

**YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT ADMINISTRATION (YASHADA),
PUNE.**

TENDER DOCUMENT

E-TENDERFOR

**DESIGN, MANUFACTURE, SUPPLY, INSTALLATION, TESTING AND
COMMISSIONING WITH FIVE YEARS COMPREHENSIVE MAINTENANCE
CONTRACT OF 350 kWp GRID CONNECTED SOLAR POWER PLANT
(NET METER) WITH ELEVATED WEATHER SHADE AT YASHWANTRAO
CHAVAN ACADEMY OF DEVELOPMENT ADMINISTRATION STATE OF
MAHARASHTRA**

Tender Ref. No: EMR/ELECT/6323/SNOS



**YASHWANTRAO CHAVAN ACADEMY OF
DEVELOPMENT ADMINISTRATION (YASHADA PUNE),
PUNE.**

(A Government of Maharashtra Institution)

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SECTION-I
BID INVITATION

- **Brief Description of the Bidding Process**
- **The Director General**, on behalf of **YASHADA Pune (the Employer)**, invites eligible bidder to submit a bid in accordance with the provisions of this Tender Document. In this Tender Document, the term "Bidder", which expression shall, unless repugnant to the context, include all parties who have submitted bids in response to this Tender Document within the stipulated time frame for submission.
- The Bidders shall submit the bids in two parts by following e-tendering process described in bidding documents. First part comprises of the Technical Bid and the second part comprise of the Financial Bid in accordance with this Tender Document.
- In terms of the Tender Document, a Bidder will be required to deposit, along with its Bid, a bid security as Earnest Money Deposit (EMD).
- YASHADA Pune will open the Technical Bid of the Bidder, by e-tendering process. The Financial Bid will be open to those bidders who qualify in Technical Bid.
- The Bidder's Names, Bid prices and the presence or absence of the requisite and such other details as YASHADA PUNE, at its discretion, may consider appropriate will be announced at the time of opening.

BIDDING INFORMATION (NOTICE INVITING TENDER)

1.	Tender Reference No.	EMR/ELECT/6323/SNOS 2025-26
2.	Date & Time for sale & submission of Bids	From 21/06/2025 to 22/07/2025 at 15:00 hours
3.	Pre-bid Meeting at YASHADA PUNE, Pune Office or on VC	27/06/2025 at 15:00 hours
4.	Date & Time of opening of Technical Bid	23/07/2025 at 15:00 hours

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5.	Estimated Cost	Rs 2,02,00,000/- (Two Crore Two Lakh Only)
6.	Earnest Money Deposit (EMD)	Rs. 2,02,000/- (Two Lakh, Two Thousand only)
7.	Security Deposit:	5% of contract value by RTGS / NEFT only.(5% of the Accepted Tender Cost)
8.	Address for communication and Venue for Tender opening	Director General YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT Raj Bhavan Complex, Baner Road Pune- 411 007. Phone No: - 020 - 2560 8408/8229/8777 E-mail ID: - estatedepartment@yashada.org
9.	Tender document fee	Rs: 5,000(Five Thousand Rupees)+ 18% GST = 5,900/- (Non-refundable)
10	Work Time Limit	120 days from the date of work order.

The date & time of opening of Financial offer (Price Bid) will be announced later.

If any technical difficulties arise while filling up e-tender, please call at 24 x 7 Help Desk Number 0120-4001002/4001005/4711508/6277787 at NIC. It is compulsory to pay tender document fee, EMD through e-payment SBI Net Banking, RTGS and NEFT only.

Eligible bidders should scan and upload the Tenders through mahaetender portal of <http://www.YASHADA Pune.org>

Purchase policy GR dated (1 DEC 2016) and its amendment published time to time is applicable to this tender.

SECTION-II

INFORMATION AND INSTRUCTION TO BIDDERS

The Director General, on behalf of YASHADA Pune (the Employer) invites bids from eligible bidders for “works” include Design, Manufacture, Supply, Transport, Installation, Testing and Commissioning with 5 Years Comprehensive Maintenance Contract (CMC) of 350 kWp of grid connected Solar Power Plant (Net Meter) With Elevated Weather Shade at YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT ADMINISTRATION(YASHADA PUNE), in the state of Maharashtra. Here in after referred to as the contract of works and as described in the Bidding Data under single point responsibility “Turnkey Contracts” under Tender No: EMR/ELECT/6323/SNOS Location and capacities of the grid connected solar power plant shown in the table below:

-

Sr. No.	Particulars	Total Capacity in kWp	Total Estimated Cost (Rs.) Including all taxes.
1	Design, Manufacture, Supply, Transport, Installation, Testing and Commissioning with 5 Years Comprehensive Maintenance Contract (CMC) of 200 Kw + 50Kw to be install on Libery Building and 100 Kw on Admin/Sanwad Building, Total 350 kWp of grid connected Solar Power Plant (Net Meter)With Elevated Weather Shade Structure at YASHADA PUNE Pune.	250+100	2,02,00,000/-
	Total	350	2,02,00,000/-

1. The Scope of contract is as below:

- a) Design, Manufacture, Supply, Transport, Installation, Testing and Commissioning with 5 Years Comprehensive Maintenance Contract (CMC) of 350 kWp of grid connected Solar Power Plant (Net Meter) With Elevated Structure, at YASHADA

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Pune, in the state of Maharashtra on “Turnkey” Contract Basis and as described in the Bidding Document.

- b) Free replacement of defective components of systems within Comprehensive Maintenance Contract period (CMC) of five years after commissioning for efficient running of the system.
- c) Detailed planning for smooth execution of project, shall be submitted by selected bidder.
- d) Selected Bidder(s) shall be bound by operation and management arrangements and rules, regulations and modalities as per MNRE and as established by YASHADA Pune agreed between YASHADA Pune and the contractor for effective implementation of the project.
- e) Time is the essence in completing the works. The successful Bidder will be required to complete the works within the stipulated time as specified in the tender document. The bidder shall ensure that SPV power plants should be commissioned within **120 days (including NET Meter connectivity)** from the date of issue of work order.
- f) Bids shall be complete and cover all Works described in the Schedule of Prices. Any item of works required for complete usable system shall be deemed to be included in bidder’s scope irrespective of whether it is specifically mentioned or not in the price schedules.
- g) Bidder should note that obtaining permissions from statutory bodies in coordination with YASHADA/Project Management Consultant (PMC) wherever required for execution of works, shall be entirely in bidder’s scope.
- h) Seeking permission for net-metering and increasing load, from the solar PV system would be the responsibility of bidder in accordance with the prevailing guidelines of MERC/MSEDCL. YASHADA/PMC provide necessary assistance. Increase in Load demand permission from authority shall be in Contractors scope, for which only payments/fees paid by the bidder shall be paid by YASHADA against submission of valid receipts.
- i) The Consumer/Beneficiary/Owner/User Agency will facilitate and provide required information & necessary documents for filling the application for net metering

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application; however, the entire responsibility of getting the Solar Rooftop Net-metering permission from MSEDCL lies with the bidder.

- j) The bidder must acknowledge that all the work must be in the observance of licensed electrical contractor. The responsibility of electrical works, safety precautions and safety parameters of the project will be of licensed electrical contractor and awarded bidder, which must as per standards specified.
- k) Solar Power Plant Electrical drawings/SLD must be approved by Electrical Inspector.
- l) Bidder should visit the site and observe all the parameters related to supply of electricity and other required related to SPV plant before submitting the bid. There should be not be any ambiguity.
- m) Bidder should note that during progress of the work he has to submit the progress report of the work in every 15 days along with the photograph of the site to YASHADA Pune.
- n) Partial bids, conditional bids, or bids which do not cover the entire scope of the project will be treated as incomplete and not responsive to the terms and conditions of bidding and are liable to be summarily rejected.
- o) Net Meter - Bidder shall apply to Net meter and get permission from MSEDCL. The charges for the same (including Load Extension, Net Meter approval, testing from Local Discom, HT Meter Cubical Work, required CT, PT, etc.) will be paid by bidder. The Net meter connectivity will be responsibility of the bidder.
- p) All EPC work including safe transportation of material and machinery at any risks of loss and damage to any part of the solar power plant till successful commissioning lies with the bidder.
- q) Necessary underground cabling interconnection at LT distribution panel shall be done as per IE rules.
- r) Bidder shall quote for the complete system considering elevated weather shade structure shall be Galvanized 80 Microon Certified by Galvanized Company. CT-PT replacement, additional Electrical equipment/parameters required and payment of additional Security deposit towards Load Extension to MSEDCL. Bidder should

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strictly quote consider above parameters. No claims will be entertained later on from the bidder.

- s) Bidder shall be Provide RMS facility- (Remote Monitoring System) with Internet connection for CMC Period at own Cost. (Provide SIM card if required.)
- t) The site visit report in given format as per **Appendix – IV is mandatory.**

2. Eligibility

The bidder shall provide sufficient documentary evidences to satisfy the following conditions, that the bidder:

- Power of Attorney for Authorized Signatory on stamp paper of appropriate value.
- Will not be having Joint venture.
- Certificate of Incorporation (Companies Act. 2013)
- GST registration certificate
- Copy of PAN card
- CA Certificate for Average Annual Turnover of **Rs. 1.0 Crore** in respect of related to solar power generation system installation and maintenance per year for last 3 years (FY 2022-23, 2023-24 & 2024-25)
- Audited Balance Sheet for last 3 years (FY 2022-23, 2023-24 & 2024-25)
- Net Worth of **Rs. 1.0 Crore** Certificate duly Certified by CA.
- Bidder Shall provide the valid IEC certificate of SPV Module & Inverter from authorized test center of MNRE, GoI and Copy of valid Certificate as of date of bid submission.
- Self-Undertaking signed that bidder is not blacklisted.
- Work orders and work completion certificates or experience certificate from Govt. /semi govt. organizations OR Purchase Order/Completion Certificate/tax Invoice AND Site photographs with GPS latitude & longitude in case of orders from Private Party for last 3 years (FY, 2022-23, 2023-24 & 2024-25)

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- Bidder should have prior experience of manufacturing, supply, installation testing, commissioning and maintenance after sale services in the field of grid connected system of at least of **200 Kwp (Single Order) and having more than 1.0 Mw(cumulatively) Work Experience** for grid connected system for Institute/Client /Origination order completion certificate is certified and issued by Executive Engineer or equivalent Rank officer/Competent authority of Private organization.
- And also submit the self-attested copies of Work orders and work completion certificates or experience certificate & satisfactory Performance Report, from Govt. /semi govt. organizations OR Purchase Order/Completion Certificate/tax Invoice AND Site photographs with GPS latitude & longitude in case of orders from Private Party. YASHADA Pune reserve right to ask for RMS report of all /any particular sites to verify the claims made by the bidder.
- Must have field service setup to provide good after sale services including necessary repair and maintenance in the state of Maharashtra. He must submit details of service setup available at State level.
- Has provided good after sale services for the works done by him during last three years.
- All above criteria shall be strictly followed. Bidder should quote only if he is eligible.
- A certificate regarding all pages of the bid has been digitally signed. All the enclosures, documents submitted shall be self-attested by the bidder.

3. Standards/ Certificates

- a) The goods supplied and works executed under this contract shall confirm to the standards mentioned in the technical specification and where no applicable standard is mentioned, the latest version of Indian Standard Institution or Bureau of Indian Specification shall be applicable.
- b) The Bidder shall submit all the valid test certificates and reports of the system components following the latest MNRE Guidelines and the same components shall be supplied for which the test reports/ certificates are submitted.

4. Instructions

- a) Bidder shall upload Information, Experience Certificates, Test Reports and other such relevant documents specified in the list of other important documents in same sequence.
- b) Technical Proposals which are submitted by non-qualified bidders or which are evaluated to be not responsive will be rejected and not further considered.
- c) Only Technical Proposals conforming to minimum eligibility criteria and found to be responsive will be taken up for detailed technical evaluation. A technical / tender evaluation committee shall evaluate the Bids submitted by bidders for a detailed scrutiny. During evaluation of Bids, YASHADA Pune shall ask for the documents related to the deficiencies from the bidders.
- d) The bidder should visit the site and carryout the survey along with concerned persons of YASHADA Pune/Register in Tender and upload the certificate indicating that the survey (With GPS Coordinate) is carried out by the bidder as per **Appendix - IV**, which is compulsory.
- e) Financial Bid of bidders qualifying above conditions shall be subsequently opened as per schedule.
- f) The lowest price quoted for the bid will be determined and the work order shall be issued to the successful bidder.
- g) Bidder shall quote their rates (including all taxes) considering wide variation of site conditions, MSEDCL NET Meter Work, Electrical Inspector Permissions, variation in price, logistics and distribution needs, and keeping the quantum and quality of work in mind.
- h) Bidder should upload only the documents which are asked to upload in the tender document, as per sequence mentioned in list of documents.
- i) All bids must be accompanied by EMD as specified in the Tender Notification and uploaded/furnished on or before the prescribed date and time given in this document. Bids submitted without EMD will be summarily rejected. Bidder would need to upload the required documents through electronic mode as part of their proposal.

