



Alagappa University
(Accredited with "A+" Grade by 'NAAC')
Karaikudi – 630 003



Ref: A1/Tender/9614/Energy Sci./17

Dt: 9/12/17

Tender Notice

Sealed Tenders are invited by the undersigned from reputed companies for supply and installation of the following equipment.

Sl. No	Name of the Equipment	Approx. Value in Lakhs. Rs.	Cost of Tender Schedule Rs.	EMD (Demand Draft) Rs.
1.	Dye Sensitized Solar Cell Module Fabrication System	. 61	Rs. 15,000 + GST 12%extra	61,000

Tender documents can be had from the undersigned on payment towards cost of Tender Schedule as mentioned above, by demand draft drawn in favour of **The Registrar, Alagappa University, payable at Karaikudi.**

Filled in Tenders both Technical and Commercial bid in Separate Sealed Covers put into a Single big cover should reach on or before 26/12/2017 upto 03.00 p.m and the technical bid will be opened at 4.00 p.m on the same day.

For further details visit our website www.alagappauniversity.ac.in and www.tenders.tn.gov.in

The undersigned reserves the right to accept or reject or cancel any tender in part or in full without assigning any reason.

Place: Karaikudi
Date: 9/12/2017

Prof.V.Balachandran,
REGISTRAR i/c.

DYE SENSITIZED SOLAR CELL MODULE FABRICATION **SYSTEM WITH FOLLOWING COMPONENTS**

Complete system facility to fabricate photo electrode of dimension up to 10 cm x 10 cm. The fabrication system should include screen printer capable of handling defined thickness of material deposition on FTO glass substrates to be coated with screen printable TiO₂ paste. The utilities like vacuum pump, air compressor to be added.

High precision three axis robotic controlled silver paste dispensation unit capable of drawing different patterns on TCO glass substrates. The System should be capable of dispensing silver lines from micron thickness to more.

Anode and cathode encapsulation system using ultra violet curable materials and related dispensing system capable of dispensing thin lines of sealant through three axis robotic system and cured in an apparatus having defined wavelength of UV light emission.

An inert atmosphere based dye absorption bath with rack for substrate holding with different dimension up to 10 x 10 cm. The adsorption bath should have automatic programming of dye soaking, rinsing and drying.

A suitable sintering oven with programmable ramp heated of temperature up to 600°C with precise control of set temperature required. Accessories like nitrogen cylinder, FTO glass, Pt coated counter electrodes, dye & electrolyte to be quoted accordingly.

Specifications

1. Photo electrode Fabricator

Dimension: 10 x 10 cm

Screen Printer for Printing TiO₂ Paste

Mesh Size: 100, 120 and 140 mesh

Aluminium frame / Polyester screen

2. Vacuum Pump – 12m³ per hour

3. Air Compressor

Capacity – 100 litres

Pressure – 8 bar

4. Three Axis Robotic Silver Dispenser & Disposing thin lines of sealant through three axis robot

Separate systems – 2 Nos.

Pattern: 25 mm x 25 mm, 50 mm x 50 mm and 100 mm x 100 mm

No. of Patterns – 3

Line thickness – 0.4 mm to 1.5 mm or better

Pattern model – 2 cells, 4 cells and 8 cells, respectively

5. Encapsulation System:

UV – Curing

Wattage: 8 watts

Wavelength: 365 nm

Light source: UV tube light

6. Dye Adsorption Bath:

Inert Atmosphere with controlled temperature and indicated monitoring

Rack – 1Nos. 5 racks each

– Size 25 mm x 25 mm, 50 mm x 50 mm and 100 mm x 100 mm

Automatic programmable for dye soaking, rinsing & drying

7. Oven:

Volume: Suitable for upto 10 cm x 10 cm substrate sintering

Programmable ramp and Soak upto 4 steps

Temperature Max. : 600° C

Programmable Temperature with accuracy: +/- 2° C

8. Accessories:

- Light Absorber -Dye – 10 gram (Ruthenium complex – N719)
- Electrolyte – Iodide based – 250 ml
 - Cobalt complex – 1 gm
- Nitrogen Cylinder with regulator with purity certificate – 2 Nos.
- FTO glass substrates – 30 Nos.
 - 25 mm x 25 mm – 5 Nos., 50 mm x 50 mm - 5 Nos., 100 mm x 100 mm – 20 Nos.
- Pt coated electrodes – 30 Nos. with holes
 - 25 mm x 25 mm – 5 Nos., 50 mm x 50 mm – 5 Nos., 100 mm x 100mm – 20 Nos.

