

**iii. Installation of Earthing material and Lightning system, testing and commissioning**

- a) Earthing including earthing pits, earth electrodes, earthing strips, grounding conductor of various sizes, Cu strip for flange jumper and Cu earth plates etc as per specification/standard drawing.
- b) Lightning surge protection must be provided for the SPV array and other solar system components.
- c) GI pipes, GI Cable-trays and accessories, cable markers, identifier tags, GI saddles and all other associated accessories as required for cable laying.
- d) FLP type double-compression nickel-plated brass cable glands, tinned-copper lugs, clamping material etc. for cable termination.

Fabrication and supply of MS frames, supports, canopies and brackets for miscellaneous electrical equipments, including welding, supply of bolts, nuts etc for mounting and other necessary supplies, all inclusive of painting etc. as required.

**iv. STANDARDS:**

The work shall be carried out in the best workmanlike manner in conformity with this specification, the relevant specifications/codes of practice of Indian Standard Institution, approved drawings and instructions of the Engineer-in-Charge or his authorized representative issued from time to time. In case of any conflict between the standards, the instructions of Engineer-in-Charge of ITI shall be binding.

**v. EARTHING NETWORK:**

The earthing installation shall be done in accordance with the earthing drawings, specifications and the standard drawings. The entire earthing system shall fully comply with the Indian Electricity Act and Rules framed there under.

**vi. TESTING:**

Earthing systems/connections shall be tested as follows:

- a) Resistance of individual electrodes shall be measured by MEGGER after disconnecting it from the grid.
- b) Earthing resistance of the grid shall be measured after connecting all the electrodes to the grid. The resistance between any point on the metallic earth grid and the general mass of earth shall not exceed 1 ohm.
- c) The resistance to earth shall be measured at the following:
  - At each electrical system earth or system neutral earth.

- At each earth provided for structure lightning protections.
- At one point on each earthing system used to earth electrical equipment enclosure. At one point on each earthing system used to earth wiring system enclosures such as metal conduits and cable sheaths or armor.

**vii. LIGHTNING PROTECTION:**

Lightning protection system (ECE Type) shall generally comprise lightning finials (air terminals), roof conductors, down conductors, test links, and earth electrodes. The number, types, materials and sizes shall be in accordance with the drawings.

**viii. MISCELLANEOUS MATERIALS SPECIFICATIONS:**

- Connectors & Termination:** Cable terminations shall be made with tinned copper crimped type solder less lugs of reputed make for all aluminum conductors and stud type terminals.
- Cable Identification:** Cable tags shall be of 2 mm thick, 20 mm wide aluminum strap of suitable length to contain cable number, equipment no., etc.
- Ferrules:** Ferrules shall be of approved type size to suit core size mentioned and shall be employed to designate the various cores of control cable by the terminal numbers to which the cores are connected for ease in identification and maintenance.
- Cable Glands:** Cable glands to be supplied shall be nickel-plated Brass double compression type of reputed make.
- Cable Trays:** This shall be either prefabricated hot dip galvanized sheet steel tray of suitable Size.
- Cable Laying:** All cable routes shall be carefully measured and cables cut to the required lengths, leaving sufficient lengths for the final connection of the cable to the terminal of the equipment. The various cable lengths cut from the cable reels shall be carefully selected to prevent undue wastage of cables.

**ix. PRE DISPATCH INSPECTION:**

ITI may conduct pre dispatch inspection of material at manufacturer's site if required. Contractor shall arrange make necessary arrangement accordingly.

**x. COMPLETION PERIOD**

Installation and commissioning of the SPV system should commence immediately after release of work order and Installation & commissioning should be completed within **8 Months** from the date of work order & may be extended depending upon the field situation with prior permission from ITI.

**General terms:** Contractor shall follow all the provisions as per labour law (including piece rate and petty contractors) shall comply fully with all laws and statutory regulations pertaining to engagement, payment and upkeep of labour in India.

**xi. Drawings & Certifications:**

Following drawings shall be submitted by contractor after placement of LOA/work order.

- a) General Arrangement of System (GAD)
- b) Part drawing of structures
- c) Complete Electric drawing of system (detailed SLD)
- d) Weight analysis of system
- e) Civil foundation drawings
- f) Wind Speed withstand capacity certificate duly certified by chartered engineer
- g) STAD Report duly certified by chartered engineer

**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.

**C. MINIMUM GUARANTEED GENERATION**

The bidder shall furnish the guaranteed minimum energy generation from Survey, Design, Fabrication, Supply, Installation, Testing and Commissioning of 100 KW Grid Connected Solar PV Power Plant under Rooftop / Ground Mounted Net-Metering with 05 Years of Comprehensive Operation & Maintenance Contract. The evaluation of minimum yearly guaranteed generation for Solar PV System must be equal to  $4.0 \text{ units} * 320 \text{ days} * 100 \text{ kW} = 128000 \text{ units/year}$ .

If system produces units below guaranteed generation as mentioned above, then penalty of Rs. 6/- per unit will be levied. Hence, bidder has to quote accordingly.

**4. INSTRUCTIONS**

- A. Bidder shall upload Information, Experience Certificates, Test Reports and other such

relevant document's specified in the list of other important documents.