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- j) Bidder Shall Supply approved and enlisted required component like solar modules, inverter, cables etc for the said project.
- k) For any Clarification, please contact to www.yashada.org
- l) YASHADA Pune reserves the right to reject or accept any or all tenders wholly or partly without assigning any reason on the grounds considered advantageous to YASHADA Pune, whether it is the lowest tender or not.
- m) The successful bidder is bound to complete the work of SPV power plant at the specified places in given time.
- n) The Bid uploaded by the Bidder and all correspondence and documents in relations to the bid shall be in English Language.
- o) The work order is not transferable. Subletting is not allowed.
- p) YASHADA Pune will not entertain any claim at any stage from the successful bidder on the plea of not having sufficiently acquainted himself as to the site conditions.
- q) The staff of vendor shall comply all the rules and regulations of YASHADA campus and care shall be taken not to create any type of nuisance in the official work.
- r) It is responsibility of Agency, the workmen employed by agency should always during work shall wear appropriate safety equipment. Every incidence of noncompliance of such instruction will be penalized. Agency shall be liable and responsible for any compensation or damages to its workmen employed at the site for execution of this work against injury or loss of life . Agency shall not identify YASHADA from any cost or legal actions resulting from such injuries, loss of life to agencies workman.
- s) Agency is required to keep strict vigilance on their Machineries, if any tempering to any units is noticed same shall be immediately reported to Engineer in Charge. The agency itself to decide the monitoring schedule for detecting tempering releted to Machineries/ units depending on their experience. No payment shall be paid by YASHADA due to such incidence for any damages.

5. Cost of Bidding

The bidder shall bear all costs associated with the preparation and submission of bid and YASHADA will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

6. Language of Bid

The Bid uploaded by the Bidder and all correspondence and documents in relations to the bid shall be in English Language only. Supporting documents and printed literature furnished by the bidder may be in another language provided they are accompanied by an accurate translation of the relevant passages in the English language duly authenticated and certified by the bidder. Supporting materials, which are not into English, may not be considered. For the purpose of interpretation and evaluation of the Application, the English language translation shall prevail.

7. Documents Comprising the Bid

The Bid prepared by the Bidder shall be uploaded in 'Two parts Viz. Technical and Financial Bids comprising the following components. Bids shall electronically submit online in the E-tender platform and the documents shall be scanned and submitted.

Part I

Technical bid:

Bidder shall submit relevant certificates to demonstrate the Financial, Technical capabilities & Eligibility criteria prescribed under this Tender Document (**Annexure A - Check List**).

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

Part II

Financial bid

The Bidder shall indicate the price of elevated weather shade structure SPV Solar Power Plant on the Price Schedule, it proposes to supply under the Contract. Financial Bid shall contain:

- The bidder should quote the price as against total contract tender estimate as shown in price schedule format (including all taxes, etc)
- Installation, testing, commissioning charges includes Freight on Road "FOR" destination prices inclusive of packing, forwarding, freight, inland transportation, insurance, loading, unloading, supply, distribution, collection, testing inspection and any/ all charges incidental for successful design, supply, Installation, commissioning and comprehensive maintenance for FIVE YEARS of SPV Power Plants (With NET Meter installation& Bidder shall be take and bear all necessary permission, Paying applicable statutory fess, inspection from concerned Discom's)
- Prices shall be quoted in Indian Rupees only, inclusive all charges and taxes.
- In no circumstances, escalation in the prices will be entertained.
- The Bidder shall complete the price schedule furnished in the Tender Document, Indicating the price of SPV Power Plant towards Design, Manufacture, Supply, Transport, Installation, Testing, five years of CMC, Insurance for CMC period and Commissioning of SPV Power Plant System with Net Meter as per the Technical Specifications. YASHADA will not pay any extra charges over and above rate quoted by the Bidder. The quoted price shall be 'FIXED', during the entire term of the Contract.
- Financial Bid uploaded with an adjustable price quotation will be treated as non-responsive and will be rejected.
- Any Bid not in accordance with above clauses of this Section will be rejected.

8. EARNEST MONEY DEPOSIT (EMD) & FORFEITING OF EMD, SECURITY DEPOSIT (SD), ADDITIONAL SECURITY DEPOSIT(ASD):

A) EARNEST MONEY DEPOSIT:

The Earnest Money Deposit of **RS 2,02,000** /- should be paid online through respective portal. No exemption certificates are acceptable under any circumstances. Tender without Earnest Money Deposit will be out rightly rejected. No interest shall be payable on the amount of Earnest Money. It shall be retained by YASHADA. EMD shall be returned to unsuccessful Bidders after acceptance of work order by successful Bidder and EMD of successful Bidder shall be returned after submission of security deposit.

FORFEITING OF EMD:

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

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

B) SECURITY DEPOSIT:

1. The Bidder shall furnish security deposit at 5% of the total contract value within 15 days from the date of issue of work order (including Sunday and public holiday) by RTGS /NEFT mode only.
2. Failure to comply with the terms of security deposit shall result in to cancellation of work order without any further reference to the Bidder and the EMD shall be forfeited.

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3. The security deposit shall be liable to be forfeited wholly or partly at the sole discretion of the YASHADA Pune, if the Bidder either fails to accept/execute the work of above projects or fails to fulfil the contractual obligations or fails to settle in full his dues to the YASHADA Pune, or violates any term in this tender document.
4. In case of premature termination of the contract, the security deposit will be forfeited and the YASHADA Pune will be at liberty to recover the losses suffered by it & if additional cost is to be paid, the same shall be recovered from the Bidder.
5. The YASHADA Pune is empowered to recover from the security deposit for any sum due and for any other sum that may be fixed by the YASHADA Pune as being the amount or loss or losses or damages suffered by it due to delay in performance and /or non-performance and /or partial performance of any of the conditions of the contract and/or non-performance of guarantee obligations.
6. The 50% security deposit shall be released to the Bidder only after the project is Successfully installed/commissioned and remaining 50% security deposit shall be released after submission of performance bank guarantee for maintaining the system and completion of CMC period of 5 years.
7. YASHADA may appoint a Competent Authority/ Project Management Consultant (PMC) for the work and after certifying the work and measurements from Competent Authority/ Project Management Consultant Bill will Finalize and payment shall made.

9. PRICE VARIATION:

Under any circumstances & for any reasons, escalation in the contract value will not be considered by YASHADA Pune .

10. JURISDICTION:

In case of any dispute, in the documentation and during implementation, commissioning, completion and CMC period, all the matter will be resolve under Pune Jurisdiction only.

11. TIME FRAME:

The time frame for the completion of work is **120 Days** from the date of issue of work order.

12. Period of Validity of Bid

- a) Bids shall remain valid for **180 days** after the date of opening of Technical Bid. A Bid valid for a shorter period shall be rejected by YASHADA as non-responsive.
- b) In exceptional circumstances, YASHADA Pune may solicit the Bidder's consent to extend the period of validity. The request and the responses thereto shall be made in writing. The EMD provided shall also be suitably extended. A Bidder granting the request will not be required nor permitted to modify its bid.

13. Mode of submission of bids

- a) The Bids shall be submitted electronically in the e-tender platform only.
- b) Bids sent by any other mode like in person, post, Couriers, or e-mail will be rejected.
- c) YASHADA may at its discretion require any Bidder to submit the hard copy of any of the document submitted on e-tender platform.

14. Amendment of Bidding Document

- a) At any time prior to the deadline for submission of bids, the Employer may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the bidding documents by issuing addendum (corrigendum).
- b) Any addendum thus issued shall be part of the bidding documents pursuant to Sub-Clause and shall be communicated through the website:- <https://www.yashada.org>
- c) In order to afford prospective bidders reasonable time in which to take an addendum into account in preparing their bids, or for any reason deemed appropriate by the Employer, the Employer may extend the deadline for submission of bids.

15. Deadline for Submission of Bids

- a) Bids must be uploaded by the bidder through e-tender process not later than the time and date specified in the invitation for Bids.
- b) The YASHADA Pune may, at the discretion, extend this deadline for submission of bids by issuing an addendum, in which case all rights and obligations of YASHADA Pune and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

16. Clarification of Bids

During evaluation of Bids, YASHADA Pune may, at its discretion, ask the Bidder for a clarification of its bid. The request for clarification and the response shall be in writing and no change in prices or substances of the Bid shall be sought, offered or permitted.

17. Preliminary Scrutiny

- a) The YASHADA Pune will examine the Bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the bids are generally in order.
- b) Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If there is a discrepancy between words and figures, the lower of the two will prevail. If the Bidder does not accept the correction of errors, its bid will be rejected.
- c) YASHADA Pune may waive any minor infirmity or non- conformity in a bid, which does not constitute a material deviation, provided such a waiver does not prejudice or affect the relative ranking of any bidder.
- d) Prior to the detailed evaluation, the YASHADA Pune will determine the substantial responsiveness of each bid to the Tender Documents. For purposes of these Clauses, a substantially responsive bid is one, which conforms to all the terms and conditions of the Tender Documents without material deviations. Deviations from or objections or reservations to critical provisions such as those concerning

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Performance Security, applicable Law and taxes and duties, Warranty, Force Majeure will be deemed to be a material deviation. YASHADA Pune determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.

- e) If a bid is not substantially responsive, it will be rejected by YASHADA Pune and may not subsequently be made responsive by the Bidder by correction of the non-conformity.

18. Acceptance or Rejection of Bids

- a) YASHADA Pune reserves the right to accept or reject any bid or all the bids and to annul the bidding process and reject all bids at any time prior to award of contract, without thereby incurring any liability or any obligation to inform the affected bidder or bidders of the grounds for the said action.
- b) Any Bid with incomplete information is liable for rejection.
- c) For each category of pre-qualification criteria, the documentary evidence is to be produced duly attested by the authorized representative of the bidder and serially numbered. If the documentary proof is not submitted for any/all criteria the Bid is liable for rejection.
- d) If any information given by the bidder is found to be false/ fictitious, the Bidder will be debarred for 3 years from participating in any other tenders of Govt. of Maharashtra and will be black listed.

19. Criteria for evaluation of Bids

a) Technical Evaluation

Only Technical Proposals conforming to eligibility criteria and found to be responsive will be taken up for detailed technical evaluation. A technical/tender committee shall evaluate the Bids submitted by bidders for a detailed scrutiny. During evaluation of Bids, YASHADA Pune, may, at its discretion, ask the bidders for clarification of their proposals.

b) Financial Evaluation.

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The price bids of the eligible bidders will then be evaluated in the manner provided below -

1. At the outset, the price bids of all the Bidders who are technically qualified in technical evaluation shall be opened in the presence of the Bidders' Representatives who choose to attend.
2. The bidder's names, the Bid Prices, the total amount of each bid, any discounts, and such other details as the Employer may consider appropriate, will be announced and recorded by the Employer at the opening. The bidder's authorized representatives will be required to sign this record.
3. Bidder that has quoted the lowest price in Indian Rupees (inclusive of all the taxes/duties) shall be declared as the preferred Bidder.
4. The work orders shall be issued to the successful bidder who ever qualifies in the complete process as mentioned.

20. Award Criteria and Award of Contract

YASHADA 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 as per the criteria mentioned above, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.

21. Corrupt or Fraudulent Practices

YASHADA requires that Bidders shall observe the highest standard of ethics during the execution of contracts. In pursuance of this policy, YASHADA Pune:

Defines, for the purposes of this provision, the terms set forth as follows:

- "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution; and
- "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Government, and includes collusive practice among Bidders (prior to or after tender submission) designed to establish tender prices at artificial non-

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competitive levels and to deprive the Government of the benefits of free and open competition;

- will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;
- will declare a firm ineligible, to be awarded a Government financed contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a contract.

22. CONTRACT AGREEMENT:

Selected bidder has to carry out the registered contract agreement with YASHADA Pune for execution of work. The format for contract agreement is given in tender. The cost required for the registration of the agreement is to be borne by selected bidder.

SECTION -III

GENERAL CONDITIONS OF CONTRACT (GCC)

1. General Terms and Conditions:

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

- a) Bidder shall be responsible for any damage occurred, if any, during the course 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, YASHADA 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. Bidder should provide facilities and bear the cost for the same. Power curve of all the panels erected by manufacturers shall be provided to the YASHADA Pune.
- d) The selected Bidder is bound to work on the guideline provided by YASHADA from time to time. Guidelines if issued in future by YASHADA, the changes proposed will also be applicable without enhancement in project cost till the completion of 5 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 YASHADA. Bidder shall also impart training to YASHADA Staff,

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- g) the user for regular Operation & Maintenance of the system, handover toolbox and certificate in this respect should be submitted.
- h) Bidder may install appropriate Water Cleaning system for the solar power plant. Bidder may submit the ideal design of cleaning of the system.
- i) Bidders should give Guarantee against any manufacturing defects from the date of commissioning up to 5-years CMC period. For any manufacturing defects, supplier shall replace defective parts at free of cost during the CMC period and shall keep the system functional.
- j) Bidders shall allow YASHADA /PMC officials for 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.
- k) In the event of any discrepancy observed in specifications, the specifications given by YASHADA will be final. In the event of dispute arising any time, related to this work and document, decision of the Director General, YASHADA or his nominee shall be final.
- l) YASHADA/PMC at its discretion may visit supplier's factory for testing / inspection at any time during the period of supply and installation of the systems.
- m) YASHADA will not pay any interest on any amount, due to the Bidders.
- n) During the inspection, if any deviations in Technical Specifications are observed, YASHADA reserves right to test any solar module / system at any authorized test centre of MNRE. Bidder shall provide the facilities for getting the sample tested & the supplier shall bear the cost for the same.
- o) If the supplier fails to complete the work or partially completes it then, YASHADA reserve right to cancel the work order and get it done from other supplier. and any loss occurs it shall be recovered either from any amount due to the supplier or from his Security Deposit. In such case YASHADA Pune will blacklist the bidder and will not place the work order of any solar project in the Government/GoM undertaking agencies/institute state of Maharashtra. Even if bidder participated in tender and found L1 in the tender.