In respect of unsuccessful tenders, the EMD will be released after finalization of tender.

- No communication from any tenderer adding to / altering or explaining any terms of the tender will be considered after the opening of the tenders by the Registrar. If any tenderer withdraws his tender after the tenders are opened, his tender deposit is liable to be forfeited. Supplies should be effected within the delivery period quoted with tendered rates, failing which the tender deposit of the successful tenderer will be forfeited, and the order placed also cancelled at their risk and cost. Conditional offer such as subject to prior sales etc. are liable to be summarily rejected.
- The Registrar, Alagappa University, Karaikudi reserves **the right to accept or reject** any tender either partly or wholly without assigning any reason therefore.
- The quantities mentioned are only tentative and are liable to be added or subtracted.
- No suit or any proceedings in regard to any matter arising in any respect under this contract shall be instituted in any Court save in the District Munsif Court or Sub Court at Sivaganga. It is agreed that no other Court shall have jurisdiction to entertain any suit or proceedings even through part of the cause of the action raised within their jurisdiction. In case of any part of cause of action arises within the jurisdiction of any of the Court in Tamil Nadu and not in the Court of Sivaganga then it is agreed to between the parties that such suits or proceedings shall be instituted in a court within Tamil Nadu and no other court outside Tamil Nadu shall have jurisdiction even though any part of the cause of action might arise within the jurisdiction of such courts.
- The successful tenderer should arrange to supply the equipment as per terms of the accepted tender. **Full payment will be made to the supplier only after the receipt of the materials at site in good condition and after making necessary tests. Any loss or damages in transit should be made good by the supplier at free of cost. The advance payment will not be made under any circumstances.** Defects in manufacture if any detected at any time should be rectified at free of cost.
- The decision of the Registrar is final in respect of defective equipment. Quantities given in the tender are subject to alteration at the time of placing orders by the University.
- The Successful tenderer should produce income-tax clearance certificate. In the case of partnership firms, this should be produced for each of the partners and the firm.

- The tender should be valid for a period of 120 days from the date of opening.
- Warranty/Guarantee period should be specified.
- AMC of equipment should be quoted in the Tender for adopting after completion of the warranty period.
- Only parties who agree to abide by the above terms and conditions may send tenders and submission of tenders against this specification would signify such acceptance of the above terms and conditions by the tenderers.
- Tenderers should specifically note that their tenders are liable to be summarily rejected if
 - the rate quoted is not F.O.R. destination for Indian Manufacturer
 - complete technical details of the products as the case may be are not sent with the tender
 - validity period is not indicated
 - EMD is not remitted
- Detailed Specifications of the equipment required are enclosed.
- The bidder must quote for all the products as per the tender and must comply with all the tender specifications as per the tender.
- **TECHNICAL BID: FIRST COVER**

The FIRST COVER should contain the following:

- Tender documents duly completed and signed but WITHOUT INDICATING THE RATE QUOTED.
- The technical details of the models offered along with the supporting original technical literature, leaflets, brochures etc.
- Earnest money
- Cost of tender form if down loaded from the website.
- Details of supplies of similar equipment along with copies of supply orders.
- Latest agreement/authorization from the foreign firms in case of Indian agent is submitting tender on its behalf.
- Trade registration certificate from the RBI/Ministry/department concerned.
- Latest income tax clearance certificate/ copy of PAN card/TIN.
- Latest Tax clearance certificate.
- Technical bulletin with specifications clearly stated with model.
- **PRICE BID: SECOND COVER**

SECOND COVER should contain the following:

Details of rates, taxes, duties, discounts, if any, quoted by the bidder, should be submitted.

Any documents in support of price bid.

For Indian manufacturer rate should be at F.O.R destination.

For foreign supplier rates should be at CIP .

NOTE

(i) The word “**TECHNICAL BID**” should be written clearly and prominently on the first cover along with tender number, name of the equipments and date of opening. Similarly, the word “**PRICE BID**” should be written clearly and prominently on the second envelop along with Tender Number, Name of Equipments.

Full name and status of the person signing the tender documents must be clearly mentioned in the Tenders.

Tender unsealed or having overwriting and cutting without proper attestation and signature will not be considered.

(ii) An EMD i.e. Rs. 61,000/- through a Demand Draft drawn in favour of “The Registrar, Alagappa University and payable at Karaikudi should accompany the tender. Last date for receipt of tenders is upto 3.00 p.m on 26/12/2017 and the technical bid will be opened on the same day at 4.00 p.m

REGISTRAR

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The details are available in www.tenders.tn.gov.in and university website www.alagappauniversity.ac.in

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