**B. Site visit is mandatory.** The bidder shall visit the site & carryout the survey and upload the certificate indicating that the survey is carried out by the bidder as per **Appendix - V. The tender submitted without site visit report will be rejected out rightly.**

**C.** 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, ITI Ltd may at its discretion ask the bidders for clarification of their bid.

**D.** In case bidder does not fulfill the technical bid the financial bid shall not be opened & he shall be disqualified from further bidding process.

**E.** 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 to the qualified bidders by email.

**F.** All Technically Qualified bidders shall be informed about the date of opening of price bid and to attend the price bid opening.

**G.** Bids submitted without EMD & Tender Fees will be rejected. Bidder would need to submit the required documents through Postal/Courier.

**H.** The Bidder shall submit valid copies of-

1. GST registration certificate
2. PAN and Service Tax Registration Certificate issued by appropriate authority.
3. Income Tax Returns of previous three assessment years.
4. ITI reserves the right to reject or accept any overall tenders without assigning any reasons thereof.
5. The work order is not transferable. Subletting is not allowed.

## **5. COST OF BIDDING**

The bidder shall bear all costs associated with the preparation and submission of bid and ITI 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**

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 ITI 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. 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.

## **7. DOCUMENTS COMPRISING THE BID**

Bids shall be submitted along with original documents duly signed and stamped on all pages by the authorized signatory at below mentioned address–

**ITI LIMITED, CORPORATE OFFICE ITI BHAVAN, DOORAVANI NAGAR,  
BANGALORE, KARNATAKA - 560016, INDIA.**

Bid received after the due date of submission of bid will not be entertained. Bidder shall submit the bid in two parts viz. Technical and Financial bids comprising with Tender Reference No. and due date with 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 Barr /non-failure/blacklisted.
- Installation and Performance Credentials
- Experience for installation and commissioning of SPV power plants.
- Product technical specifications
- Standards maintained for various components to be used in the project.
- Safety consideration for system protection
- Warranty certification of equipments/ components
- Tender Fee and EMD is part of technical bid

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 Proposal:**

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

#### **A. EARNEST MONEY DEPOSIT:**

EMD must be submitted through Demand Draft favoring ITI Limited. The DD must be in favor of —ITI Limited, payable at Bangalore with validity of **Six (06) months** from the last date of submission of tender. The EMD amount must be submitted by the bidders along with the technical bids. No interest shall be payable on the EMD.

**Exemption from submission of EMD:** Micro & Small Enterprise registered with DIC or KVIC or KVIB or Coir Board or NSIC or DHH or any other body specified by Ministry of Micro, Small and Medium Enterprises, Govt. of India are exempted from submission of EMD subject to submission of valid registration certificate with the technical bid. The exemption is valid only for the participation of bidder in ITI tender. However, if the EMD exempted bidder stands L1 then the respective bidder has to submit the Security Deposit to ITI within 01 week from the date of opening of the financial bid. No interest shall be payable on the amount of Earnest Money. 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 Performance security deposit.

#### **B. FORFEITING OF EMD:**

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

1. The Bidder withdraws his tender before finalization of work order.
2. The Bidder does not accept work order.
3. The Bidder violates any of the terms and conditions of the tender.
4. The bidder fails to deposit requisite Security deposit.
5. The Bidder fails / refuses to execute the contract, in this case ITI shall have full right to claim damages thereof in addition to the forfeiture of EMD.

### **C. PERFORMANCE SECURITY DEPOSIT:**

- 1. The Bidder shall furnish Performance Security Deposit (SD) @ 5 % of total Contract Value before issuing of PO/ Work Order. PO /work order will be issued only after submission of SD.** SD must be submitted by Demand Draft / FDR/ Bank Guarantee of nationalized/scheduled bank in favour of ITI Limited, CORPORATE OFFICE, Bangalore.
2. The security deposit shall be released to the Bidder within two month only after completion of warranty/AMC duration to the satisfaction of the ITI.
3. Failure to comply with the terms of security deposit shall result to forfeit of EMD.
4. The security deposit shall be liable to be forfeited wholly or partly at the sole discretion of the ITI, if the Bidder either fails to execute the work of above projects or fails to fulfill the contractual obligations or fails to settle in full his dues to the ITI.
5. In case of premature termination of the contract, the security deposit will be forfeited and the ITI 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.
6. The ITI is empowered to recover from the security deposit for any sum due and for any other sum that may be fixed by the ITI 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.

### **8. PRICE VARIATION**

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

### **9. JURISDICTION**

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



## **10. TIME FRAME**

The time frame for the completion of work is **8 Months** from the date of issue of work order.

## **11. 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 ITI as non-responsive.

**B.** In exceptional circumstances, ITI 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.

## **12. MODE OF SUBMISSIONS OF BID**

The Bids shall be submitted **Off Line** only along with original bid documents duly signed and seal by authorized representative of the bidder.

## **13. DEADLINE FOR SUBMISSION OF BIDS:**

Bids shall be submitted physically by the bidder not later than the time and date specified in the invitation for Bids. The ITI may, at the discretion, extend this deadline for submission of bids by issuing an addendum, in which case all rights and obligations of ITI and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

## **14. CLARIFICATION OF BIDS:**

During evaluation of Bids, ITI 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.

## **15. PRELIMINARY EXAMINATION:**

**A.** The ITI will examine the Bids to determine whether they are complete, whether any computational errors have been made, whether required sure ties 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