

### Solar PV Modules :

The solar plant should comprise of solar polycrystalline modules with capacity of 335 Wp only. The module type must be qualified as per IEC 61215 latest edition for polycrystalline silicon or IEC 61646 for other latest technology. SPV module conversion efficiency should be equal to or greater than 17% under STC. Modules must quality to IEC 61730 Part I and II for safety qualification testing. Certificate for module qualification from IEC or equivalent should be uploaded. Self undertaking must be submitted from manufacturer/supplier that the modules being supplied are as per above. In addition the following should be considered :

1. Panels should be made in India and offer warranty of min 25 years with max 20% degradation by year 25. The panel manufacturer should also offer a limited product warranty of 10 years wherein panels should be replaced or repaired incase there is a problem with the panel/module.
2. The panels should be having 6 bus bars to maximize generation and minimize losses
3. Pls use the clauses as given below as these are std panel ratings
  
5. The rated maximum power rating of PV modules should have positive tolerance in range of 0 to +2%. And negative temperature co-efficient of power for PV modules should be less than or equal to 0.40% per degree C. The peak power point voltage and the peak-power point current of any supplied module and / or any module string (series connected modules) shall not vary more than 3 (three) percent from the respective arithmetic means for all modules and/or for all module strings, as the case may be.

6. A suitable number of Solar PV modules shall be connected in a series string. A suitable number of series strings shall be connected in parallel to formulate a series parallel array.
7. The PV Array shall be designed to match the inverter input specifications.
8. The module shall be provided with junction box with provision of min. 3 Nos. of bypass diodes and external MC4 type or equivalent plug-in connectors. The junction box should have hinged / clamping, weatherproof lid with captive screws and cable gland entry points & should be IP 65 rated.
9. The front surface of the module shall consist of impact resistant, low iron and high transmission toughened glass.
10. The module frame shall be made of corrosion resistant material electrically compatible with structural material used for mounting the modules.
11. Each PV module manufactured in India must have RF identification tag (RFID) compatible with MNRE requirements. (Traceability requirement)
12. DC negative conductor shall be bonded to the ground via Ground Fault Detector Interrupter (GFDI). Inverter shall be equipped with GFDI. The grounding point shall be as close as possible to the PV Array.
13. 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 bypass diode. The box shall have hinged / clamping, weather proof lid with captive screws and cable gland entry points or may be of sealed type and IP65 rated.
14. Necessary I-V curves at  $25^{\circ}\text{C}$ ,  $45^{\circ}\text{C}$ ,  $60^{\circ}\text{C}$  and at NOC are required to be furnished. Offers to provide PV module warranty of 25 years with not more than 20% degradation in performance/output over 25 years.
15. The PV module must have 10 years free replacement guarantee against material defect or craftsmanship. Guarantee warrantee certificate / document shall be issued by OEM to end user / client; and not issued to / by Bidder.
16. Name of the manufacturer of PV module; name and manufacturer of the solar cell; month and year of manufacture; I-V curve, wattage,  $I_m$ ,  $V_m$ , FF for the module; unique

serial no & model no; date & year of obtaining IEC PV module qualification certificate are required to be furnished.

**Inverter Specs:**

The inverter should be min 50 kWp inverters with multiple MPPT's. They should come with remote monitoring feature so that we can monitor the plant continuously and remotely.

The other clauses given below are std ones for Inverters – so we can also use the same.

**Inverter(Grid connected)**

The PCU required should be according to the plant capacity;to convey DC power produced by SPVmodules into AC power and adjust the voltage & frequency levels to meet the local gridconditions.

