade	1100 V
Section 7 C onductor	Section 8 Multi stranded, annealed high conductivity copper conductor (flexible) PVC A pressure extruded or XLPE insulation, Class 5, rodent proof
Protection	Excellent resistance to heat, cold, water, oil, abrasion. UV resistant confirming to IS /IEC 69947
Other requirements	ETL listed/certified, flame retardant, plug & play capabilities as per IEC 60227 / IS 694, IEC 60502, (part I & II). Life of 25 years
Connectors	MC4 connectors suitable for module connectors
Conduit	CPVC/ UV resistant duct/ GI cable tray of 100 mm width fully covered from module string upto the inverter.
Cable routing & tagging	All cables shall be suitably tagged & marked with proper manner by good quality ferrule, for quick cable identification.

AC CABLE (from inverter to AC Isolator Box to LT Power Distribution Panel and Existing LT PCC)

Size & Type (minimum)	As per SLD
Voltage grade	1100 V, as per IS 7098, IEC 60228.
Section 9 C onductor	Section 10 XLPE, round wire Armoured, PVC insulated aluminum 3.5 core cable, Class 2/Class 5 as per IS 8130, flame retardant type as per IS 5831.
Protection	Excellent resistance to heat, cold, water, oil, abrasion. UV resistant confirming to IS 7098, IS /IEC 69947
Connectors	Connectors suitable for module connectors
Conduit	GI A Class pipe conduit/ GI cable tray of 100 mm width fully covered from module string upto the inverter.

Cable routing & tagging	Cables shall be suitably tagged & marked with proper manner by good quality ferrule, for quick cable identification.
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Note :

- *AC cables from inverter to AC junction box shall be aluminum 3.5 core cable. AC JB to LT Power Panel and ACDB in the PCC room shall be aluminum 3.5 core cable. Underground cables shall be laid wherever possible.*
- *Cables above the ground & in the pipe bridge shall be laid in galvanized MS perforated cable trays.*
 - *CABLE Laying and termination of Size as per SLD/P.O., AL/Cu conductor armored, XLPE insulated, 1.1 KV grade cable in underground system with necessary RCC half round hume pipe of 100 mm size made up of cement, concrete and steel etc including digging the trench and refilling with compaction and dressing. Supply and fixing of Half round hume pipe on the cable by the contractor as mentioned above. Excavation works covers excavating ordinary soil upto 750mm. Size of digged trench is 300mm width and 750mm depth for laying of cable. Contractor has to provide and fix required lugs and cable gland for termination.*
 - *CABLE Laying and dressing of Size as per SLD/P.O., 1.1 kv grade, AL/Cu conductor, XLPE, armoured cable in / on existing wall/ceiling/trench/cable tray/underground hume pipe. Trench covers to be fixed properly after laying and dressing the cables in existing trench.*
 - *CABLE laying by road boring. Underground laying of cables of Size as per SLD/P.O. by drilling/boring the soft soil below the road to protect the existing road from breaking. The boring / drilling shall be done to cross the road/pathway etc. (depth 750mm) with necessary tools.*
 - *Cables shall be protected in suitable GI A pipe conduit properly clamped on wall at every 2 m.*
 - *Long radius bend for cable conduits to be used.*

AC isolator box (AS per SLD):

This isolator Box shall be provided close to each inverter, on the field for isolation of the inverter. The box enclosure & internals shall be as per the following requirement:

S.No.	Parameter	Requirement
1.	Enclosure, mounting	IP 65, floor mounted, fabricated from 14 G CRCA sheet for structure, 16 G CRCA sheet for door/partitions, 7-tank process for powder coating (RAL-7035) & finishing, complete with double door & locking arrangement.
2.	Isolator	4 pole MCCB suitable Amp , suitable for 3 phase 415 V 50 Hz connection
3.	SPD	Surge protection device shall be installed within the enclosure, if AC SPD in inverter is not provided.
4.	Switches & Circuit breakers	Switch gears shall conform to IEC 60947 part I, II, III.
5.	Weather condition	Panel shall be suitable for Ambient temperature upto 55° C, 80% humidity, dusty conditions
6.	Conformity	As per Indian Electricity Act & rules(till last amendment)
7.	Connections	Necessary Busbars, supports, terminations, internal wiring shall be suitable for continuous operation for a voltage variation of $\pm 10\%$ & frequency variation of ± 3 Hz. Body earthing to be provided for the panel at 2 points.
8.	Indication	LED type ON, OFF, Trip indications to be provided.

- *The isolator box shall be wall mounted/floor mounted as per site conditions.*
- *AC Isolator box shall have provision to connect Incoming & outgoing cables.*

LT Power Distribution Panel (AS per SLD):

This LT Panel shall be provided close /within any staircase at terrace/LT PCC room. The LT Panel enclosure & internals shall be as per the following requirement:

S.No.	Parameter	Requirement
1.	Enclosure, mounting	IP 54, floor mounted, fabricated from 14 G CRCA sheet for structure, 16 G CRCA sheet for door/partitions, 7-tank process for powder coating (RAL-7035) & finishing, complete with single/double door & locking arrangement.
2.	Incoming & Outgoing	4 pole MCCB suitable Amp , suitable for 3 phase 415 V 50 Hz connection as per SLD.