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- p) At the time of inspection of YASHADA, manufacturer or supplier has to submit the I.V. curves and test reports of supplied PV modules to respective officer.
- q) Also, the manufacturer has to submit the relevant IEC / IS certification (test reports).
- r) The Wiring must be carried out in casing-capping / conduit which are suitable as per site condition.
- s) It will be responsibility of the Bidder to ensure the satisfactory performance of the system.
- t) Please note that for any of the discrepancy observed during the period of installation and commissioning, conditions specified in tender by YASHADA Pune shall be final & binding.
- u) 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 five years CMC period.
- v) The Bidder shall comply with the provision of contract labour (Regulation and Abolition) Act 1970, minimum wages Act 1948, payment of the wages Act 1963 Workmen's Compensation Act 1961, the contract labour (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.
- w) If previous performance of any Bidder found unsatisfactory, he will be disqualified.
- x) If any information / confirmation on any point of these tender conditions is required Bidder may contact / write to Director General, YASHADA Pune giving tender reference no. etc.
- y) In the event of dispute during installation & commissioning of the systems related to the work and documents, decision of the Director General, YASHADA Pune shall be final.
- z) It is the responsibility of bidder to make the insurance of the system for whole 5-years CMC period.

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- aa) Once the Bidder submit his offer and subsequently if not interested to work, in such case YASHADA Pune will forfeit his EMD amount.
- bb) At the time of placing work order and during the implementation YASHADA Pune can revise the technical terms and conditions if revised by MNRE, which will be binding on the Bidder.
- cc) Director General, YASHADA Pune reserves the right to select L2 Bidder i.e., second lowest Bidder to complete the work, if L1 i.e., lowest Bidder fails to fulfil tender conditions or fails to complete the work.
- dd) It is binding on the successful Bidder to submit original certificates, documents required by YASHADA Pune.
- ee) YASHADA at its discretion may visit Bidder's factory for testing / inspection of the material to be utilized for work. The testing shall be carried out in manufacturer's premises and / or at appropriate testing laboratory or as per direction of Director General or his authorized representative. However, inspection of material at site will be considered as final inspection.

2. Communications

- Wherever provision is made for the giving or issue of any notice, instruction, consent, approval, certificate or determination by any person, unless otherwise specified such communication shall be in writing and shall not be unreasonably withheld or delayed.
- Project review coordination meetings between the YASHADA/PMC Representative and Contractor shall be conducted on a regular basis or as and when required by the Employer, at locations decided by the Employer, to review the Contractor's progress and plans for completing the remaining Works, to deal with matters affecting the progress of the Works, and to decide on responsibility for actions required to be taken. Decisions taken and instructions issued during the coordination meetings, as recorded in the Minutes, shall have the same force and effect as if they were written communications issued in accordance with the three preceding paragraphs.

3. Manner of Execution

Execution of work shall be carried out in the approved manner as outlined in the technical specifications or where not outlined, in accordance with relevant MNRE/YASHADA/BIS/ Indian Standard Specifications, to the reasonable satisfaction of The Employer.

- The Contractor/Agency should successfully complete the project within timeframe set out by the employer and mutually agreed between Contractor/Agency and Employer.
- YASHADA shall not be responsible for any loss or damage of any material when installing SPV power plants.
- Undertake necessary activities during the warranty period as set out in this Contract.
- It is the responsibility of successful bidder to make the Comprehensive insurance policy for installed SPV system from the date of commissioning for the CMC period by following standard procedure.

4. Application

These General Conditions shall apply to the extent that they are not superseded by provisions in other parts of the contract.

5. Standards

- The goods supplied under this contract shall confirm to the Standards mentioned in the technical specification Section as per the MNRE / YASHADA requirements and, when no applicable standard is mentioned, to the authoritative standard appropriate to the good's country of origin and such standards shall be the latest issued by the concerned institution.
- The design, engineering, manufacture, supply, installation, testing and performance of the equipment shall be in accordance with latest appropriate IEC/ Indian Standards and as detailed in the technical specifications Section as per the MNRE / YASHADA requirements of the bid document. The goods supplied under this contract shall confirm to the Standards mentioned, where appropriate

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Standards and Codes are not available, other suitable standards and codes as approved by the authoritative Indian Standards shall be used.

6. Pre-dispatch inspection:

- Selected bidder has to inform to YASHADA / PMC once all the material of project is ready to dispatch.
- YASHADA representative will physically inspect sample solar modules as per the beneficiaries and the RFID reader report of the project, at the manufacturing unit of selected bidder and RFID Reader Report will be collected by YASHADA / PMC official. If material is as per technical specifications given in the work order, then only YASHADA will permit to dispatch the material at the site.

7. Inspection:

- The projects will be inspected for quality at any time during commissioning or after the completion of the project by YASHADA /PMC.
- Bidder shall inform YASHADA/PMC in writing when the work is complete and ready for inspection giving sufficient notice to enable YASHADA/PMC to depute officials to inspect the same. The work shall not be considered in accordance with the terms of the contract until the competent person from PMC and YASHADA certifies in writing to that effect. The cost of inspection shall be borne by bidder only.
- Bidder has to strictly follow the specifications given in the work order while carrying out the execution of work. During inspection if it is found that Bidder has deviated from the specifications, Bidder has to do the alteration / modification / reconstructions as per the given specifications at his own cost & risk.

8. Transportation

Where the Contractor/Agency is required under the contract to transport the goods to specified locations defined as Project sites, transport to such places including

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insurance, as shall be specified in the contract, shall be arranged by the Contractor/Agency, and the contract price shall include transportation costs.

9. Terms of Payment:

Payment will be released as follows.

1. 60% of cost will be released on successful supply of system against work order amount and after submission of following documents,
 - a) Proof of compliance certificate from Authorized User Agency YASHADA Pune/PMC.
 - b) 100% Inspection of Successful Supply report duly certified by Authorized User Agency YASHADA Pune/PMC & Bidder in the Prescribed format
 - c) Invoice (2 copies).
 - d) Photographs with Lat, Long & date.
- 1.1 out of 60%, 30% will be paid after construction of tin weather shade structure and certified by Competent Authority/ Project Management Consultant. Remaining 30% will be paid after verification of documents prescribed above Point a to d.
- 2 20% of the cost will be released after Successful Installation and commissioning (Including Net-Metering) of solar Power Generation system & submission of one-month performance report duly certified by YASHADA Pune and PMC, Competent Authority & Bidder in the Prescribed format.
3. 20% of the total cost shall be released on submission of next two-month successful performance report in prescribed format generated automatically through Remote Monitoring System which should be duly certified by Bidder, YASHADA Pune & PMC after submission of performance Bank Guarantee of 10% of total project cost from any Nationalized Bank/Scheduled Commercial Bank valid for period of five years of CMC.

Note: RMS report generated should be synchronised with YASHADA Pune Dashboard if provided.

Deduction: -

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

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- ii. YASHADA Pune will issue necessary certificates of TDS deduction.
- iii. 'C' / 'D' form will not issue by YASHADA Pune.

10. EXTENSION / PENALTY CLAUSE-

If the systems not installed or commissioned within the stipulated period as mentioned in the work order the bidder shall be required to pay penalty of 1/2 % (half percent) per month, maximum up to 5 % of the total cost of the systems and the amount shall be recovered either from the amount due to the bidder or from the amount due to the bidder or from security deposit.

11. Assignment

The bidder shall not assign, in whole or in part to any third party, its obligations to perform under the contract, except with YASHADA Pune prior written consent.

12. Sub-contracts

Subcontract is strictly prohibited.

13. Termination for Default

YASHADA Pune without prejudice to any other remedy for breach of contract, by written notice of default sent to the bidder, terminate the contract in whole or part:

- If the bidder fails to deliver any or all the goods within the period(s) or within any extension thereof granted by the YASHADA Pune or
- If the bidder, in the judgment of YASHADA Pune has engaged in corrupt or fraudulent practices in competing for or in executing the contract.

In the event YASHADA terminates the contract in whole or in part, YASHADA Pune may procure, upon such terms and in such manner as it deems. Appropriate goods or services similar to those undelivered and the bidder shall be liable to YASHADA Pune for any excess costs for such similar goods or services. However, the bidder shall continue the performance of the contract to the extent not terminated.

If the successful bidder in the tender fails to complete the given work within the stipulated time or extension, the work order will be cancelled and the work will be completed through other installer and additional funds will be recovered from successful bidder. The name of the successful bidder will be blacklisted and action will

be taken against him for not participating in any government tender process for the next 5 years.

14. Applicable Law

The contract shall be interpreted in accordance with the laws of the Union of India.

15. Notices

Any notice given by one party to the other pursuant to this contract shall be sent to other party in writing or by cable, telex or facsimile and confirmed in writing to the other party's address specified. A notice shall be effective when delivered or on the notice's effective date, whichever is later.

16. Packing

The Bidder shall provide such packing of the goods as is required to prevent their damage or deterioration during transit to their final destination as indicated in the contract. The packing shall be sufficient to withstand, without limitation, rough handling and exposure to extreme temperatures during transit and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the good's final destination and the absence of heavy handlings facilities at all points in transit.

The packing, marking and documentation within and outside the item shall comply strictly with such special requirements as shall be provided for in the contract including additional requirements, if any and in any subsequent instructions ordered by the YASHADA Pune.

17. Danger plates:

The bidder shall provide required Danger Notice Plates of 350mm X 150 mm made of mild steel sheet, minimum 2mm thick and vitreous enamelled white on both sides and with inscription in signal red colour on front side as required. The inscription shall be in English and local language.

Installation of Inverters shall be done at safe weather proof location at site for 350kW SPV power plants.

18. Provision for Cleaning of SPV System:

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Supplying & installing one-piece moulded HDP / Fibre water tank. For -ve suction only, having capacity 1000 litters*5 nos. fitted with necessary accessories complete as per specification no. FF-FFA/PT. also, Supplying & erecting Pressure Booster water pump (Monoblock), 230V, Single phase 50 cycles A.C. supply of 1.125 KW/1 HP*3 of specified discharge head & size of suction, delivery pipes on provided C.C foundation as per specification no. WP-CGP.

Above cleaning system including Pump(1.5Hp*2) with connection from existence available electric supply & Pipe connection from available water source to Water tank with stand (1000 and 2000 ltr) and same from tank to modules, water valve , and required atom for cleaning of all module or Bidder installed any updated new technology for cleaning the SPV system.

19. Insurance:

The Bidder shall be responsible and take an Insurance Policy for transit-cum-storage-cum-erection for all the materials to cover all risks and liabilities for supply of materials on site basis, storage of materials at site, erection, testing and commissioning. The bidder shall also take appropriate insurance during CMC period of 5 years. If insurance policy provided only for 1 year, then insurance provider / bidder renewal undertaking till 5 years CMC period should be submitted by bidder.

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

The bidder shall provide insurance coverage ex-factory until commissioning and acceptance for replacement or repair of any part of the consignment due to damage or loss.

SECTION-IV
TECHNICAL SPECIFICATION OF SPV POWER PLANT

Grid Tied Solar Rooftop Photovoltaic (SPV) Power Plant

➤ **DEFINITION :-**

A Grid Tied Solar Rooftop Photovoltaic (SPV) power plant consists of SPV array, Module Mounting Structure, Power Conditioning Unit (PCU) consisting of Maximum Power Point Tracker (MPPT), Inverter, and Controls & Protections, interconnect cables, Junction boxes, Distribution boxes and switches. PV Array is mounted on a suitable structure. Grid tied SPV system should be designed with necessary features to supplement the grid power during day time. Components and parts used in the SPV power plants including the PV modules, metallic structures, cables, junction box, switches, PCUs etc., should conform to the BIS or IEC or international specifications, wherever such specifications are available and applicable. Solar PV system shall consist of following equipment's / components.

Solar PV modules consisting of required number of Crystalline PV cells. Grid interactive Power Conditioning Unit with Remote Monitoring System Mounting Structures Junction Boxes.

Earthing and lightening protections.

IR/UV protected PVC Cables, pipes and accessories

➤ **SOLAR PHOTOVOLTAIC MODULES: -**

- The PV modules used must qualify to the latest edition of IEC PV module qualification test or equivalent BIS standards Crystalline Silicon Solar Cell Modules IEC 61215/IS14286. In addition, the modules must conform to IEC 61730 Part-1 -

requirements for construction & Part 2 – requirements for testing, for safety qualification or equivalent IS.