**Common Technical Specification**

**Type:** Grid connected

**Control Type:** Voltage source, microprocessor assisted, output regulation.

**Output voltage:** 3 phase, 415 V AC / 230V AC (+20%, -20% V AC) site specific

**Frequency:** 50 Hz (+3 Hz, -3 Hz)

**Continuous rating:** KV (rated +10%) with Import/Export net metering

**Normal Power:** +KVA

**Total Harmonic Distortion:** less than 3%

**Operating temperature Range:** 0 to 60 deg C

**Humidity:** 95 % Non-condensing

**Housing cabinet:** PCU to be housed in suitable switch cabinet, IP-20(Minimum) for indoor IP-65(Minimum) for outdoor

**PCU efficiency:** 98% and above at full load.

**PF:** > 0.9

**Other important Features/Protections of PCU:**

1. Mains (Grid) over-under voltage and frequency protection.
2. Over load capacity (for 10 sec) should be 200% of continuous rating.
3. The PCU shall be self-commuted and shall utilize a circuit topology and components suitable for meeting the specifications listed above at high conversion efficiency and with high reliability.
4. The PCU shall be provided with MPPT (Maximum Power Point Tracing) features, so that maximum possible power can be obtained from the PV module.
5. The PCU shall be self-commuted and shall utilize a circuit topology/ DSP technology to meet the specifications listed above at high conversion efficiency and with high reliability. The PCU shall feed the Loads from Solar Energy being produced. And it should feed the solar power to the Grid if the load is less than the solar energy generated.
6. Full proof protection against grid islanding which ensures that the PV power and the grid power get disconnected immediately in the event of grid failure.
7. 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.
8. 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.
9. 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.
10. The PCU shall be capable of operating in parallel with the grid utility service and shall be capable of interrupting line-to-line fault currents and line-to-ground fault currents.

11. The PCU shall be able to withstand an unbalanced output load to the extent of 50%.
12. The PCU shall go to the shutdown/standby mode with its contacts open under the following conditions before attempting and automatic restart after an appropriate time delay in insufficient solar power output.
13. (a) **Utility-Grid Over or Under Voltage**  
The PCU shall restart after an over or under voltage shutdown when the utility Grid voltage has returned to within limits for a minimum of two minutes.
- (b) **Utility-Grid Over or Under Frequency**  
The PCU shall restart after an over or under frequency shutdown when the utility grid voltage has returned to the within limits for minimum of two minutes. The permissible level of under/over voltage and under/over grid frequency is to be specified by the tenderer.
- (c) The PCU shall not produce Electromagnetic interference (EMI) which may cause malfunctioning of electronic and electrical instruments including communication equipment, which are located within the facility in which the PCU is housed.
14. Communication Modbus protocol with LAN / WAN options along with remote access facility and PLC package with latest monitoring systems.
15. The inverter with MPPT shall be used with the power plant.
16. The sine wave output of the inverter shall be suitable for connecting to 415V, 3 phase AC LT voltage grid.
17. The inverter shall incorporate grid islanding protection disconnection of grid & PV power in case of failure of Grid supply suitable DC / AC fuses / circuit breakers and voltage surge protection. Fuses used in the DC circuit shall be DC rated.
18. The inverter shall have internal protection against any sustained faults and/or Lightning in DC and mains AC grid circuits.
19. The peak inverter efficiency inclusive shall exceed 94%. (Typical commercial inverter efficiency normally more than 97%, and transformer efficiency is normally more than 97%)
20. Efficiency normally more than 97%, and transformer efficiency is normally more than 97%)
21. The kVA ratings of inverter should be chosen as per the PV system wattage.
22. The output power factor should be of suitable range to supply or sink reactive power.
23. inverter shall provide panel for display of PV array DC voltage, current and power,
24. 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
25. and Apparent), Power Factor and AC energy (All 3 phases and cumulative) and
26. Frequency Remote monitoring of inverter parameters should also be available.

27. The inverter shall include adequate internal cooling arrangements (exhaust fan and ducting) for operation in a non-AC environment.

- The technical proposals confirming to eligibility criteria and found satisfactory will be taken up for detailed technical evaluation. A technical evaluation committee shall evaluate the Bids submitted by bidders for detailed scrutiny. During evaluation of the technical bids, College may at its discretion ask the bidders for clarification of their bid.
- In case bidder does not fulfil the technical bid, the financial bid shall not be opened & he shall be disqualified from further bidding process.
- Price Proposals of bidders qualifying above conditions shall be subsequently opened. The time and date of the opening of the Price bid shall be intimated on website by College. The price bid will be opened in presence of all the technically qualified bidders.
- Bids submitted without EMD will be rejected (if not exempted). Bidder would need to upload the required documents
- The Bidder shall upload copies of
  - GST registration Certificate
  - PAN issued by appropriate authority.
  - Income Tax Returns of previous three assessment years.
- For any Clarification support please contact at mail id- [kalsi.hs@gnkhalsa.edu.in](mailto:kalsi.hs@gnkhalsa.edu.in)
- To reject or accept any or all tenders without assigning any reasons thereof.
- The work order is not transferable. Subletting is not allowed.