		Outgoing MCCB shall have microprocessor release for O/C, S/C, E/F protection. Digital MFM meter with necessary CT should be installed for Outgoing feeder. All MCCB should have a Service short circuit breaking capacity (Ics) as well as Ultimate breaking capacities (Icu) as 50 KA at 415 Volts 50 Hz AC.
3.	Switches & Circuit breakers	Switch gears shall conform to IEC 60947 part I, II, III.
4.	Weather condition	Panel shall be suitable for Ambient temperature upto 55° C, 80% humidity, dusty conditions
5.	Conformity	As per Indian Electricity Act & rules(till last amendment)
6.	Connections	Necessary Busbars, supports, terminations, internal wiring shall be suitable for continuous operation for a voltage variation of $\pm 10\%$ & frequency variation of ± 3 Hz. Body earthing to be provided for the panel at 2 points.
7.	Indication	LED type ON, OFF, Trip indications for each MCCB to be provided.

- *The LT Pane shall be floor mounted as per site conditions.*
- *It shall have provision to connect Incoming & outgoing cables.*

ACDB (near Power Control Centre):

The isolator box shall be installed near the existing PCC as per site condition. The box enclosure & internals shall be as per the following requirement:

S.No.	Parameter	Requirement
1.	Enclosure, mounting	IP 54, wall/floor mounted, fabricated from 14 G CRCA sheet for structure, 16 G CRCA sheet for door/partitions, 7-tank process for powder coating (RAL-7035) & finishing, complete with single door & locking arrangement
2.	Isolator	4 pole, 630 A, MCCB, suitable for 3 phase 415 V 50 Hz connection
3.	No Volt Relay (NVR)	NVR to be provided, to isolate Solar system during grid failure. Suitable protections to avoid power flow from DG Set to PV System and Vice versa during DG Set operation.
4.	Switches & Circuit	Switch gears shall conform to IEC 60947

	breakers	part I, II, III
5.	Weather condition	Panel shall be suitable for Ambient temperature upto 45° C, 80% humidity
6.	Conformity	As per Indian Electricity Act & rules(till last amendment)
7.	Connections	Necessary Busbar, supports, terminations, internal wiring shall be suitable for continuous operation for a voltage variation of $\pm 10\%$ & frequency variation of ± 3 Hz. Body earthing to be provided for the panel at 2 points.
8.	Indications	LED type ON, OFF, Trip indications to be provided.
9.	Solar Meter	Solar meter, with CTs can be installed in ACDB in separate lockable compartment (If applicable in cubical).

- *The ACDB panel shall be floor mounted as per site condition.*

SOLAR ENERGY METER:

Solar Energy meter shall be installed in the ACDB close to the PCC. The energy-meter shall be electronic type with LCD display, 3 phase, 4 wire type, Class 0.5S, as per guidelines of MSEDCL/MEDA for Solar PV system. The system shall meet the requirements of safety AC/ DC – IEC 60947 (part I, II, III)/ EN 50521

Bi-directional meter and Solar Check meter:

Energy meters shall be installed at Existing two pole structure near 11 KV substation as per MSEDCL/MEDA/other statutory rules & regulations. The energy-meter shall be electronic type with LCD display, 3 phase, 4 wire type, Class 0.5S, Meter should be capable to communicate to MSEDCL software through any make of Modem (Modem can be GSM, GPRS or any other technology), as per guidelines of MSEDCL and MEDA suitable for rooftop solar system. The system shall meet the requirements of safety AC/ DC – IEC 60947 (part I, II, III)/ EN 50521

4.5 Remote Monitoring System:

A remote monitoring system shall be an essential component of the solar photo-voltaic system. Parameters/Information from each of the inverter shall be separately taken to the Remote monitoring system through communication cables. Underground LAN cables shall be taken through 25 mm heavy duty PVC pipes/GPRS/GSM. The monitoring system shall have ports for receiving data from each inverter. This unit shall also have a LAN port, to transmit this information for remote data acquisition. Necessary cables, connectors, repeaters, instruments, software hiring

charges with updates for the first 5 years shall be included in the scope of the work.

S.No.	Parameter	Requirement
1.	Data to be monitored	DC side : Current , voltage , power
		AC side : Current, voltage power
		Irradiation , ambient temperature , module temperature, wind speed
		Error logs
2.	Data Transmission	Data transmission through LAN or GPS/ GPRS/ SIM Based system or any other mode of connectivity. LAN from the nearest point upto the inverter is included in the scope of work.
		Contractor shall be responsible for data connectivity for monitoring upto warranty /O & M period of the PV system. After this period the contractor shall transfer all ownership rights, SIM card, account information, instruction, Dongle etc to Project Authority and DISCOM.
		The contractor shall ensure DISCOM is aware of the contract required to maintain connectivity post-warranty /O & M period
		Data shall be accessible to 4 users , one of which is DISCOM through secure login account. The remaining 3 users shall be given to purchaser, for performance monitoring.
		Stored data should be represented through hourly, daily, monthly graphs and downloadable in .csv or .xls format

- *The format of the reports and trend display, with historical information shall be available in the system and shall be confirmed with the purchaser before finalization.*
- *The unit shall be installed at a suitable location in the PCC room/Near Inverter.*
- *LAN Cables from the inverter to the Remote monitoring system shall be in the scope of the bidder.*

4.6 **TOOLS, TACKLES & SPARES**

The bidder after completion of works shall hand over a set of tools & tackles required for maintenance of the system. List of tools & tackles shall be submitted by the bidder along with the bid. Tools like spanner set, screw drivers, and instruments like electrical tester, digital multi-meter etc., and Fuses, MCBs, etc. should be considered in the list.