- a. For the PV modules to be used in a highly corrosive atmosphere throughout their lifetime, they must qualify to IEC 61701.
- b. The total solar PV array capacity should not be less than allocated capacity (kWp) and should comprise of solar crystalline modules of minimum 540 Wp and above wattage. Module capacity less than minimum 540 watts shall not be accepted.
- c. Adequate protective devices against surges at the PV module shall be provided. Low voltage drop bypass diodes shall be provided.
- d. PV modules must be tested and approved by one of the IEC authorized test centres.
- e. The module frame shall be made of corrosion resistant materials, preferably having anodized aluminium.
- f. SPV plant shall be carefully designed & accommodate requisite numbers of the modules to achieve the rated power. YASHADA Pune / owners shall allow only minor changes at the time of execution.
- g. Other general requirement for the PV modules and subsystems shall be the Following:
 - The rated output power of any supplied module shall have tolerance within +/-3%.The peak-power point voltage and the peak-power point current of any supplied module and/or any module string (series connected modules) shall not vary by more than 2 (two) per cent from the respective arithmetic means for all modules and/or for all module strings, as the case may be.

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- The module shall be provided with a junction box with either provision of external screw terminal connection or sealed type and with arrangement for provision of by-pass diode. The box shall have hinged, weather proof lid with captive screws and cable gland entry points or may be of sealed type and IP-65 rated.
- I-V curves at STC should be provided by bidder.
- MNRE has approved the PV modules and manufacture of solar modules vide their office memorandum dated 30th Dec 2021, in its list of manufacturers of solar PV modules are given. The solar PV modules must be installed from the list only (ALMM Order)
- Modules deployed must use a RF identification tag. The following information must be mentioned in the RFID used on each module. This should be inside the laminate only.
 - a. Name of the manufacture of the PV module
 - b. Name of the manufacture of Solar Cells.
 - c. Month & year of the manufacture (separate for solar cells and modules)
 - d. Country of origin (separately for solar cells and module)
 - e. I-V curve for the module Wattage, I_m , V_m and FF for the module
 - f. Unique Serial No and Model No of the module
 - g. Date and year of obtaining IEC PV module qualification certificate.
 - h. Name of the test lab issuing IEC certificate.
 - i. Other relevant information on traceability of solar cells and module as per ISO 9001 and ISO 14001.

➤ **WARRANTIES: -**

- **Material Warranty:**
 - a. Material Warranty is defined as: The Contractor should warrant the Solar Module(s) to be free from the defects and/or failures specified below for a period not less than ten (10) years from the date of sale to the original customer ("Customer")
 - b. Defects and/or failures due to manufacturing
 - c. Defects and/or failures due to quality of materials
 - d. Non conformity to specifications due to faulty manufacturing and/or inspection processes. If the solar Module(s) fails to conform to this warranty, the Contractor will repair or replace the solar module(s), at the Owners sole option.
- **Performance Warranty:**
 - a. The predicted electrical degradation of power generated not exceeding 20% of the minimum rated power over the 25 year period and not more than 10% after ten years period of the full rated original output.

➤ **ARRAY STRUCTURE:**

- Hot dip galvanized MS mounting structures may be used for mounting the modules / panels / arrays. Minimum thickness of galvanization should be at least 120 microns.
- Each structure should have angle of inclination as per the site conditions to take maximum insolation. However, to accommodate more capacity the angle inclination may be reduced until the plant meets the specified performance ratio requirements.

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- The Mounting structure shall be so designed to withstand the Wind speed for the wind zone of the location where a PV system is proposed to be installed. It may be ensured that the design has been certified by a recognized Lab/ Institution in this regard and submit wind loading calculation sheet to YASHADA Pune. Suitable fastening arrangement such as grouting and calming should be provided to secure the installation against the specific wind speed.
 - The mounting structure steel shall be as per latest IS 2062:1992 and galvanization of the mounting structure shall be in compliance of latest IS 4759.
 - Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, nuts and bolts.
 - The antitheft fasteners used should be made up of stainless steel. The structure shall be designed to allow easy replacement of any modules. The array structure shall be designed that will occupy minimum space without sacrificing the output from SPV panels.
 - Pigeon repellent spikes should be fixed around the solar pannels.
 - Aluminium frames should be avoided for installations in coastal areas.
 - Regarding civil structures, the Contractor shall arrange to design the structure considering the soil bearing capacity (SBC) of that area.
 - The minimum clearance of the structure from the elevated shade level should be 300 mm.
- **JUNCTION BOXES (JBs): -**
- The junction boxes are to be provided in the PV array for termination of connecting cables. The J. Boxes (JBs) shall be made of GRP / FRP / Powder Coated Aluminium/cast aluminium alloy with full dust, water & vermin proof arrangement.

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All wires / cables must be terminated through cable lugs. The JB's shall be such that input & output termination can be made through suitable cable glands.

- Copper bus bars / terminal blocks housed in the junction box with suitable termination threads conforming to IP65 standard and IEC 62208 Hinged door with EPDM rubber gasket to prevent water entry. Single / double compression cable glands. Provision of earthings. It should be placed at 5 feet height or above for ease of accessibility.
- Each Junction Box shall have High quality Suitable Capacity Metal Oxide Varistors (MOVs) / SPDs, suitable Reverse Blocking Diodes. The Junction Boxes shall have suitable arrangement monitoring and disconnection for each of the groups.
- Suitable markings shall be provided on the bus bar for easy identification and the cable ferrules must be fitted at the cable termination points for identification.
- All fuses shall have DIN rail mountable fuse holders and shall be housed in thermoplastic IP 65 enclosures with transparent covers.

➤ **DC DISTRIBUTION BOARD: -**

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

- **AC DISTRIBUTION PANEL BOARD (Specification as per BOQ): -**

- AC Distribution Panel Board (DPB) shall control the AC power from PCU/ inverter, and should have necessary surge arrestors. Interconnection from ACDB to mains at LT Bus bar while in grid tied mode.

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- All switches and the circuit breakers, connectors should conform to IEC 60947, part I, II and III/ IS 60947 part I, II and III.
- The changeover switches, cabling work should be undertaken by the Contractor as part of the project.
- All the Panel's shall be metal clad, totally enclosed, rigid, floor mounted, air - insulated, cubical type suitable for operation on three phase / single phase, 415 or 230 volts, 50 Hz
- The panels shall be designed for minimum expected ambient temperature of 45 degrees Celsius, 80 percent humidity and dusty weather.
- All indoor panels will have protection of IP54 or better. All outdoor panels will have protection of IP65 or better.
- Should conform to Indian Electricity Act and rules (till last amendment).
- All the 415 AC or 230 volts devices / equipment like bus support insulators, circuit breakers, SPDs, VTs etc., mounted inside the switchgear shall be suitable for continuous operation and satisfactory performance under the following supply conditions

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

➤ **PCU / ARRAY SIZE RATIO: -**

- The combined wattage of all inverters should not be less than rated capacity of power plant under Standard Test Conditions (STC).
- Maximum power point tracker shall be integrated in the PCU/inverter to maximize energy drawn from the array.

➤ **PCU / INVERTER: -**

- As SPV array produce direct current electricity, it is necessary to convert this direct current into alternating current and adjust the voltage levels to match the grid voltage. Conversion shall be achieved using an electronic Inverter and the associated control and protection devices. All these components of the system are termed the “Power Conditioning Unit (PCU)”. In addition, the PCU shall also house MPPT (Maximum Power Point Tracker), an interface between Solar PV array & the Inverter, to the power conditioning unit/inverter should also be DG set interactive. If necessary. Inverter output should be compatible with the grid frequency. Typical technical features of the inverter shall be as follows:

Switching devices	IGBT/MOSFET
Control	Microprocessor /DSP
Nominal AC output voltage and frequency	415V, 3 Phase, 50 Hz (In case single phase inverters are offered, suitable arrangement for balancing the phases must be made.)
Output frequency	50 Hz
Grid Frequency Synchronization range	+ 3 Hz or more
Ambient temperature considered	-20o C to 50o C
Humidity	95 % Non-condensing
Protection of Enclosure	IP-20(Minimum) for indoor. IP-65(Minimum) for outdoor.
Grid Frequency Tolerance range	+ 3 or more
Grid Voltage tolerance	-0.20.15
No-load losses	Less than 1% of rated power
Inverter efficiency(minimum)	>93% (In case of 10 kW or above with in-built galvanic isolation) >97% (In case of 10 KW or above without in-built galvanic isolation)

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PUNE.**

Inverter efficiency (minimum)	> 90% (In case of less than 10 kW)
THD	< 3%
PF	> 0.9

- a. Three phase PCU/ inverter shall be used with each power plant system (10kW and/or above)
- b. PCU / inverter shall be capable of complete automatic operation including wake-up, synchronization & shutdown.
- c. The output of power factor of PCU inverter is suitable for all voltage ranges or sink of reactive power, inverter should have internal protection arrangement against any sustainable fault in feeder line and against the lightning on feeder.
- d. Built-in meter and data logger to monitor plant performance through external computer shall be provided.
- e. Anti-islanding (Protection against Islanding of grid): The PCU shall have anti islanding protection in conformity to IEEE 1547/UL 1741/ IEC 62116 or equivalent BIS standard.
- f. Channel Partner shall be responsible for galvanic isolation of solar roof top power plant (>100kW) with electrical grid or LT panel.
- g. The PCU/ inverter generated harmonics, flicker, DC injection limits, Voltage Range, Frequency Range and Anti-Islanding measures at the point of connection to the utility services should follow the latest CEA (Technical Standards for Connectivity Distribution Generation Resources) Guidelines.
- h. The power conditioning units / inverters should comply with applicable IEC / equivalent BIS standard for efficiency measurements and environmental tests as per standard codes IEC 61683/IS 61683 and IEC 60068-2 (1,2,14,30)/ Equivalent BIS Std.

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- i. The MPPT units environmental testing should qualify IEC 60068-2 (1, 2, 14, 30)/ Equivalent BIS std. The junction boxes/ enclosures should be IP 65 (for outdoor)/ IP 54 (indoor) and as per IEC 529 specifications.
- j. The PCU / inverters should be tested from the MNRE approved test centres / NABL / BIS / IEC accredited testing- calibration laboratories. In case of imported power conditioning units, these should be approved by international test houses.

➤ **INTEGRATION OF PV POWER WITH GRID: -**

- The output power from SPV would be fed to the inverters which converts DC produced by SPV array to AC and feeds it into the main electricity grid after synchronization. In case of grid failure, or low or high voltage, solar PV system shall be out of synchronization and shall be disconnected from the grid.

➤ **PLANT MONITORING**

- Temperature: Temperature probes for recording the Solar panel temperature and/or ambient temperature to be provided complete with readouts integrated with the data logging system.
- The following parameters are accessible via the operating interface display in real time separately for solar power plant:
 - a. AC Voltage.
 - b. AC Output current.
 - c. Output Power
 - d. Power factor.
 - e. DC Input Voltage.
 - f. DC Input Current.
 - g. Time Active.

- h. Time disabled.
- i. Time Idle.
- j. Power produced
- k. Protective function limits (AC Over voltage, AC Under voltage, Over frequency, Under frequency ground fault, PV starting voltage, PV stopping voltage).
- All major parameters available on the digital bus and logging facility for energy auditing through the internal microprocessor and read on the digital front panel at any time) and logging facility (the current values, previous values for up to a month and the average values) should be made available for energy auditing through the internal microprocessor and should be read on the digital front panel.
- PV array energy production: Digital Energy Meters to log the actual value of AC/ DC voltage, Current & Energy generated by the PV system provided. Energy meter along with CT/PT should be of 0.5 accuracy class.
- Computerized DC String/Array monitoring and AC output monitoring shall be provided as part of the inverter and/or string/array combiner box or separately.
- String and array DC Voltage, Current and Power, Inverter AC output voltage and current (All 3 phases and lines), AC power (Active, Reactive and Apparent), Power Factor and AC energy (All 3 phases and cumulative) and frequency shall be monitored.
- Software shall be provided for USB download and analysis of DC and AC parametric data for individual plant.
- Provision for instantaneous Internet monitoring and download of historical data shall be also incorporated.

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- Remote Server and Software for centralized Internet monitoring system shall be also provided for download and analysis of cumulative data of all the plants and the data of the solar radiation and temperature monitoring system
- Simultaneous monitoring of DC and AC electrical voltage, current, power, energy and other data of the plant for correlation with solar and environment data shall be provided.
- Remote Monitoring and data acquisition through Remote Monitoring System software at the location specified by YASHADA Pune location with latest software/hardware configuration and service connectivity for online / real time data monitoring / control complete to be supplied and operation and maintenance / control to shall be provided.
- The Contractor shall be obligated to push real-time plant monitoring data on a specified intervals (say 15 minute) through open protocol at receiver location (cloud server) in XML/JSON format, preferably.