College will not entertain any claim at any stage of successful bidder on the plea that the bidder was not having sufficiently acquainted himself to the site conditions.

#### **4. COST OF BIDDING**

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

#### **5. LANGUAGE OF BID**

All documents, drawings, instructions, design data, calculations, operation, maintenance and safety manuals, reports, labels and any other data shall be in English Language. The contract agreement and all correspondence between the College and the bidder shall be in English language. Supporting documents and printed literature furnished by the bidder if provided in another language it shall be accompanied by an accurate translation of the relevant passages in the English language duly authenticated and certified by the bidder (exception for bidders from Maharashtra). Supporting materials, which are not translated into English, may not be considered. For the purpose of interpretation and evaluation of the Application, the English language translation shall prevail.

#### **6. DOCUMENTS COMPRISING THE BID**

The Bid prepared by the Bidder shall be submitted in 'Two parts Viz. Technical and Financial bids comprising the following components.

##### **Part I - Technical Proposal:**

Bidder shall submit relevant certificates to fulfill the eligibility criteria prescribed in the tender document along with following documents/information:

- Bidder's Information Sheet
- Annual Turnover
- Self-Certification of No bar/non failure/blacklisted

- Details of Registered Office for carrying of Maintenance work.
  - Installation and Performance Credentials
  - Experience for installation and commissioning of SPV power-plants.
  - 
  - Experience/set-up of after sales service
  - Site Visit Note With Sample Approved.
  - Affidavit On 500 Bond.
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- Sheet of physical technical specifications and description of actual materials which are to be used in installation of project
  - Undertaking of Guaranteed Generation Certificate on Rs.100 stamp-paper.
  - Standards maintained for various components to be used in the project
  - Safety consideration for system protection
  - Warranty certification of equipment's /components
  - Documents of licensed Electrical Contractor who will be supervising the project
  - Site Visit format duly signed by beneficiary

The Bidder is expected to verify all instructions, forms, terms and specifications in the Tender Document. Failure to furnish all information required in the tender document will be at the Bidder's risk and may result in rejection of the bid.

## **Part II - Financial bid**

Financial Bid shall contain:

- The bidder should quote the price as against total tender estimate as shown in the tender document.
- The price quoted in the bid will be inclusive of all taxes, duties,



insurance and all incidental charges for successful design, supply, installation, commissioning along with comprehensive maintenance for five years of Solar PV Power Plants.

- Prices shall be quoted in Indian Rupees only.
- In no circumstances, escalation in the prices will be entertained.
- 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.

**EARNEST MONEY DEPOSIT (EMD), SECURITY DEPOSIT (SD)  
AND FORFEITING OF EMD:**

**A) EARNEST MONEY DEPOSIT:**

The Earnest Money Deposit for this project of Rs. 70,000/- should be paid by Demand Draft drawn in favour of "Governing Body G.N. Khalsa College". The Companies are eligible for EMD exemption as per GR published on 1-12-2016 by Industry, Energy and Labour department by submitting the valid documentary proof. No interest shall be payable on the amount of Earnest Money. The EMD retained 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 workorder.
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 contract, in this case College 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 3% of the total contract value on the same day on which work order is issued by demand draft of nationalized/scheduled bank in favour of Governing Body, G. N. Khalsa College.

2. Failure to comply with the terms of security deposit shall result into cancellation of work order without any further reference to the Bidder and the EMD shall be forfeited.

3. The security deposit shall be liable to be forfeited wholly or partly at the sole discretion of the College if the Bidder either fails to execute the work of above projects or fails to fulfil the contractual obligations or fails to settle in full his dues to the College.

4. In case of premature termination of the contract, the security deposit will be forfeited, and the College will be at liberty to recover the losses suffered by it and if additional cost is to be paid, the same shall be recovered from the Bidder.

5. The College is empowered to recover from the security deposit for any sum due and for any other sum that may be fixed by the College as being the amount or loss or losses or damages suffered by it due to delay in performance and / or non-performance and / or partial performance of any of the conditions of the contract and / or non-performance of guarantee obligations.

6. The security deposit shall be released to the Bidder only after

contract is completed to the satisfaction of the College on request application of bidder.