A minimum set of spare shall be maintained for the entire period of warranty which shall be replenished on use.

4.7 DISPLAY BOARD:

A Coloured display board indicating the entire system configuration shall be installed at a suitable location in the PCC room.

4.8 CIVIL WORKS:

Works related to breaking of wall /floor slab, cut-outs making, plastering, finishing, painting etc required for piping, electrical cable trays /conduits, Earthing pit etc as required for the SPV system, is included in the scope of work, as per layout of the plant & directions of the engineer-in-charge. Works of excavation of earth-pit, earthing chamber construction will be shall be executed by the successful bidder as a part of scope.

Dismantling of water proofing on the terrace, if required, shall be carried out with prior intimation to purchaser. Finishing of water proofing works, cut-outs, foundations including painting shall be executed as per standard civil works practices. Any special chemicals like water proofing compounds, grouting materials, if required, shall be supplied as per site requirement. Foundation bolts required for equipment shall be supplied & installed. Works shall be executed only after getting clearance from engineer-in-charge.

Note: Bidder should get Structural details of civil work, examined & vetted by Rahuri Semen Station, prior to execution.

4.9 Important guidelines to Bidders:

- The bidder is advised to visit location and understand the site condition before offering the bid.
- Bidder's scope of supply also includes supply of spare parts of their equipment for two year trouble free operation as mentioned in General Requirement under clause 6.2.0 - Design data.
- All consumables like fuses, MCBs etc. and commissioning spares, required if any, for installation, testing & commissioning till taking over the plant by the purchaser shall be provided by bidder and the same after taking over the plant shall be provided by purchaser / project authority.
- Test runs and commissioning trials including imparting training for operation and maintenance.
- **Electricity and Water for installation:** Shall be provided at **one point within the site, free of charge.**
- **Completion time:** The entire work should be completed all in respect within **06 months** after placement of order. This period of includes all

activities of supply, installation, testing, trials and commissioning of the new Hot water generation & distribution system and allied accessories.

- This is a **turnkey job** which will have to be executed on a single responsibility basis. Bidder should consider the complete work in its totality. All minor works which may be necessary to achieve the rated capacity of the individual equipment being supplied and in turn to achieve the rated plant capacity, is included in the scope of work, though not specifically mentioned.
- The list of equipment accessories & their capacities may vary as per design and detailed engineering by the bidder to achieve the minimum equipment rated capacity as specified in design data (clause 6.2.0 of SECTION VI-A) & battery limits.
- Bidders may add additional items/features/accessories, section wise if these are required as per their detail engineering. These additional / optional / alternatives items offered by the bidder will be considered during technical evaluation of the bids and would be subjected to acceptance by the purchaser only through addendum of the tender document.
- The unit rates of items / equipment to be quoted by bidder shall be on FOR site basis inclusive of packing & forwarding, insurance, freight, taxes, duties, octroi etc.
- The equipment and accessories shall be covered under the warranty/guarantee clauses specified in bidding document.
- SPV system, instrumentation, controls etc shall conform to the guidelines of MNRE & latest standards prevailing in the industry.
- Danger Boards should be provided as & when necessary as per IE Act / IE rules as amended upto date. 3 signage shall be provided one each at PCC room , solar array area, and main entry of the Administration block terrace. Text of the signage should be finalized in consultation with the purchaser.

Scope of work		
No	Scope of works	Detailed scope
1	Site survey (Pre Order)	Bidder shall visit /survey the site & offer the system as per site requirement.
2	Design engineering.	Successful bidder shall submit drawings for approval on the schematics, layout including evacuation in consultation with purchaser & MSEDCL
		Bidder shall submit & get approval from purchaser for the BOM, data sheets etc.
		Bidder shall submit & get purchaser approval for the makes of all bought out & manufactured components with detailed specifications.

		Bidder shall submit & get purchaser approval for the pre-dispatch tests & inspection for all components.
3	Material supply	Major items like SPV, inverter shall be inspected as per agreed list of tests & inspection report shall be submitted to purchaser.
		All material shall get dispatched only after clearance by the purchaser. Purchaser shall agree for joint inspection if necessary or shall issue dispatch clearance at his discretion.
		Bidder shall ensure proper packing, transportation, loading / unloading & site storage.
4	Installation & testing	Installation be done as per standard industrial practice
		Pre-commissioning tests be conducted in presence of purchaser as per agreed list of tests.
		Bidder should submit a pre-commissioning test report & declare that the system is ready in all aspects for commissioning.
5	System commissioning.	The project design & execution must be done as per state policy.
		Bidder shall draft application for the SPV system at MSEDCL on behalf of the Client, well in time.
		Bidder shall remit the registration fee and other statutory fee on behalf of purchaser. Fees shall be reimbursed by purchaser on submission of the original payment bill/receipt. The statutory fees not to be considered in offer.
		Arranging all documents in format and liaison with MSEDCL for getting the application approval is included in scope.
		Supply & install the SPV as per approved drawings & specifications, in line with MSEDCL policy & best industrial practices.
		Make the Work Completion Report as per MSEDCL formats.
		Arranging all documents & enclosures as per MSEDCL Format. Coordination with MSEDCL/ CEIG for inspection & approval of the system.
		Get the net metering agreement signed as per format of MSEDCL between the owner & MSEDCL.
		Coordinate with MSEDCL for completion of testing, commissioning & synchronizing of the power plant including calibration and sealing of the bi-directional meter.