➤ **PROTECTIONS: -**

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

➤ **LIGHTNING PROTECTION :-**

- The SPV power plants shall be provided with lightning & overvoltage protection. The main aim in this protection shall be to reduce the over voltage to a tolerable value before it reaches the PV or other sub system components. The source of over voltage can be lightning, atmosphere disturbances etc the entire space occupying the SPV array shall be suitably protected against Lightning by deploying required number of Lightning Arrestors. Lightning protection should be provided as per IEC 62305 standard. The protection against induced high-voltages shall be provided by the use

of metal oxide varistors (MOVs) and suitable earthing such that induced transients find an alternate route to earth.

➤ **SURGE PROTECTION: -**

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

➤ **EARTHING PROTECTION :-**

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

➤ **GRID ISLANDING :-**

- In the event of a power failure on the electric grid, it is required that any independent power-producing inverters attached to the grid turn off in a short period of time. This prevents the DC-to-AC inverters from continuing to feed power into small sections of the grid, known as "Islands." Powered Islands present a risk to workers who may expect the area to be unpowered, and they may also damage grid-tied equipment. The Rooftop PV system shall be equipped with islanding protection. In addition to disconnection from the grid (due to islanding protection) disconnection due to under and over voltage conditions shall also be provided.
- A manual disconnect 4-pole isolation switch beside automatic disconnection to grid would have to be provided at utility end to isolate the grid connection by the utility

personnel to carry out any maintenance. This switch shall be locked by the utility personnel.

➤ **CABLES :-**

- Cables of appropriate size as specified in BOQ to be used in the system shall have the following characteristics:
 - a. Shall meet IEC 60227/IS 694, IEC 60502/IS1554 standards
 - b. Temp. Range: -10oC to +80oC.
 - c. Voltage rating 660/1000V
 - d. Excellent resistance to heat, cold, water, oil, abrasion, UV radiation
 - e. Flexible(unarmoured).
 - f. Sizes of cables between array interconnections, array to junction boxes, junction boxes to Inverter etc. shall be so selected to keep the voltage drop (power loss) of the entire solar system to the minimum (2%)
 - g. For the DC cabling, XLPE or, XLPO insulated and sheathed, UV-stabilized single core multi-stranded flexible copper cables shall be used; Multi-core cables shall not be used.
 - h. For the AC cabling, PVC or, XLPE insulated and PVC sheathed single or, multi-core multi-stranded flexible copper cables shall be used; Outdoor AC cables shall have a UV-stabilized outer sheath.
 - i. The cables (as per IS) should be insulated with a special grade PVC compound formulated for outdoor use. Outer sheath of cables shall be electron beam cross-linked XLPO type and black in colour.
 - j. The DC cables from the SPV module array shall run through a UV-stabilized PVC conduit pipe of adequate diameter with a minimum wall thickness of 1.5mm.

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- k. Cables and wires used for the interconnection of solar PV modules shall be provided with solar PV connectors (MC4) and couplers.
- l. All cables and conduit pipes shall be clamped to the rooftop, walls and ceilings with thermo-plastic clamps at intervals not exceeding 50 cm; the minimum DC cable size shall be 4.0 Sq.mm copper; the minimum AC cable size shall be 16.0 Sq. mm copper. In three phase systems, the size of the neutral wire size shall be equal to the size of the phase wires.
- m. Cable Routing / Marking: All cable/wires are to be routed in a GI cable tray and suitably tagged and marked with proper manner by good quality ferule or by other means so that the cable easily identified. In addition, cable drum no. / Batch no. to be embossed/ printed at every one meter.
- n. Cable Jacket should also be electron beam cross-linked XLPO, flame retardant, UV resistant and black in colour.
- o. All cables and connectors for use for installation of solar field must be of solar grade which can withstand harsh environment conditions including High temperatures, UV radiation, rain, humidity, dirt, salt, burial and attack by moss and microbes for 25 years and voltages as per latest IEC standards. DC cables used from solar modules to array junction box shall be solar grade copper (Cu) with XLPO insulation and rated for 1.1kV as per relevant standards only.
- p. The ratings given are approximate. Contractor to indicate size and length as per system design requirement. All the cables required for the plant shall be provided by the Project developer. Any change in cabling sizes if desired by the Contractor shall be approved after citing appropriate reasons. All cable schedules/ layout drawings shall be approved prior to installation.

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- q. Multi Strand, Annealed high conductivity copper conductor PVC type 'A' pressure extruded insulation or XLPE insulation. Overall PVC/XLPE insulation for UV protection Armoured cable for underground laying. All cable trays including covers to be provided. All cables conform to latest edition of IEC/ equivalent BIS Standards as specified below: BoS item / component Standard Description Standard Number Cables General Test and Measuring Methods, PVC/XLPE insulated cables for working Voltage up to and including 1100 V, UV resistant for outdoor installation IS /IEC 69947.
- r. The total voltage drop on the cable segments from the solar PV modules to the solar grid inverter shall not exceed 2.0%.
- s. The total voltage drop on the cable segments from the solar grid inverter to the building distribution board shall not exceed 2.0%.

➤ **CONNECTIVITY: -**

- The maximum capacity for interconnection with the grid at a specific voltage level shall be as specified in the Distribution Code/Supply Code of the State and amended from time to time. Following criteria have been suggested for selection of voltage level in the distribution system for ready reference of the solar suppliers.

Plant Capacity	Connecting voltage
Up to 10 kW	240V-single phase or 415V-three phase at the option of the consumer
Above 10kW and up to 100 kW	415V – three phase
Above 100kW	At HT/EHT level (11kV/33kV/66kV) as per DISCOM rules

- a. The maximum permissible capacity for rooftop shall be 1 MW for a single net metering point.

b. Utilities may have voltage levels other than above, DISCOMS may be consulted before finalization of the voltage level and specification be made accordingly.

➤ **TOOLS & TACKLES AND SPARES (Also refer BOQ) :-**

- After completion of installation & commissioning of the power plant, necessary tools & tackles are to be provided free of cost by the Contractor for maintenance purpose. List of tools and tackles to be supplied by the Contractor for approval of specifications and make from YASHADA Pune.
- A list of requisite spares in case of PCU/inverter comprising of a set of control logic cards, IGBT driver cards etc. Junction Boxes. Fuses, MOVs / arrestors, MCCBs etc along with spare set of PV modules be indicated, which shall be supplied along with the equipment. A minimum set of spares shall be maintained in the plant itself for the entire period of warranty and Operation & Maintenance which upon its use shall be replenished.

➤ **DANGER BOARDS AND SIGNAGES :-**

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

➤ **FIRE EXTINGUISHERS :-**

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

➤ **DRAWINGS & MANUALS :-**

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- Two sets of Engineering, electrical drawings and Installation and O&M manuals are to be supplied. Contractor shall provide complete technical data sheets for each equipment giving details of the specifications along with make/makes along with basic design of the power plant and power evacuation, synchronization along with protection equipment.
- Approved ISI and reputed makes for equipment be used.
- For complete electro-mechanical works, Contractor shall supply complete design, details and drawings for approval to owners before progressing with the installation work.

➤ **PLANNING AND DESIGNING:**

- The contractor should carry out Shadow Analysis at the site and accordingly design strings & arrays layout considering optimal usage of space, material and labour. The contractor should submit the array layout drawings along with Shadow Analysis Report to owner for approval.
- It is required to design the grid structure (on which PV module will be installed) in such a way that all loads are distributed equally without any sagging of structure. Certified drawings issued by authorised structural engineer/consultant shall be submitted to YASHADA/PMC.

➤ **DRAWINGS TO BE FURNISHED BY CONTRACTOR AFTER AWARD OF CONTRACT FROM YASHADA PUNE:-**

- The contractor shall furnish the following drawings Award/Intent and obtain approval
- General arrangement and dimensioned layout.

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- Schematic drawing showing the requirement of SV panel, Power conditioning Unit(s)/ inverter, Junction Boxes, AC and DC Distribution Boards, meters etc.
- Layout of solar Power Array
- Shadow analysis of the roof

➤ **SAFETY MEASURES :-**

- The Contractor shall take entire responsibility for electrical safety of the installation(s) including connectivity with the grid and follow all the safety rules & regulations applicable as per Electricity Act, (2003) 3503 MNRE and CEA guidelines or any other applicable rules and regulations etc.

➤ **DISPLAY BOARD :-**

- The Contractor has to display a board at the project site mentioning the following:
 - a. Plant Name, Capacity, Location, Type of Renewable Energy plant (Like solar wind etc.), Date of commissioning, details of tie-up with transmission and distribution companies, Power generation and Export FY wise.

**YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT ADMINISTRATION (YASHADA),
PUNE.**

(To be submitted on Rs. 100/- stamp paper after at the time of Joint inspection)

Affidavit

I..... (Name) has done the project of
DESIGN, MANUFACTURE, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING
WITH FIVE YEARS COMPREHENSIVE MAINTENANCE CONTRACT OF 350 kWp GRID
CONNECTED SOLAR POWER PLANT (NET METER) WITH ELEVATED WEATHER
SHADE AT YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT ADMINISTRATION
STATE OF MAHARASHTRA Tender No.....hereby declare that the above-
mentioned project is commissioned by abiding following:

The standards and norms set by Electricity Act, 2003, MNRE and CEA guidelines or any other applicable rules and regulations etc is maintained while installation of project.

The project has been installed under the supervision the electrical parameters involved in the project have been considered under supervision of electrical contractor/supervisor.

All electrical norms are followed, electrical safety measures are taken in consideration and the project is electrically safe. Electrical contractor/supervisor has authorized the electrical safety measures and norms.

The mechanical safety norms while designing and installation of structure are strictly followed. The solar hot dip structure is tested, approved from engineer and is capable of bearing the load of solar panels, withstand natural parameters (wind, rain) over the duration of project life.

The roof of the building is capable of bearing the load of hot dip galvanised structure and solar panel over the period of project life.

I will be responsible for maintenance of the project over the period of Comprehensive Maintenance Contract (CMC) i.e., 5 years and for the remaining 20 years the beneficiary is responsible for undertaking the maintenance work of the project.

In case of any mishap from the solar project with the parameter mentioned above, I will be responsible. I hereby undertake for the above.

Sign of Project Contractor:

Stamp :

Beneficiary Name: Director General YASHADA

Address : YASHADA Campus Pune.

APPENDIX- I (A)

Bidder's Information Sheet

To establish its qualifications to perform the contract the Bidder shall provide the information requested in the corresponding Information Sheets included hereunder.

Bidder's legal name	
Bidder's country of constitution	
Bidder's year of constitution	
Bidder's legal address in country of constitution	
Bidder's UIN No.	
Bidder's Copy of Constitution	
Bidder's registration certificates for GST and Service Tax, and registration certificates under the applicable PF and labour laws.	
Bidder's authorized representative (Name, address, telephone numbers, fax numbers, e-mail address)	
Attached are copies of the necessary original documents.	
1	
2	
3	
4	
5	
6	

Signature of Bidder
Name
Designation
Company
Date:

APPENDIX-I (B)

Firm profile at a glance

Sr. No.	Particulars	
1	Name & Mailing Address of firm	
2	Contact Person Name, Designation & Contact No.	
3	E-mail Address for correspondence	
4	Firm Website Address	
5	Firm Status (Private/ PSU/ Incorporate/Proprietor)	
6	Establish Year of firm	
7	PAN/ TAN No.	
8	Firm Registration No/ ROC	
9	EPF Registration No, if applicable	
10	STR/GST/TIN No.	
11	Bank name & contact No	
12	Turnover FY 2022-23, 2023-24 & 2024-25 (in Crore Rs.)	
13	Company Profile (<100 words)	
14	Partner if any (<100 words)	
15	Factory Address & Floor Area of factory	
16	Net worth	
17	Self-Manufacturing facilities & Capacity (A list of machinery be attached)	
18	Outsourcing Item and Firm (Name &	

**YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT ADMINISTRATION (YASHADA),
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Sr. No.	Particulars	
	Address of Indian/ foreign	
19	Collaborator/s, if Any)	
20	Own Testing facility	
21	Skilled manpower	
22	Details of Dealer/ supply network in Maharashtra	
23	Experience in SPV Power Plants (<100 words)	
24	Experience in other solar projects (<100 words)	
25	Solar related Product Range	
26	Guarantee, Maintenance & After Sales Services (Years)	
27	Accreditation (Own Firm)	
28	Accreditation (Partner/ outsourcing Firm)	
29	List of ISI, ISO, other cert. for own firm	
30	List of ISI, ISO, other cert. for partner/ outsourcing firm	
31	Technical specification for solar photovoltaic cell/ panel/ module	
32	Technical specification for Junction boxes	
33	Technical specification for Inverter / Controller	

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Sr. No.	Particulars	
33	Technical specification for Cables	
34	Other Technical Specification, in any	
35	Has any Govt. / Under - taking ever debarred the company / firm from executing any work?	
36	Special Remarks, if any	

It is certified that the information provided above is true to the best of my knowledge and belief. If any information found to be concealed, suppressed or incorrect at later date, our tender shall be liable to be rejected and our company may be debarred from executing any business with Govt. of Maharashtra/ **YASHADA Pune.**

Signature of Bidder

Name

Designation

Company

Date:

APPENDIX-I (C)

Financial Status

Each Bidder must fill in this form including private/ public limited company.