**7. PRICE VARIATION**

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

**8. JURISDICTION**

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

**9. TIME FRAME**

The time frame for the completion of work is **45 Days** from the date of issue of work order.

**10. PERIOD OF VALIDITY OF BID**

- 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 College as non-responsive.
- In exceptional circumstances, College 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.

**11. MODE OF SUBMISSIONS OF BID**

- The Bids shall be submitted electronically in the e-tender platform only.
- Bids sent by any other mode like in person, post, Telex or Fax or e-mail will be rejected.
- College may at its discretion ask Bidder to submit the hard copy of any of the document submitted on e-tender platform.

**12. DEADLINE FOR SUBMISSION OF BIDS**

SIGNATURE AND SEAL OF TENDERER

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

**13. CLARIFICATION OF BIDS**

During evaluation of Bids, College 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 besought, offered or permitted.

**14. PRELIMINARY EXAMINATION**

- The College 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.
- 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.
- The Bidder is required to carefully examine the Technical

Specification, terms and Conditions of Contract, and other details relating to supplies as given in the Bid Document.

- The Bidder shall be deemed to have examined the bid document including the agreement/ contract to have obtained information on all matters whatsoever that might affect to execute the project activity and to have satisfied himself as to the adequacy of his bid. The bidder shall be deemed to have known the scope, nature and magnitude of the supplies and the requirements of material and labour involved etc. and as to all supplies he has to complete in accordance with the Bid document.
- Bidder is advised to submit the bid on the basis of conditions stipulated in the Bid Document.
- Bidder's standard terms and conditions if any will not be considered. The cancellation / alteration / amendment / modification in Bid documents shall not be accepted by College.
- Bid not submitted as per the instructions to bidders is liable to be rejected. Bid shall confirm in all respects with requirements and conditions referred in this bid document.

#### **15. ACCEPTANCE OR REJECTION OF BIDS**

- College 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.
- Any Bid with incomplete information is liable for rejection.
- 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.

- 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 the college and will be blacklisted.

## **CRITERIA FOR BIDS EVALAUTION**

**Step 1:** Test of Responsiveness Prior to evaluation of Bids, College shall determine whether each Bid is responsive to the requirements of the tender document. A Bid shall be considered responsive only if all documents as outlined in the tender document for two stage bid process are submitted as per the pre-defined format.

- The College reserves the right to reject any Bid which is non-responsive and no request for alteration, modification, substitution or withdrawal shall be entertained by the College in respect of such Bid.

### **Step 2: Bid Evaluation**

Bid evaluation will be carried out considering the information furnished by Bidders as per the Tender documents. Based on technical/qualifying criteria preferred bidders will be shortlisted.

### **Technical Evaluation**

- Only Technical Proposals conforming to minimum 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, College may, at its discretion, ask the bidders for clarification of their Proposals. Bidder shall submit relevant certificates to fulfil the eligibility criteria prescribed in the tender document along with following documents/information.

- Bidder's Information Sheet
- Annual Turnover
- Self-Certification of No bar/nonfailure/blacklisted
- Details of Registered Office for carrying out the Maintenance work for 5 years.
- Installation and Performance Credentials
- Experience for installation and commissioning of SPV powerplants.
- Experience/set-up of after sales service at least of 100KW
- Sheet of physical technical specifications and description of actual materials which are to be used in installation of project
- Undertaking of Guaranteed Generation Certificate on Rs.100 stamp paper.
- Standards maintained for various components to be used in the project
- Safety consideration for system protection
- Warranty certification of equipment's/components
- Documents of licensed Electrical Contractor who will be supervising the project
- Site visit format duly signed by beneficiary and College authority.

Failure to furnish all information required in the tender document will be at the Bidder's risk and may result in rejection of the bid. Rights will be reserved by College

### **Financial Evaluation**

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

- At the outset, the price bids of all the Bidders who are technically qualified in technical evaluation shall be opened as per official



orders.

- The bidder's names, the Bid Prices, total amount of each bid and other details as College may consider appropriate, will be announced and recorded by College at the opening. Final evaluated sheet will be declared on "mahatenders.gov.in" site.
- Bidder that has quoted the lowest price (inclusive of all the taxes/duties) without breach any technical specification as per terms and condition shall be declared as the preferred Bidder.
- The work orders shall be issued to the successful bidder who ever qualifies in the complete process as mentioned above.