		<p>Coordinate with MSEDCL to provide all necessary documents to complete the synchronizing & commissioning of the system and obtain certificate of synchronization as per MSEDCL.</p> <p>Ensure the billing is regularized with the Solar plant synchronized for a minimum period of 3 months after commissioning.</p>
6	<p>Training, Documentation & handing over</p>	<p>As part of system commissioning, bidder should conduct a formal joint measurement of energy generation to make sure the required output is achieved as per design / specification.</p> <p>Training to owner’s maintenance and facility team about the system architecture, operation, troubleshooting shall be done by the contractor before handing over.</p> <p>Bidder shall prepare and submit ‘as-built’ drawings and documentations which include all inspection reports, tests conducted at site, catalogues of all items, warranty certificates, installed asset list in copies (1 pen drive + 2 Hard copies). Bidder shall submit 2 copies of O & M manuals.</p> <p>After completion of all above, “work completion certificate” will be jointly signed.</p>

4.10 COMMISSIONING & TRAINING:

- The bidder shall unload, store, install all items as described in the scope of work on the Terrace/ location indicated by the purchaser.
- All tools, tackles, consumables for equipment installation, piping, cabling etc shall be supplied by the bidder.
- Site related works like equipment erection, piping, instrumentation, electrical works like laying of cables, cable trays, supports for Cable trays, pipes etc shall be included in the scope.
- Installation of instruments, control signal cables shall be laid in separate GI tray upto inverter & upto Main Power panel.
- Successful bidder shall demonstrate the performance of the system for a period of **30 days**.

4.11 PERFORMANCE TEST

Performance Ratio Test procedure:

The Performance Ratio test aims at the comparison of the actual PV energy production with the guaranteed value for a limited time of PV plant operation of 30 consecutive days.

After completion of mechanical & electrical installation, the performance will be monitored for performance for 30 days. The test will be binding on the contract requirement to determine compliance of the equipment with guaranteed performance parameters.

Performance Ratio shall be done in accordance to IEC 61724. Monitoring system for PR verification will be done by power meter at delivery point, calibrated pyranometer for irradiance on the plane of array, Shielded thermocouples for ambient temperature.

Online performance Reports for 30 continuous days shall be downloaded from the web portal of the remote monitoring system & submitted to the purchaser in the format, for proof of performance.

Performance Report shall be in the format attached.

Performance Report – Month

Plant Name & Location		
Installed Plant Capacity		kWp
Total Energy Generated		kWh
Performance Ratio		%
CUF		%

Date	Inverter 1 yield [kWh]	Inverter 2 yield [kWh]	Inverter 3 yield [kWh]	Inverter 4 yield [kWh]	Total Yield [kWh]	Solar Irradiance [kWh/m2]	Module Temp [°C]	Wind speed [m/s]	Per. Ratio [%]
Day 1									
Day2									
Day 3									
Day									

4									
Day 5									
Day 6									

Day 29									
Day 30									

Special Note:

- 1. Cleaning of Solar PV Modules will be in the scope of the successful bidder.**
- 2. In case of below par performance in the 1st year, PBG (5%) will be invoked, if the yield is 5% below the yield (radiation corrected yield) declared by bidder.**

4.12 Operation & Maintenance post Performance Test :

Successful bidder shall operate & maintain the SPV system for a period of 1 year (during defect liability period) from the date of completion of performance trial and its acceptance.

Responsibilities of Bidder during Operation & Maintenance period:

- Installed system shall be made operational for a total period of 3 year from the date of satisfactory performance of system.
- The Bidder shall depute operator during the sunshine period during the day during the O & M period.
- Bidder’s representative shall visit of installation twice in month and technical report is to be submitted to purchaser’s authorized personnel within 2 days of visit.
- Any guidance for cleaning of solar PV panels, maintenance, training for unskilled work shall be imparted.
- Checking of all components and its operational health will be the responsibility of the contractor.
- Replacement of defective parts, wear & tear parts during this period will be done by the bidder and will be a part of O&M.
- Day-to-day monitoring of Solar PV system performance through remote monitoring system, and submission of daily power generation report and other parameters on a monthly basis.
- Annual Power generation report extracted from the monitoring system shall be compared with declared annual yield submitted by bidder during bidding. In case, the installed Solar PV system is unable to deliver declared/corrected annual yield with proper justification, modules

responsible for lower yield shall be replaced with new without any extra cost.

- In case of system breakdown, bidder shall rush persons immediately with necessary manpower, spares, as the case may be. Bidder shall put the system back in operation within 48 hours of reporting the breakdown.
- All required spares, consumable of Solar PV system equipment and labour charges required for putting the system back in operation are included in scope of O&M. No extra cost will be payable during O&M period.
- Bidder must keep all records of services and repair works during 1 year of O&M period.