Sr. No.	Particulars	Financial Data for Previous 3 Years [Rs. in Lakhs]		
		2022-23	2023-24	2024-25
1	Total Assets			
2	Current Assets			
3	Total Liabilities			
4	Long Term Loans			
5	Current Liabilities*			
6	Profits Before Taxes			
7	Profits After Taxes			
8	Net Worth [1 - 4 - 5]			
9	Dedicated Revolving Line of Credit (as per format)			
10	Available Working Capital [2 -5] + [9]			
11	Return on Equity [6 / 8 of previous year]			
12	Attached are copies of the audited balance sheets, including all related notes, and income statements for the any three years of FY 2022-23, 2023-24 & 2024-25, as indicated above, complying with the following conditions? <ul style="list-style-type: none">All such documents reflect the financial situation of the Bidder, and not sister or parent companies.			

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	<ul style="list-style-type: none">• Historic financial statements must be audited by a certified accountant
	<ul style="list-style-type: none">• Historic financial statements issued by CA having UDIN must be complete, including all notes to the financial statements.
	<ul style="list-style-type: none">• Historic financial statements must correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted).
	<ul style="list-style-type: none">• As per International Accounting, Current Liabilities shall include loan and other repayments due within one year.

Applicant's Auditor

APPENDIX-I (D)

ANNUAL TURNOVER

Annual Turnover Data for the any 3 Years of FY, 2022-23, 2023-24 & 2024-25			
Year	Amount Currency	Exchange Rate	Rs in Lakhs
2022-23			
2023-24			
2024-25			

The information supplied should be the Annual Turnover of the Bidder in the terms of the amounts billed to clients for each year for week in progress or completed.

Signature of Applicant

Certified by Applicant's Auditor

(Affix Stamp)

APPENDIX- II

FORM OF PERFORMANCE BANK GUARANTEE

To:

Director General

**YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT ADMINISTRATION
(YASHADA), PUNE.**

WHEREAS [*name and address of Contractor*] (hereinafter called "the **Contractor**") has undertaken, in the pursuance of letter of intent No -----Tender No.----- DESIGN, MANUFACTURE, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING WITH FIVE YEARS COMPREHENSIVE MAINTENANCE CONTRACT OF 350 kWp GRID CONNECTED SOLAR POWER PLANT (NET METER) WITH ELEVATED WEATHER SHADE AT YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT ADMINISTRATION STATE OF MAHARASHTRA (Hereinafter referred to as the contract of works) and described in the bidding data in the Maharashtra State for works under the SPV Power Plant Programmed for Govt. Premises in Maharashtra under single point responsibility "Turnkey Contracts" basis (hereinafter called "the Contract");

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligation in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of _____ [*amount of Guarantee*] _____ [*in words*], and we undertake to pay you, through our branch office at _____ upon your first written demand and without cavil or argument, any sum or sums within the limits of _____ [*amount of Guarantee*] as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

**YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT ADMINISTRATION (YASHADA),
PUNE.**

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed there under or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until the date of completion of the defect's liability period, with a claim period of further one month.

Yours truly,	_____
Signature and seal of the	_____
Guarantor:	_____
Name of Bank/Financial	_____
Institution:	_____
Address:	_____
Date:	_____

APPENDIX- IV

SITE VISIT REPORT LETTER

(To be submitted on letterhead of bidder with GPS co-ordinate photographs)

Date: _____

To,
Director General

**YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT ADMINISTRATION STATE
OF MAHARASHTRA,
YASHADA Pune**

**Sub: DESIGN, MANUFACTURE, SUPPLY, INSTALLATION, TESTING AND
COMMISSIONING WITH FIVE YEARS COMPREHENSIVE MAINTENANCE CONTRACT
OF 350 kWp GRID CONNECTED SOLAR POWER PLANT (NET METER) WITH
ELEVATED WEATHER SHADE AT YASHWANTRAO CHAVAN ACADEMY OF
DEVELOPMENT ADMINISTRATION STATE OF MAHARASHTRA**

Ref. : Tender No : _____

Sir,

This has reference to above referred tender of Solar Power Plant in YASHADA Pune, District in Maharashtra be electrified through Solar Power.

I/ We hereby declare that we have visited site in consultation with respective YASHADA Pune.

I/ We made ourselves acquainted with the site in consultation with the requirement land, conditions, availability of roof, requirement of tender conditions etc. I/We verified all details required to execute the project.

I/We no problems in undertaking the projects and complete them in the given time period.

Thanking you,

Yours faithfully,
(Signature of Bidder)

Name of Bidder -----

Designation -----

Signature of YASHADA Pune authority.

Seal:

**YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT ADMINISTRATION (YASHADA),
PUNE.**

APPENDIX -V
POWER OF ATTORNEY
(On Rs100/- stamp paper)

Know all men by these presents, We,, Reg. Address:
..... do hereby irrevocably constitute, nominate,
appoint and authorise Mr./Mrs./Ms., Contact No. +91-
....., Email.....@..... presently employed with us and
holding the position of, as our true and lawful attorney (hereinafter
referred to as the "Attorney") to do in our name and on our behalf, all such acts, deeds
and things as are necessary or required in connection with or incidental to participate in
e-tendering process for e-tender no. ----- **DESIGN,
MANUFACTURE, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING WITH
FIVE YEARS COMPREHENSIVE MAINTENANCE CONTRACT OF 350 kWp GRID
CONNECTED SOLAR POWER PLANT (NET METER) WITH ELEVATED WEATHER
SHADE AT YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT
ADMINISTRATION STATE OF MAHARASHTRA** in the State of Maharashtra, including
but not limited to signing and submission of all applications, Bids and other documents
and writings, participate in Bidders and other conferences and providing information /
responses to the Company, representing us in all matters before the Company, signing
and execution of all contracts including the Contract Agreement and undertakings
consequent to acceptance of our Bid, and generally dealing with the Company in all
matters in connection with or relating to or arising out of our Bid for the said Project
and/or upon award thereof to us and/or till the entering into of the Contract agreement.

AND, we hereby agree to ratify and confirm and do hereby ratify and confirm all acts,
deeds and things done or caused to be done by our said Attorney pursuant to and in
exercise of the powers conferred by this Power of Attorney and that all acts, deeds and
things done by our said Attorney in exercise of the powers hereby conferred shall and
shall always be deemed to have been done by us.

For
(Company Name)

Name of signing authority:

Designation: (Owner / Director / Proprietor / Partner)

**YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT ADMINISTRATION (YASHADA),
PUNE.**

APPENDIX-VI

DETAILS OF OFFERED SYSTEM
BILL OF MATERIALS (BOQ)

Sr. No.	Particular	Quantity	Unit
1	Solar Panels: High performance solar Mono Perc module 25 yrs performance warranty Rating 540 and above Wp (Make: Renewsys, Waaree, Vikram Solar, Goldi, Adani) (For 350 KW of Solar System)	650	Panels
2	Solar PV 3P String Grid Inverter with Online Monitoring System (For 350 KW of Solar System) (Make: Growatt, Sofar Solar, Sungrow, Fronius, Solis)		
2.1	100Kw-3Ph, Capacity - 100 Kw 3 Ph, Solar Grid Tie Inverter with Wi-fi for remote monitoring to be installed on Library Building.	2	Inverter
	50 Kw-3Ph, Capacity – 50 Kw 3 Ph, Solar Grid Tie Inverter with Wi-fi for remote monitoring to be installed on Library Building.	1	Inverter
2.2	100Kw-3Ph, Capacity - 100 Kw 3 Ph, Solar Grid Tie Inverter with Wi-fi for remote monitoring to be installed on Auditorium/Sanwaad Building.	1	Inverter
3	Solar PV Elevated Structure		
3.1	Structure Drawing: Provide solar structure drawing from approved RCC Consultant for 140 km/hr windspeed	1	Unit
3.2	Labour: The structure erected shall be 16-20 Ft height for library Building and 12-14 Ft for Admin/ Sanwaad Building (<i>with a slope pointing towards south direction</i>) on which solar panels shall be placed. (Place of Work: Library and Admin/Sanwaad Buildings)	21450	Sq. ft.
3.3	GS Material: The structure shall have: 100x100x4mm Square Pipes as Beams, 100x50x3mm (Outer Length) and 50x50x3mm (Inner Braces) Square Pipes as Truss and 80x40x3mm Sqaure Pipes as Perlins to withstand weight of panels. The structure Galvanized 80 Microon Certified by Galvanised Company (Make: Apollo/JSW/Tata Steel India)	30500	Kg
3.4	Weather Sheet: The structure shall be covered with 0.5mm tickness galvanized and color coated sheet (Make: JSW/AM-NP/Tata) to act as weather shed	10419	Kg
3.5	Accessories: Includes Welding accessories like cutting wheels, Welding rods, Screw fittings,	1	Job

**YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT ADMINISTRATION (YASHADA),
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	Anchor bolts and Chemicals (Make: Fischer/Hilti), Base Plates, Wirings, Boards, etc.		
3.6	Painting: The entire structure shall be coated with Zinc Oxide and Painted (Make: Asian/Berger/Dulux Paints) with 3 coats with warranty of 5 years. (1 Drum =20 Litres)	15	Drum
3.7	Dead Load Blocks: 400x400 mm RCC Blocks, Nito Bond for Surface to Surface Bonding	250	Units
4	Solar Panel Fittings: Includes Aluminium Railings, U and Z Clapms (30mm), Springs, Nut Bolts (38mm)		
4.1	Aluminium Railings (Size 12" inches length, 35mm width, 5 mm Thickness)	1	Pieces
4.2	U Clamp (30 mm Depth, 5mm Thickness)	1	Pieces
4.3	Z Clamp (30 mm Depth, 5mm Thickness)	1	Pieces
4.4	Spring Nuts SS 304	1	Pieces
4.5	SS 304, 38mm Length Bolts	1	Pieces
5	Electrical Distribution Boxes		
5.1	Direct Current Distribution Box (DCDB): SPDs (Make: FINDER/Phoenix) and MCBs (Make: ABB/Schneider) Junction Boxes (Body: Metal)	2	Box
5.2	Alternating Current Distribution Box (ACDB): Inbuilt Phase Detection Cutoff (Make: ABB/Schneider) and MCCBs (Make: ABB/Schneider) Junction Boxes (Body: Metal)	2	Box
5.3	Bus Bar Box (4 In, 1 Out)	1	Box
6	AC Cables (Make: Polycab/Havells)		
6.1	Library Building: 95 Sq. mm, 3.5C Aluminium Armoured Cable (for 100 KW X 02 Solar Systems)	200	Meter
6.2	Library Building: 95 Sq. mm, 3.5C Aluminium Armoured Cable (for 100 KW X 02 Solar Systems)	200	Meter
6.3	Administrative Building: 95 Sq. mm, 4C Aluminium Armoured Cable (for 100 KW X 01 Solar Systems)	100	Meter
6.4	Net-Meter cable: 300 Sq. mm , 4C Aluminium Armoured Cable	100	Meter
7	DC Cables (Make: Polycab/Havells)		
7.1	4 Sq. mm, 1C UV protection	3000	Meter
7.2	6 Sq. mm, 1C UV protection	1000	Meter
8	Electrical Accessories: Includes MCBs, MC4 Connectors, Electrical Fittings, 20 mm PVC pipes, 30 mm PVC Pipes, Electrical Points, etc.	1	Job
9	Earth Boring, Earthing Kit Copper Coated, Lightning Arrestor & Earthing Cable/Galvanized strips (25x3)	1	Job
10	Electrical Fitting/labour	1	Job
11	CMC for 5 Year (1 year guarantee peroid and 4 year CMC)	350	KW
12	Miscellaneous Fittings/Expenses	1	Job
13	Panel Cleaning System for Solar Panels includes (1HP Pump 3 nos), with 2 water tanks (1000	1	Job

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	and 2000 liters each) with stand ,flexible pipe and cleaning brushess (4 nos)		
	TOTAL COST OF PROJECT (EXCL. OF GST)		
	GST:		
	A. GST @12% for Panels and Inverters		
	B. GST @18% for Rest of Project		
	TOTAL COST OF PROJECT (INCL. OF GST)		

Note: Bidders to submit technical Brochure for offered PV Module & Inverter along with test certificates/reports compiling applicable Standards as per guidelines issued by MNRE & with details of Guaranty & Warranty. Substandard makes or indication of 'Equivalent make' shall strictly be avoided.

APPENDIX-VII

DATA FOR ASSURED POWER GENERATION

Sr. No.	Power Generation During #	350 kW-AC
1.	Min. total peak hour	
2.	Min. total for 1 st year	
3.	Min. total for 2 nd year	
4.	Min. total for 3 rd year	
5.	Min. total for 4 th year	
6.	Min. total for 5 th year	
7.	Min. total for 10 th year	
8.	Min. total for 15 th year	
9.	Min. total for 20 th year	
10.	Min. total for 25 th year	

Note: “#” Energy generation / Power production in (AC) units at application end by Offered SPV system; considering ideal conditions / climatic conditions for proposed Location; as per reference Data available by various reputed International / GoI institutes

**YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT ADMINISTRATION (YASHADA),
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APPENDIX-VIII

Declaration

To,
Director General,
YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT ADMINISTRATION
STATE OF MAHARASHTRA
YASHADA PUNE, Pune.