**16. AWARD CRITERIA AND AWARD OF CONTRACT**

College will award the contract to the successful bidder whose bids 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. The undertaking, annexure mentioned in tender document, document related to eligibility must be compulsorily submitted by the awarded bidder.

**17. CORRUPT OR FRADULENT PRACTICES**

College requires that Bidders shall observe the highest standard of ethics during the execution of contracts. In pursuance of this policy, ----- 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- 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 for a period of 3 years, if it at any time it determines that the firm has engaged in corrupt or fraudulent practices in competing for awarded work at Government financed contract, or in executing, a contract.

**18. CONDITIONS FOR ISSUING WORK ORDER TO LOWEST BIDDER**

- If declared L1, as per financial bid evaluation, the bidder has to submit description and physical specification of materials in detail which will be used in project along with a 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.
- The bidder has to submit documents related to labour insurance and material insurance made by him, also 1% labourcess is deducted from the bill of bidder as the Govt. Rule.

- An undertaking by the bidder on Rs.100/- stamp paper mentioning his establishment of required service stations near the project sites within jurisdiction of ----- division, names of his site engineer/----- & their contact phone numbers, also contact number & address of local personnel of the company who is responsible for carrying out comprehensive maintenance contract (CMC) of the project for 5years.
- Security Deposit of 3% (or 3% + additional below percentage of Tender cost if quoted) of the total contract value on the same day on which work order is issued by demand draft of nationalized/schedule bank in favour of Maharashtra Energy Development Agency,

**19. TERMS OF PAYMENT:**

**a. Release of 85% of total project cost:**

It will be released after supply, installation & successful commissioning of the systems duly certified by Bidder, Officer of Division office College & authorized person of Beneficiary, along with following documents:

- Joint Inspection Report duly signed by beneficiary, Bidder representative, College official.
- Submission of Complete Project Insurance policy documents effective from date of commissioning of the project for period of 05 years covering damage by natural calamities, fire, forceful damage of project, theft, etc.
- System Photograph accompanying College official taken during joint inspection.
- Warranty/Guaranty Certificate of materials used in project.

- Serial Wise Test Reports of Panel comprising I-V curve and detail parameters of each panel.
- Test Report of inverter and batteries (if applicable)
- Comprehensive Maintenance Contract (CMC) document as per clause mentioned in section IV "Technical Specification of SPV Solar Plant" for 5 years on the letter head of bidder.
- RFID Reader must be carried at the time of inspection. The report generated from RFID Tag of each panel at the time of inspection is to be compulsorily submitted.

**b. Release of 10% of total project cost:**

- It shall be released on receipt of three-month successful performance report.

**c. Release of 5% of total project cost:**

It shall be released on submission of following documents:

- Submission of Performance Bank Guarantee of 5% of total project cost from any Nationalized/Schedule Bank in favour of Maharashtra Energy Development Agency valid for 5 years.
- Next three-month successful performance report in prescribed format of day/date wise generated automatically through Remote Real Time Monitoring System.

**• Deduction: -**

- i. The TDS at the source will be deducted as per the Govt. rule and regulations.
- ii. College will issue necessary certificates of TDS deduction
- iii. 'C' / 'D' form will not be issued by College
- iv. Note that if bidder does not provide insurance against Labour and Material College will process insurance at "Director of Insurance" and will deduct 1% of contract value against insurance claimed by them and 1% of contract value

deduction

against "Labour Welfare Cess" from payment towards successful bidder.

**20. TIME FRAME:**

The time frame for the completion of work is **45 Days** from the date of issue of work order.

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

<b>Sr. No.</b>	<b>Milestone</b>	<b>Work Status</b>
1	In 15 days	> 60% Completion of work
2	In 20 days	>80% Completion of work
3	In 30 days	100% Commissioning and Acceptance of Solar power projects

**21. TIME EXTENSION**

- No extension will be given after deadline of date for completion of work as the said work very urgent to complete within the targeted date.

**22. PENALTY CLAUSE**

If the systems are not installed and commissioned within the stipulated period as mentioned in the work order the Bidder shall be required to pay penalty of 1/2%

(half percent) of balance amount per week, maximum p to 10% of the total cost of the systems and the amount shall be recovered either from the amount due to the Bidder or from Security Deposit.