4.13 Required 30Watt 25 Nos of solar street lights with clamp & rod but without pole & foundation

5.0 TECHNICAL DETAILS AND DRAWINGS TO BE FURNISHED ALONGWITH THE BID

A) Technical Data & details to be furnished by the Bidder

S. No.	Description	Details
1.	Type of SPV Module	
2.	Rating of the PV module (Wp)	
3.	Max no. of Modules in a string	
4.	MOC of the Module support	
5.	Rating of the Inverter (AC in KVA)	
6.	Earthing type	
7.	Max Efficiency of PV Module	
8.	Max. Efficiency of Inverter	
9.	No. of input channels in Remote Monitoring system	
10.	Inverter Warranty in years	
11.	Guaranteed Performance Ratio in % during the performance period.	
12.	PVSYST report for the SPV installation.	

B) Total Yield (KWh) from the system (To be declared by bidder) :

Bidder to declare following information along with bid regarding expected 1st year yield from installed system, as per location & condition of

installation.

Month / Radiation	No of days	Total Yield (KWh) from the system (To be declared by bidder)
January	31	
February	28	
March	31	
April	30	
May	31	
June	30	
July	31	
August	31	
September	30	
October	31	
November	30	
December	31	
Total	365	
Annual GHI* (KWh/m ²)		
1601 – 1700		
1701 – 1800		
1801 – 1900		
1901 – 2000		
2001 – 2100		
*GHI : Global Horizontal Irradiation (GHI)		

C) DRAWINGS & OTHER INFORMATION

1. Drawing of the panel for the model selected.
2. Foundation drawing for MMS module.
3. Foundation & load requirements.
4. Completion certificates & performance certificates from the client.
5. Performance curves for the solar panel
6. Declaration of any arbitration cases in last 2 years

D) Bid shall accompany the brief work schedule;

- PO placement date: Day 1
- Submission of Drgs for approval :
- Supply of equipment :
- Installation of equipment:
- Electrical works :
- Testing & commissioning :
- Performance Trials :

6.0 TECHNICAL DETAILS, DRAWINGS, DOCUMENTS TO BE SUBMITTED AFTER AWARD OF CONTRACT

The following shall be provided after award of contract:

- Catalogues of panels, inverter, bi-directional meter & solar meter.
- Performance curves for panel, inverter.
- SLD of the entire system, Drawing of DCDB, AC isolator Box, ACDB.
- Catalogues of all measuring instruments, electrical components.
- Bar chart for project.

7.0 A list of Makes of major Items are indicated in the following table.

SOLAR PV SYSTEM WITH ACCESSORIES & ACCESSORIES		
Item Description	Makes	Make by bidder
Solar PV panels	TATA/ WAAREE/ADANI	
DC cable	APAR/POLYCAB/HAVELS	
MCCB/MCB	L&T/ SIEMENS/ SCHNEIDER /ABB/ MDS-LEGRAND/	
Contactors & timers	L&T / SIEMENS / ABB/ SCHNEIDER	
Current Transformer (Cast resin type)	KAPPA / AE /NEWTEK/L&T/PRECISE/ RISHABH/ ELMEX/	
Rotary Selector Switch	KAYCEE / SALZER - L&T / SIEMENS / ABB	
RTD	RADIX / YOKOGAWA / TATA HONEYWELL /PYROTECH/ GIC/ ANDERSON NEGLE	
AC cable	LAPP KABEL /KEI / KEC (RPG ASIAN)/ FINOLEX / GLOSTER / SBEE / RR KABEL/POLYCAB/APAR	
INVERTER/ PCU	SUNGROW/ SOLIS/ GROWATT/GOODWEE/SOFAR	
Push Buttons/ Indicating Lamps	L&T-ESBEE / ABB/ SIEMENS / SCHNEIDER/ VAISHNO / TEKNIC / C&S	
MFM/Ammeter/Volt meter	L&T/SIEMENS/ SCHNEIDER/ ABB/RISHABH/ROCKWELL	
LT XLPE Power Cables	GLOSTER/KEC (RPG ASIAN)/KEI/FINOLEX/LAPP	

	KABEL/POLYCAB/SBEE/RR KABEL/APAR	
LT Copper Power & Control Cables	KEC(RPG ASIAN)/ KEI/ FINOLEX/ LAPP KABEL/ GLOSTER /POLYCAB/SBEE/ /RR KABEL/APAR	
Signal & Instrument cable	LAPP KABEL/CONCAB/ FINOLEX/RR KABEL/SBEE/POLYCAB	
Terminal Blocks	WAGO / LAPP INDIA / CONNECT WELL/ ELMEX/PHOENIX	
Cable Lug/Gland	DOWELS/ COMET/ LAPP KABEL /3D/BRACKO	
Plug & Socket	LEGRAND / CLIPSAL / BCH /HAGER/ANCHOR /SCHNEIDER/HENSEL / PEC / MENNEKES	
Anchor Fastner	Hilti/Fisher	
MS Ladder	As per suitable height (Approx. 9 8-9 Mtr)	
Walkway & Safety line	GI/FRP Length as per suitable for 200 Kwp solar system.	
Street Light 30 Watt 25 Nos with clamp/bracket & rod (Clamp Without Pole and foundation)	TATA/WAREE/Adani/Polycab/H vels/ Urja/Eternity Greens/Auro Energy/Autigo/Sudarshan Saur	