Subject: E-tender reference no-.-----**YASHADA Pune**

Respected Sir/Madam,

1. We have carefully read and understood all the terms and conditions of the tender and here by convey our acceptance to the same.
2. The information / documents furnished along with our offer are true and authentication the best of my knowledge and belief, we are well aware of the fact that furnishing of any false information/fabricated document would lead to rejection of our tender at any stage besides liabilities towards prosecution under appropriate law.
3. We have apprised our self fully about the job to be done during the currency of the period of agreement and also acknowledge bearing consequences to of non-performance or deficiencies in the service son our part.
4. We have no objection, if enquiries are made about the work listed by us.
5. We have not been barred or blacklisted by any Government Agency/Department/PSU or any such competent Government authority, organization where we have worked. Further, if any of the partners/directors of the organization/firm is blacklisted or having any criminal case against them, our bid shall not be considered. At any later point of time, if this information is found to be false, Director General, Maharashtra Energy Development Agency, may terminate the assigned contract immediately.
6. We have not been found guilty by a court of law in India for fraud, dishonesty or moral turpitude.

We agree that the decision of Director General, **YASHADA Pune** in selection of Bidders will be final and binding to us.

APPENDIX- IX

Format: Commitment from the Tenderer for Assured Power Generation

(To be submitted separately on Rs.500 stamp paper with Notary)

We here by confirm that the from proposed 350 KW capacity on Grid solar PV power plant at Hon'ble **YASHADA Pune** in the state of Maharashtra.

We will provide the assured generation of Min. 4 units per day per KW (measured at Generation Ac load side) calculated as Min.4 units*300 Clear Sunny days...1 kW=..... units per year at energy meter in control cabin/room as certified by joint meter reading of manufacturer's representative and user's representative.

However, for 5 years we hereby commit to pay an amount of Rs.6/- per unit as compensation to Hon'ble **YASHADA Pune** for the number of units unable to supply against the guaranteed generation.

Date:

Place: Signature of the Tenderer

Seal

**SELECTED BIDDER HAS TO CARRY OUT THE
REGISTERED CONTRACT AGREEMENT IN FOLLOWING
FORMAT (DRAFT)**

This agreement, made this _____ day of __, between
**YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT
ADMINISTRATION (YASHADA)**, Pune having its office at Raj Bhavan
Complex, Banner Road Pune-411007 (Maharashtra), INDIA.
(Hereinafter referred to as “YASHADA Pune”) of the one Part and
_____ [name and address of selected
Contractor / Bidder] (hereinafter referred to as “Successful bidder(s) /
Contractor”) of the other Part.

Whereas, YASHADA Pune has invited the Tender and (Tender
NO.....dated.....) selected of Bidder for “works” include
**DESIGN, MANUFACTURE, SUPPLY, INSTALLATION, TESTING AND
COMMISSIONING WITH FIVE YEARS COMPREHENSIVE
MAINTENANCE CONTRACT OF 350 kWp GRID CONNECTED SOLAR
POWER PLANT (NET METER) WITH ELEVATED WEATHER SHADE
AT YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT
ADMINISTRATION STATE OF MAHARASHTRA (With Net Meter)**, at
Hon'ble YASHADA Pune, in the state of Maharashtra. through
competitive bidding.

And whereas, the Successful bidder(s)/Contractor has participated in
the above referred bidding process and submitted its bid and
subsequently YASHADA Pune selected the Successful
bidder(s)/Contractor for the development of said
projects/work/contract under the terms and conditions as contained
in this project/work/contract document.

NOW THEREFORE THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement, words and expression shall have the same meanings
as are respectively assigned to them in the ‘Contract Documents’
hereinafter referred to, and they shall be deemed to form and be read
and construed as part of this Agreement.

**YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT ADMINISTRATION (YASHADA),
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2. Contract Documents: The contract shall be performed strictly as per the terms and conditions stipulated herein and also following documents shall be deemed to form and be read and construed as part of this Agreement
 - a. Tender issued by YASHADA Pune (including any further clarifications/ amendments issued by YASHADA Pune in this regard)
 - b. Bid submitted by the Successful bidder /Contractor
3. For administrative purposes Director General YASHADA Pune has been assigned to administer the work and to provide the Successful bidder / Contractor with all relevant information needed to carry out the assignment.
4. This agreement, its meaning and interpretation and the relations between the parties shall be governed by the Laws of Union of India.
5. Successful bidder / Contractor shall commission **DESIGN, MANUFACTURE, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING WITH FIVE YEARS COMPREHENSIVE MAINTENANCE CONTRACT OF 350 kWp GRID CONNECTED SOLAR POWER PLANT (NET METER) WITH ELEVATED WEATHER SHADE AT YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT ADMINISTRATION STATE OF MAHARASHTRA** Time schedule shall be strictly adhered to and the Successful bidder / Contractor shall plan and perform the work in accordance to the time schedule as agreed by YASHADA Pune.
6. This agreement will become effective upon signing of this agreement by both parties. The Successful bidder / Contractor **DESIGN, MANUFACTURE, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING WITH FIVE YEARS COMPREHENSIVE MAINTENANCE CONTRACT OF 350 kWp GRID CONNECTED**

**SOLAR POWER PLANT (NET METER) WITH ELEVATED
WEATHER SHADE AT YASHWANTRAO CHAVAN ACADEMY
OF DEVELOPMENT ADMINISTRATION STATE OF
MAHARASHTRA.**

7. It is binding on the Successful bidder / Contractor to maintain the solar high mast systems as specified in Bid document for a period of 5 years from the date of commissioning. The price shall be disbursed to the Successful bidder / Contractor as per the methodology specified in clause 8 of this agreement. In case the Successful bidder/ Contractor fails to maintain the projects/work/contract up to the agreed period of 5 years, YASHADA Pune shall recover the amount on pro-rata basis from the Successful bidder / Contractor by adopting appropriate measures. YASHADA Pune's decision in this regard will be final and binding on the Successful bidder / Contractor.
8. The Successful bidder / Contractor has to Design, Engineer, Supply, Install, Test, Commission & Maintain the Solar system for 5 years of as per the technical specifications proposed in the bid document or with the proposed deviations duly accepted by YASHADA Pune for setting up of this projects/work/contract. Successful bidder / Contractor shall maintain the plant for 5 years from the date of commissioning. Successful bidder / Contractor shall submit quarterly comprehensive maintenance report (CMC) and maintenance activities undertaken by him as a quarterly reporting within 10th day of start of new quarter.
9. The Successful bidder / Contractor shall request YASHADA Pune through written/by email request should accompany all the necessary documents as given in the term and condition of release payment in the release payment in the 'projects/work/contract documents'. After scrutinizing the performance of the projects/work/contract, YASHADA Pune will release the payment. The amount of payment disbursement will

**YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT ADMINISTRATION (YASHADA),
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be as per the terms and conditions mention in the payment clause

10. The Successful bidder / Contractor will be responsible for appropriate insurance coverage. In this regard, the Successful bidder / Contractor shall maintain worker's compensation, employment liability insurance for their staff. The Successful bidder / Contractor shall also maintain comprehensive general liability insurance, including contractual liability coverage adequate to cover the indemnity of obligation against all damages, costs, and charges and expenses for injury to any person or damage to any property arising out of, or in connection with, the services which result from the fault of the Successful bidder / Contractor or its staff. The Successful bidder / Contractor shall provide YASHADA Pune with certification thereof upon request.
11. In the event YASHADA Pune terminates the project/work/contract in whole or in part, YASHADA Pune may procure, upon such terms and in such manner as it deems. Appropriate goods or services similar to those undelivered and the Successful bidder / Contractor shall be liable to YASHADA Pune for any excess costs for such similar goods or services. However, the Successful bidder / Contractor shall continue the performance of the project/work/contract to the extent not terminated.
12. If the Successful bidder / Contractor in the bid fails to complete the given work within the stipulated time or extension, the work order will be cancelled and the work will be completed through other supplier / bidder and if additional funds required that will be recovered from Successful bidder / Contractor. The name of the Successful bidder / Contractor will be blacklisted and action will not be allowed to participated in any government tender process for next 5 years.
13. The Successful bidder / Contractor shall indemnify and hold harmless YASHADA Pune against any and all claims, demands, and/or judgments of any nature brought against the YASHADA Pune

**YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT ADMINISTRATION (YASHADA),
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arising out of the activities by the Successful bidder / Contractor and its staff under this Contract. The obligation under this paragraph shall survive the termination of this Contract.

14. The Successful bidder / Contractor shall provide periodic review report of the projects/work/contract, as given in the 'contract agreement', on mutually agreed format to YASHADA Pune. Also as when requested by YASHADA Pune, the Successful bidder / Contractor shall provide the projects/work/contract related information.
15. The Successful bidder / Contractor shall ensure access to and all other assistance for the inspection of the sites and works by YASHADA Pune and/or its nominee(s)/Officers/ authorized 3rd party any time before and/or after the work is started during its execution and after the works are completed for the entire duration of the projects/work/contract.
16. This Agreement may only be amended or supplemented by a written agreement between the Parties.
17. All agreements, correspondence and communications between the Parties relating to this Agreement and all other documentation to be prepared and supplied under the Agreement shall be written in Marathi / English, and the Agreement shall be construed and interpreted in accordance with Marathi / English language. If any of the agreement, correspondence, communication or document is prepared in any language other than Marathi / English, the Marathi / English translation of such agreements, correspondences, communications or documents shall prevail in matters of interpretation.
18. Any notice to be served on the either party shall for the purpose of these presents be deemed to be sufficiently served if it is emailed to the official Email address provided by the Successful bidder(s)/ Contractor, if it is left at Registered Office as mentioned in the preamble of the Agreement, and such notice shall also be deemed to

**YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT ADMINISTRATION (YASHADA),
PUNE.**

be properly and duly served if it is sent by registered post to such address as aforesaid, and such service shall be deemed to have been made at the time at which the Registered letter would in the ordinary course be delivered even though returned unserved on account of refusal of the party to accept such notice or any other reason whatsoever.

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

Signed by the within named

1.

(Signature and Name of the authorized person duly of the Successful bidder(s) / Contractor) on behalf of(Insert the name of the Successful bidder(s) / Contractor)

Dated this day of

2.

(Signature and Name of authorized representative of YASHADA Pune) on behalf of **YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT ADMINISTRATION (YASHADA), PUNE.**

Dated this day of

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

WITNESS

1(Signature)

Name.....

Designation

2(Signature)

Name.....

Designation

**YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT ADMINISTRATION (YASHADA),
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**QUALITY CERTIFICATION, STANDARDS AND TESTING FOR GRID-
CONNECTED ELEVATED SOLAR PV SYSTEMS / POWER PLANTS**

Quality certification and standards for grid-connected solar PV systems are essential for the successful mass-scale implementation of this technology. It is also imperative to put in place an efficient and rigorous monitoring mechanism, adherence to these standards. Hence, all components of grid-connected solar PV system/ plant must conform to the relevant standards and certifications given below:

Solar PV Modules/Panels	
IEC 61215/ IS 14286	Design Qualification and Type Approval for Crystalline Silicon Terrestrial Photovoltaic (PV) Modules
IEC 61701	Salt Mist Corrosion Testing of Photovoltaic (PV) Modules
IEC 61853- Part 1 /IS 16170: Part 1	Photovoltaic (PV) module performance testing and energy rating -: Irradiance and temperature performance measurements, and power Rating
IEC 62716	Photovoltaic (PV) Modules - Ammonia (NH ₃) Corrosion Testing (As per the site condition like dairies, toilets)
IEC 61730-1,2	Photovoltaic (PV) Module Safety Qualification - Part 1: Requirements for Construction, Part 2: Requirements for Testing
Solar PV Inverters	
IEC 62109-1, IEC 62109-2	Safety of power converters for use in photovoltaic power systems - Part 1: General requirements, and Safety of power converters for use in photovoltaic power systems. Part 2: Particular requirements for inverters. Safety compliance (Protection degree IP 65 for outdoor mounting, IP 54 for indoor mounting)
IEC/IS 61683 (as applicable)	Photovoltaic Systems - Power conditioners: Procedure for Measuring Efficiency (10%, 25%, 50%, 75% & 90-100% Loading Conditions)
IEC62116/L1741/ IEEE 1547 (as applicable)	Utility-interconnected Photovoltaic Inverters - Test Procedure of Islanding Prevention Measures