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

### **SECTION – III**

#### **GENERAL CONDITIONS OF CONTRACT (GCC)**

##### **1. General Terms and Conditions:**

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

a) Bidder shall be responsible for any damage occurred, if any, at the site during the execution of work.

b) The Bidder should provide appropriate tools and equipments 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 WORKMEN / 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, THE COLLEGE OR ITS EMPLOYEES WILL NOT BE RESPONSIBLE FOR ANY SUCH INCIDENT".

c) Bidder should provide necessary manufacture's test certificates for materials being used for the work. Power curve of all the panels erected by manufacturers shall be provided to the College





- d) The selected Bidder is bound to work on the guideline provided by College from time to time. Guidelines if issued in future by College the changes proposed will also be applicable without augmentation 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 College with a copy to Beneficiary. Bidder shall also impart training to the user for regular Maintenance of the systems and certificate in this respect should be submitted.
- g) 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.
- h) College officials will do inspection as and when necessary, during the execution of work and thereafter subsequent to installation and commissioning of the work for the purpose of issuing final completion certificate.
- i) In the event of any discrepancy observed in specifications, the specifications given by College will be final. In the event of dispute arising any time, related to this work and document, decision of the College or his nominee shall be final.

- j) College at its discretion may visit supplier's factory for testing / inspection at any time during the period of supply and installation of the systems.
- k) College will not pay any interest on any amount, due to the Bidders.
- l) During the inspection, if any deviations in Technical Specifications are observed, College 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.
- m) If the supplier fails to complete the work or partially completes it then, College reserve right to cancel the work order and get it done from other supplier and any loss due to this shall be recovered either from any amount due to the supplier or from their Security Deposit.
- n) At the time of inspection of site, manufacturer or supplier has to submit the I.V. curves and test reports of supplied PV modules to respective officer.
- o) The Wiring must be carried out in casing-capping /conduit which are suitable as per site condition.
- p) It will be responsibility of the Bidder for procurement and installation of Net Meter in the system.
- q) It will be responsibility of the bidder to provide required WIFI system through any network for real time monitoring of the system using internet and downloading of data for initial one year period, later the bidder/supplier may handover the WIFI system to the beneficiary for its maintenance.
- r) It will be responsibility of the Bidder to ensure the satisfactory performance of the system.

- s) 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 5 years CMC period.
- t) 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.
- u) If previous performance of any Bidder found unsatisfactory, he will be disqualified.
- v) If any information / confirmation on any point of these tender conditions are required Bidder may contact / write to the Principal, of G.N. Khalsa College, giving tender reference no. etc.
- w) In the event of dispute during installation & commissioning of the systems related to the work and documents, decision of the College shall be final.
- x) The College reserves the rights to distribute the work among the Bidders who are eligible and have submitted the offers.
- y) Once the Bidder submit his offer and subsequently if not interested to work, in such case College will forfeit his EMD amount.
- z) At the time of placing work order and during the implementation can revise the technical terms and conditions if revised by MNRE, which will be binding on the Bidder.

- aa) The College 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.
- bb) It is binding on the successful Bidder to submit original certificates, documents required by College.
- cc) The bidder must acknowledge that all the work of the project 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.

## **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 Beneficiary, College's Representative and Contractor shall be conducted on a regular basis or as and when required by the College, at locations decided by the College, for 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 this accordance



- **The estimated work cost of the systems is given below.**

Sr. No.	Name of the work	Capacity	Estimated cost (Rs. in Lakhs)
1	DESIGN, FABRICATION, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF 150 KW DISTRIBUTED ON THE TERRACE OF COLLEGE BUILDING OF GURU NANAK KHALSA COLLEGE OF ARTS, SCIENCE AND COMMERCE (AUTONOMOUS) GRID- CONNECTED SOLAR PV POWER PLANT UNDER ROOF-TOP NET METERING WITH 05 YEARS OF COMPREHENSIVE MAINTENANCE	150 KW	70.00
	Total		70.00

- **The total estimated cost for the system is Rs.70.00 Lakhs. Hence bidder has to submit the EMD amount Rs. 70,000/-**

### 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

/ 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.
- College 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 insurance of SPV system from the date of commissioning for the CMC period by following standard procedure.