Note: Bidder shall offer makes in the specified column as a part of technical bid

CHECK LIST OF TECHNICAL DOCUMENTS/ INFORMATION TO BE SUBMITTED ALONG WITH BID

S.No.	Description	Remarks to be filled by bidder
1.	List of Drawings (Equipment GA, Layout, service schematics etc as per 7.0 A , 8.0)	Yes / No.
2.	List of equipment with brief specification, capacity, dimensions	Yes / No.
3.	List of 3 years essential spares	Yes/ No.
4.	Technical Data sheet duly filled 7.0 B	Yes / No.
5.	List of makes duly filled 9.0	Yes / No.
6.	Work schedule (as per format 7.0 A	Yes/ No.

8.0 BATTERY LIMITS

S. No.	Description	Purchaser's scope	Successful Bidder's scope
1	Water	10.1.1 Water for module cleaning shall available at one point in the new Dairy plant.	Existing water line shall be tapped and GI B class pipes shall be laid upto each water point. Heavy duty water hose will be supplied.
2	Electricals	Existing LT PCC having Transformer Incomer – 4P, 1000A, ACB.	New 400A, 4P, MCCB feeder in the existing LT PCC panel shall be provided for connection. DC cables from PV modules upto inverter. AC Cables from inverter through ACDB, solar Meter etc upto PCC in the substation.
3	Earthing	--	Earthing of PV module structure, & all AC isolator box, inverter etc in the scope of supply. Lightning arrestors, earth pits as per scope of supply.
4	Civil works	Civil works Solar PV Module pedestals will be constructed by the purchaser, based on drawings submitted by the successful bidder.	Civil works like grouting, cut-outs, finishing, plastering, painting etc. for Piping, Cable tray, Earthing, Electrical accessories & instruments etc. as per above clause 4.8 in the scope of bidder.

5	Structural works	–	All structural supports shall be hot dip galvanized, as described in scope.
6	Statutory requirement	Necessary letter shall be issued to concerned agency.	As per local DISCOM/CEIG/Renewable Energy Department requirements

9.0 Other conditions: Laying of cables either on cable trays or in underground (including excavation, supply & laying of RCC half round pipe, sand etc.) includes providing and fixing cable glands and lugs at both ends of cable, if required supply and laying PVC or equivalent pipe of suitable size to be provided without extra cost instead of laying cable in ground.

For the quantities of cables, earthing strips and pits etc., bidders are requested to submit the tentative schematic diagram showing the location of various electrical equipment, cable routes, nos. of earth pits and sizes of various cables and earth strips. However, execution shall be as per the statutory requirement and the drawings approved by Rahuri Semen Station / Electrical Inspectorate of State.

Required quantities for supply & installation of cables, earthing pit & earthing strips (GI & Cu), structural steel, cable trays, etc. to be assessed as per site conditions by the bidder and supplied as per actual site requirement.

A) Price Schedule

IFB No.NDS:RAHURI:RGM:SSS:2425:LCB:SOLAR:001

	Description of Item	Qty.	Rate (in Rs)	Amount
1)	Design, Supply of Grid Connected 200 KWp Solar PV System With Accessories at Rahuri Semen Station, Rahuri-413722 (MS) as per the technical specifications & drawing enclosed (Section VI)	1 Job		
2)	30 watt Solar street lights with clamp & rod (without pole & foundation)	25 Nos		
3)	Erection, Testing and Commissioning of Grid Connect 200 KWp Solar PV System & 30 watt Solar street lights With Accessories at Rahuri Semen Station, Rahuri-413722 (MS) as per the technical specifications & drawing enclosed (Section VI)	1 Job		
4)	3 years CMC of solar systems including solar panel cleaning twice in month.	3 years (72 Visits)		
	Total value excluding GST			
	Add: GST @ _____ %			
	Total value including GST			

BID FORM

(Bidders are requested to upload the FORM OF BID as per the Format given in this Section, filling all the blank spaces.)

Date : _____

Ref. No. NDS:RAHURI:RGM:SSS:2425:LCB:SOLAR:001

TO: RAHURI SEMEN STATION
Near MPKV, Dalimb Phata, Khadambe-B,
Rahuri Dist. Ahmednagar-413722 Maharashtra.

Gentlemen:

Having examined the Conditions of Contract, Technical Specifications and the Drawings included in or referred to in the Bidding Documents including Addenda Nos. (Insert Numbers), the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply and deliver Goods and Services including installation and commissioning as detailed in the price bid, in conformity with technical specifications and drawings (except to the extent of deviation statement furnished in our bid) and the Conditions of Contract as mentioned in or referred to in the said Bidding Document for the sum as may be ascertained in accordance with the Bid Prices and made part of this bid and the said conditions.

Our acceptance to all the conditions of the Bidding Document in this bid form shall persist over any other terms and conditions, if any, given in our bid.