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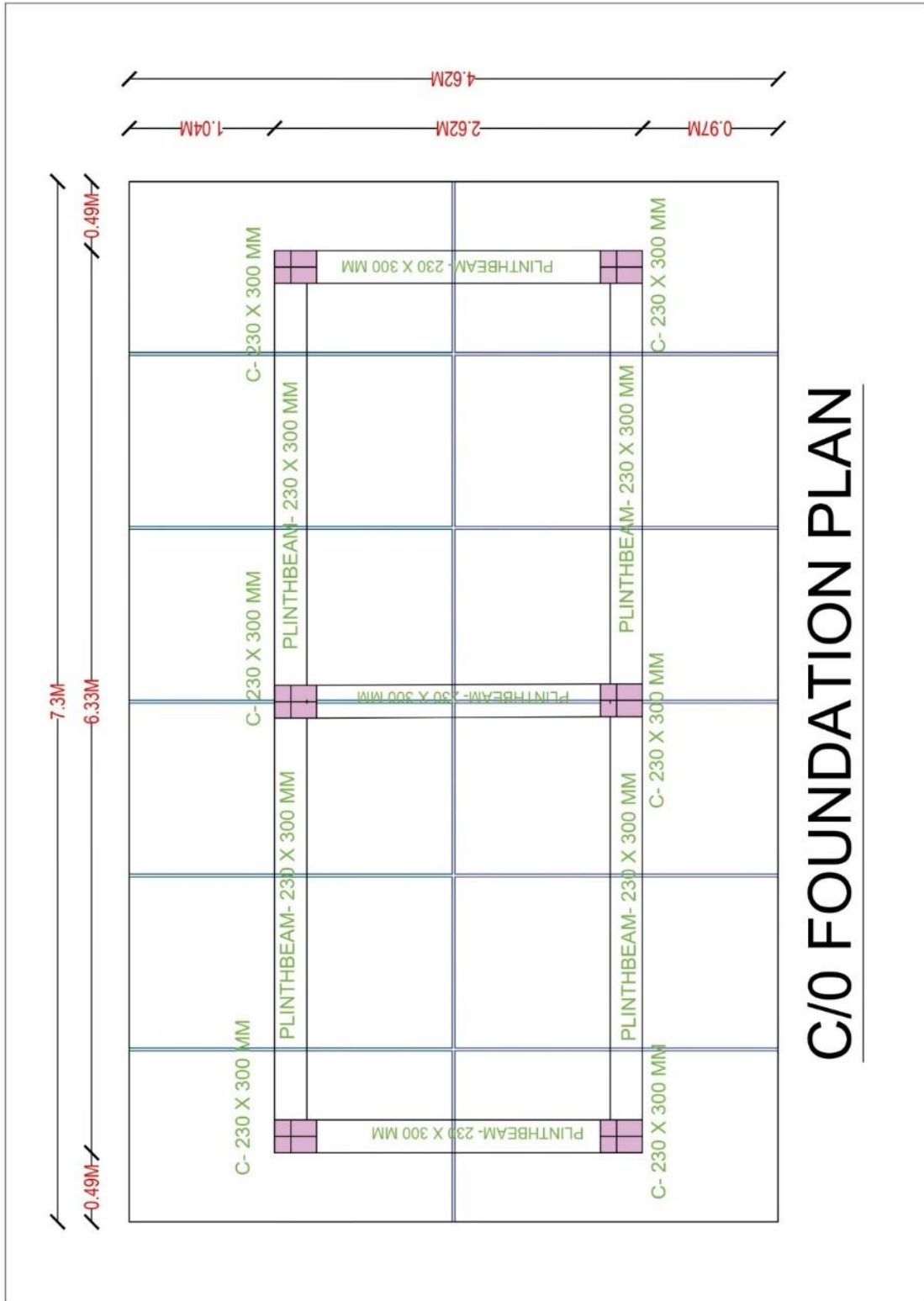
IEC 60255-27	Measuring relays and protection equipment - Part 27: Product safety requirements
IEC 60068- 2 /IEC 62093 (as applicable)	Environmental Testing of PV System - Power Conditioners and Inverters
Fuses	
IS/IEC 60947(Part1, 2 & 3), EN50521	General safety requirements for connectors, switches, circuit breakers (AC/DC): a) Low-voltage Switchgear and Control-gear, Part 1: General rules b) Low-Voltage Switchgear and Control-gear, Part 2: Circuit Breakers c) Low-voltage switchgear and Control-gear, Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units d) EN 50521: Connectors for photovoltaic systems - Safety requirements and tests
IEC 60269-6	Low-voltage fuses - Part 6: Supplementary requirements for fuse-links for the protection of solar photovoltaic energy systems
Surge Arrestors	
BFC 17 -102: 2011	Lightening Protection Standard
IEC 60364-5-53/ IS 15086-5 (SPD)	Electrical installations of premises - Part 5-53: Selection and erection of electrical equipment - Isolation, switching and control
IEC 61643-11: 2011	Low-voltage surge protective devices - Part 11: Surge protective devices connected to low-voltage power systems- requirements and test methods
IEC 60502 /IS1554 (Part 1 &2) / IEC 69947 (as applicable)	insulated cables (for working voltages up to and including 1100 V, and UV resistant for outdoor installation)
BS EN 50618	Electric cables for photovoltaic systems (BT(DE/NOT)258), mainly for DC Cables

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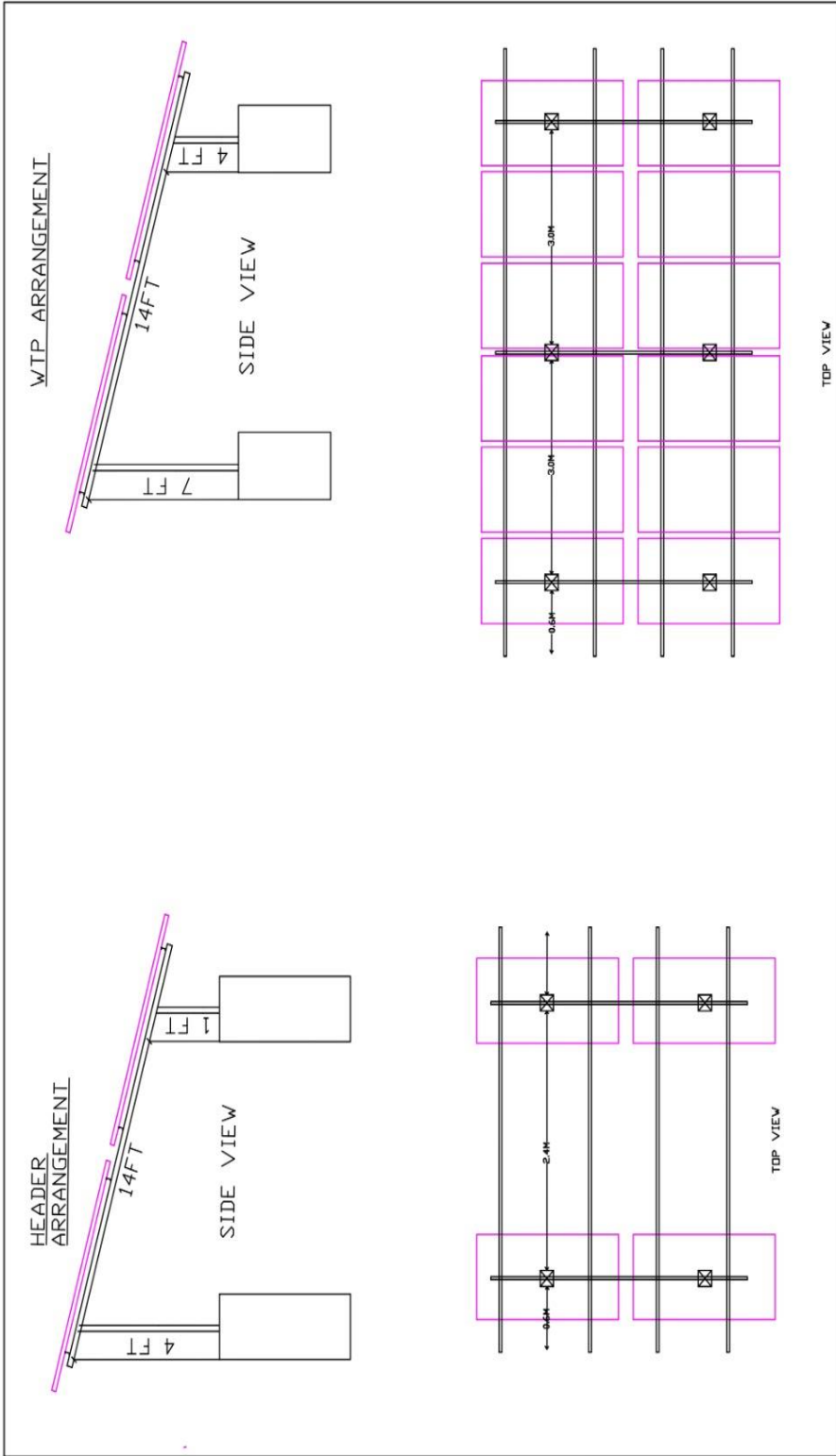
Earthing /Lightning	
IEC 62561 Series (Chemical earthing) (as applicable)	IEC 62561-1 Lightning protection system components (LPSC) - Part 1:Requirements for connection components IEC 62561-2 Lightning protection system components (LPSC) - Part 2:Requirements for conductors and earth electrodes IEC 62561-7 Lightning protection system components (LPSC) - Part 7:Requirements for earthing enhancing compounds
Junction Boxes	
IEC 60529	Junction boxes and solar panel terminal boxes shall be of the thermo-plastic type with IP 65 protection for outdoor use, and IP 54 protection for indoor use
Energy Meter	
IS 16444 or as specified by the DISCOMs	A.C. Static direct connected watt-hour Smart Meter Class 1 and 2 — Specification (with Import & Export/Net energy measurements)
Solar PV Roof Mounting Structure	
IS 2062/ IS 4759	Material for the structure mounting
Cables	
IEC 60227 /IS694,	General test and measuring method for PVC (Polyvinyl chloride)

Note- Equivalent or better standards may be used for different system components of the plants.

Pictorial View of Structures for Reference



**YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT ADMINISTRATION (YASHADA),
PUNE.**



ANNEXURE- A

Check List

**All the necessary Documents / Certificates should be uploaded as a SINGLE PDF
in proper sequence (*Strictly*) as mentioned below:**

1. Power of Attorney for Authorized Signatory on stamp paper of appropriate value. **Appendix - V**
2. Original tender document duly signed and stamped on each page.
3. Certificate of Incorporation (Companies Act. 2013)
4. EMD and Tender document fee (It is compulsory to pay tender document fee, EMD through E-payment SBI Net Banking, RTGS and NEFT only).
5. Copy of PAN
6. Registration certificates of GST.
7. CA Certificate for Average Annual Turnover of **Rs. 1 Crore** per year for last 3 years (FY 2022-23, 2023-24 & 2024-25) **Appendix-I (D)**.
8. Audited Balance Sheet for last 3 years (FY 2022-23, 2023-24 & 2024-25)
9. Net Worth of **Rs. 1 Crore** Certificate duly Certified by CA.
10. Registration certificates of firm along with shop act of Maharashtra State.
11. Information on field service setups to provide good after sale services including necessary repair and maintenance in the state of Maharashtra. Must submit details of service setup available at State and National level and also submit the Shop Act certificate of Maharashtra State and Undertaking by the bidder on Rs.100/- stamp paper mentioning his establishment of required service stations near the project sites.
12. Electrical Contractor License along with consent letter from Electrical Contractor (Only valid License will be considered).
13. Self-Undertaking signed that bidder is not blacklisted. **(Appendix-VIII)**
14. IEC certificate of SPV Module and Inverter.
15. Work orders and work completion certificates or experience certificate for supply and commissioning of Solar Power Plant from Govt. /semi govt. organizations OR Purchase Order/Completion Certificate/tax Invoice AND

**YASHWANTRAO CHAVAN ACADEMY OF DEVELOPMENT ADMINISTRATION (YASHADA),
PUNE.**

Site photograph's with GPS latitude & longitude in case of orders from Private Party. **APPENDIX-III.**

16. Bidder's Information Sheet **Appendix-I (A).**
17. Firm profile at a glance **Appendix-I (B).**
18. Financial Status **Appendix-I (C)**, along with scanned copy of IT returns for last three financial years, supporting with summery of balance sheet /auditor's report certified by CA.
19. Letter of undertaking on the letter head of bidder's company mentioning similar material (with same specification and description) will be used/replicated at all awarded project sites.
20. Test Certificate for Solar Power Project as per MNRE specification and Copy of valid Certificate as of date of bid submission.
21. Forms of Performance of Bank Guarantee - **Appendix-II**
22. Site visit report -**Appendix - IV**
23. Details of proposed / offered system - **Appendix - VI**
24. Commitment from the Tenderer for Assured Power Generation (Appendix-XI)
25. Any other relevant document.
26. A certificate regarding all pages of the bid has been digitally signed. All the enclosures, documents submitted shall be self-attested by the bidder.
27. All above criteria shall be strictly followed
28. Undertaking by the bidder that he has completed 75% or more number of works allocated by YASHADA PUNE, within the admissible time limits (including permitted time extensions) in earlier two years in YASHADA PUNE.
29. Will not be having Joint venture.

Also Submit documents those are mention in tender document and not mention above. If any of the documents is not uploaded the tender will be rejected.