We undertake, if our bid is accepted, to commence and complete delivery of all the goods and Services including installation and commissioning as specified in the Schedule of Requirements of the Bid Document, from the date of receipt of your Purchase Order / Notification of Award / Letter of Credit.

If our bid is accepted we will obtain the bank guarantees as per the conditions of the Contract for the due performance of the Contract.

We agree to abide by this bid for the period of **120 days** from the date fixed for bid opening as per the Instruction to Bidders and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

Until a formal contract is prepared and executed, this bid, together with your written acceptance thereof and your Purchase Order / notification of award, shall constitute a binding Contract between us.

We understand that you are not bound to accept the lowest or any bid you may receive.

Dated this _____ day of _____ 20__.

Signature

(In the Capacity of _____)

Duly Authorized to sign bid for and on behalf of

(Name & Address of Bidder) : _____

Name of Witness : _____

Signature : _____ Address : _____

B) DEVIATION STATEMENT FORMS

TECHNICAL DEVIATION STATEMENT

FORM PART-A

(Ref. No. NDS:RAHURI:RGM:SSS:2425:LCB:SOLAR:001)

(1) The following are the particulars of deviations from the requirements of the tender specifications:

c) **CLAUSE DEVIATION REMARKS**

(Including justification)

The technical specifications furnished in the bidding document shall prevail over those of any other document forming a part of our bid, except only to the extent of deviations furnished in this statement.

Dated:

Signature and seal of the
Manufacturer / Bidder

NOTE:

- (1) Where there is no deviation, the statement should be returned (uploaded) duly signed with an endorsement indication "**NO DEVIATIONS**"

D) BIDDING TERMS DEVIATION STATEMENT

FORM PART-B

(Ref. No. NDS:RAHURI:RGM:SSS:2425:LCB:SOLAR:001)

- (2) The following are the particulars of deviations from the requirements of the bidding conditions / terms:

CLAUSE	DEVIATION	REMARKS (Including justification)
--------	-----------	--------------------------------------

Dated:

Signature and seal of the
Manufacturer / Bidder

NOTE:

- (1) Where there is no deviation, the statement should be returned (uploaded) duly signed with an endorsement indication "NO DEVIATIONS"

E) Form of Bank Guarantee for Performance Security

[On the Non-judicial stamp paper minimum Rs.100/ or as per the Stamp Act of Local State Government]

Bank Guarantee No.

Date:

This deed of performance guarantee made this _____ day of 20__ (Two thousand) by (Name and address of the Bank) (herein referred to as the Bank) which expression shall unless repugnant to the context and meaning thereof includes its legal representatives, successors and assignees and the Rahuri Semen Station (A Unit of NDDDB Dairy Services) which expression shall unless repugnant to the context and meaning thereof include its legal representative, successors and assignees.

Whereas, Rahuri Semen Station (A Unit of NDDDB Dairy Services) / its clients has awarded a Contract and Purchase order bearing No _____ dated _____ on M/s. _____ (name and address of the party)(hereinafter referred to as the 'Supplier/ Contractor') for the construction/ supply/ supply and erection and commissioning of _____ .

And whereas, the Supplier/ Contractor has agreed to submit a performance guarantee in the form of a Bank Guarantee to the Rahuri Semen Station (A Unit of NDDDB Dairy Services) in terms and conditions of the Bidding Document and the Contract which will be kept valid up to ____ calendar months from the date of Bank Guarantee (the period should be till end of warranty/ defect liability period). And whereas, the Bank and its duly constituted agent and officer has already read and understood the contract made between the Rahuri Semen Station (A Unit of NDDDB Dairy Services) and the Supplier/ Contractor.

In consideration of the Rahuri Semen Station (A Unit of NDDDB Dairy Services) having agreed to award the contract/ purchase order on the Supplier/ Contractor, we _____ (name of the Bank), do hereby guarantee, undertake, promise and agree to with the Rahuri Semen Station (A Unit of NDDDB Dairy Services), its legal representatives, successors and assignees that the within named (name of the Supplier/ Contractor) their legal representatives and assignees will faithfully perform and fulfill everything within the Bidding Document and the Contract/Purchase order on their part to be performed or fulfilled at the time (time being the essence of the contract) and in the manner therein provided, do all obligations thereunder and we further undertake and guarantee to make payment to the Rahuri Semen Station (A Unit of NDDDB Dairy Services) of Rs. _____ (Rupees _____ only) being the guaranteed amount, without any demur in case the Supplier/ Contractor, their legal representatives and assignees do not faithfully perform and fulfil everything within the Bidding Document and the Contract/ Purchase order on their part to be performed or fulfilled, at the time and in the manner therein provided and do not willfully and promptly do all obligations thereunder.

In case, the Supplier/ Contractor fails to perform or fulfil the Contract/ Purchase Order as per the terms and conditions agreed upon, the Rahuri Semen Station (A Unit of NDDDB Dairy Services) is entitled to demand an amount equal to Rs. ----- from the Supplier/ Contractor and the demand made by the Rahuri Semen Station (A Unit of NDDDB Dairy Services) by itself will be conclusive evidence and proof that the Supplier/

Contractor has failed to perform or fulfil his obligations and neither the Supplier/ Contractor nor the Bank will be entitled to raise any dispute regarding the reasons for the failure of performance or fulfilment, on any ground.

We, (name of the Bank), do hereby undertake to pay amount equal to Rs. -----, being the amount due and payable under this guarantee without any demur, merely on a demand from the Rahuri Semen Station (A Unit of NDDDB Dairy Services) which has to be served on us before the expiry date of Bank Guarantee i.e. _____ stating that the amount claimed is due by way of non-performance of the contractual obligations as aforesaid by the Supplier/ Contractor or by reason of the Supplier/ Contractor's failure to perform the said contractual commitments/ Purchase Order, any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. ----- (Rupees _____ only) being the full amount guaranteed.

We, (name of the Bank), further, agree that the performance guarantee herein contained shall remain in full force and effect for a period of ____ calendar months from the date of Bank guarantee (the period should be till end of warranty/ defect liability period) and till the Rahuri Semen Station (A Unit of NDDDB Dairy Services) certifies that the terms and conditions of the said contract/ purchase order have been fully and properly carried out by the said Supplier/ Contractor and accordingly discharge the guarantee, unless a demand or claim under this guarantee is made on us in writing by the Rahuri Semen Station (A Unit of NDDDB Dairy Services) on or before _____, we shall be discharged from all liabilities under this performance guarantee thereafter.

We, (name of the Bank), further agree with the Rahuri Semen Station (A Unit of NDDDB Dairy Services) that the Rahuri Semen Station (A Unit of NDDDB Dairy Services) shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Bidding Document and the Contract/Purchase order or to extend the time of performance by the said Supplier/ Contractor from time to time or postpone for any time or from time to time and any of the power exercisable by the Rahuri Semen Station (A Unit of NDDDB Dairy Services) against the Supplier/ Contractor and to forebear or enforce any of the terms and conditions relating to the said Bidding Document and the Contract/Purchase Order and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Supplier/ Contractor, or for any forbearance, act or omission on the part of the Rahuri Semen Station (A Unit of NDDDB Dairy Services) to the said Supplier/ Contractor by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

This guarantee shall be in addition to and without prejudice to any other securities or remedies which the Rahuri Semen Station (A Unit of NDDDB Dairy Services) may have or hereafter possess in respect of the works executed or intended to be executed/ goods supplied or intended to be supplied and the Rahuri Semen Station (A Unit of NDDDB Dairy Services) shall be under no obligation to marshal in favour of the Bank any such securities or funds or asset that the Rahuri Semen Station (A Unit of NDDDB Dairy Services) may be entitled to receiving or have a claim upon and the Rahuri Semen Station (A Unit of NDDDB Dairy Services) at its absolute discretion may vary, exchange, renew, modify or refuse to complete to enforce or assign any security or instrument.

The Bank agrees that the amount hereby guaranteed shall be due and payable to the Rahuri Semen Station (A Unit of NDDDB Dairy Services) on serving us with a notice before expiry of bank guarantee, requiring the payment of the amount and such notice shall be deemed to have been served on the Bank either by actual delivery thereof to the Bank or by dispatch thereof to the Bank by Registered Post at the address of the Bank.

In order to give full effect to the provisions of this guarantee the Bank hereby waives all rights inconsistent with the above provisions and which the Bank might otherwise as a guarantor be entitled to claim and enforce.

We, _____, undertake to renew the Bank Guarantee provided the request for renewal is made by the Supplier/ Contractor before the expiry of Bank Guarantee.

We, _____, lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Rahuri Semen Station (A Unit of NDDDB Dairy Services) in writing and the guarantee shall be a continuous and irrevocable guarantee upto a sum of Rs. _____ (Rupees _____ only)

Notwithstanding anything stated herein before: (i) our liability under this guarantee is restricted to Rs. _____ (ii) the guarantee shall remain in force till ___20___ and (iii) The Bank is liable to pay the guarantee amount or any part thereof under this bank guarantee only if the Rahuri Semen Station (A Unit of NDDDB Dairy Services) serves upon the Bank a written claim or demand on or before _____.

Place:
Date:

(SIGNATURE)
SEAL
CODE NO.

NOTE:

- 1 SUPPLIER/ CONTRACTORS SHOULD ENSURE THAT SEAL AND CODE NO. OF THE SIGNATORY IS PUT BY THE BANKERS, BEFORE SUBMISSION OF THE BANK GUARANTEES.
- 2 THE VALUE OF STAMP DUTY SHOULD BE AS PER LATEST STAMP ACT OF LOCAL STATE GOVERNMENT FROM WHERE THE BANK GUARANTEE ISSUED.
3. **Bank should confirm the bank guarantee through “Structured Financial Messaging System (SFMS)”,. Bank account details of beneficiary are as follows:**

Beneficiary Name	
Bank Account No.	
IFSC code	
Beneficiary Bank Name	
Beneficiary Bank Address	

Bank charges, if any, on this account will be borne by the beneficiary

If the issuing bank is not having the SFMS facility, the bank guarantee needs to be confirmed by its controlling office i.e. Administrative / Regional / Zonal Office to the following address

Beneficiary Name	
Beneficiary Address	

Kindly note that necessary action on the Bank Guarantee will be taken by Rahuri Semen Station (A Unit of NDDB Dairy Services) only upon receipt of confirmation in either one of the mode as prescribed above.