



**INDIAN INSTITUTE OF SCIENCE EDUCATION AND
RESEARCH THIRUVANANTHAPURAM (IISERTVM)
(Govt. of India, Ministry of H.R.D)**

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CET CAMPUS, KULATHUR, ENGINEERING COLLEGE.P.O
THIRUVANANTHAPURAM 695016,
KERALA, INDIA.

Date: 13th October 2016

INVITATION TO TENDER

No: IISER/PUR/8352/BCD/SP/16

Due Date: 01st November 2016 [4PM]

Date of opening: 02nd November 2016 [3 PM]

Dear Sirs,

SUB: Supply of Fiberized Solar Simulator System.

We invite Sealed Tenders for the following items:

Sl #:	Item/ Description	Qty
1.	Fiberized Solar Simulator System Detailed specifications as per Annexure I	1 No.

Please quote your lowest rate and shortest delivery period as per the following terms. Your offer in sealed cover **SUPERSCRIBING TENDER NUMBER AND DUE DATE** shall reach us on or before the due date and time. Please follow "Instruction to Tenderers" attached.

- EMD** : **Rs. 9,400/-in the form of DD or B.G. to be submitted along with the quote. Quote received without EMD will be summarily rejected.**
- Payment** : Within 30 days after supply and installation/Net 30 days /LC.
No advance payment will be made by IISERTVM.
- Delivery** : To be delivered at our stores (Free delivery). If import, mention Ex-works/FCA/CIP terms with clear breakup charges.
- Taxes & Duties** : Indicate taxes and duties. We are exempted for customs duty under 51/96 notification and Excise duty under 10/97 notifications.
- Discount** : Indicate, if any.
- Delivery Schedule** : Required Immediately. Indicate your schedule
- Validity of quote** : 60 days

Thanking you

Yours Faithfully

Please see the rear side for other Terms & Conditions

Deputy Registrar
(In Charge)
Purchase & Stores

P.S. (1) CATALOGUE/LEAFLET FEATURING ALL TECHNICAL SPECS/INFORMATION OF THE PRODUCT QUOTED SHALL ACCOMPANY THE OFFER.

(1) OUR PREVIOUS TENDER OF EVEN NO. DATED 10TH AUGUST 2016 (DUE DT. 01ST SEPTEMBER 2016) STANDS CANCELLED AND THIS IS A RETENDER WITH REVISED SPECIFICATIONS.

IISER-TVM

INSTRUCTION TO TENDERERS [IMPORTS]:

1. **PRICE:** The price quoted shall be firm. The terms of FOB/EXW/FCA/CIF/CIP etc shall be clearly mentioned.
2. **AGENT & AGENCY COMMISSION:** In case Tenderer is represented by any agent in India, their name and address shall be furnished. The amount of commission included in the price shall be clearly shown in the offer; which will be paid directly to the Indian Agents by purchaser in equivalent Indian Rupees. In case Indian agents existing and their agency commission is not shown in the Tender, reasons for the same shall be clearly mentioned in Tender. Details of Indian agent's statutory registration shall be stated. If Agency Commission is paid by Principals in foreign currency, the reasons for the same and exemption from Enforcement Directorate in India shall also be provided.
3. **LEAFLET/CATALOGUE:** Tenderer should furnish all necessary leaflet/catalogue etc., of the stores offered by him to enable the Purchaser to evaluate his offer correctly.
4. **MODE OF DESPATCH:** Tenderer shall indicate the mode of dispatch (i.e., Sea/Air-freight/Parcel Post, etc.) depending upon the normal mode of dispatch adopted by him for the type of stores offered for consideration of the Purchaser.
5. **COUNTRY OF ORIGIN:** Tenderer shall indicate in his offer the country of origin of goods offered and the name and address of the manufacture.
6. **INSURANCE:** If insurance of the goods is felt necessary, the same shall be advised by the Tenderer in the offer.
7. **DELIVERY/SHIPMENT:** The time for and date of delivery quoted shall be reasonable/realistic and shall strictly be adhered to in case of placing order on the Tenderer.
8. **MODE AND TERMS OF PAYMENT:** Payment in full (excluding the amount of Agency Commission included in the price payable directly by the Purchaser to the Indian Agents in Indian Rupees) will be made immediately on presentation of the prescribed documents against SIGHT DRAFT or LETTER OF CREDIT or WIRE TRANSFER against shipping documents. **OURS BEING A GOVT OF INDIA EDUCATIONAL INSTITUTE WE ARE UNABLE TO MAKE ANY ADVANCE PAYMENT**
9. **WARRANTY:** Period of warranty and conditions shall be clearly mentioned in the Tender.
10. **GENERAL:** The Tenderer shall also be complied with the following:
 - a. Mention your Banker's name and address.
 - b. Show approximate net and gross weight and dimensions of packages/ cases. If dimensional details are available the same should also be indicated in your offer.
 - c. Furnish list of recommended spares for satisfactory operation for a minimum period of one year if the quote is for Plant & Machinery, Equipments etc.
 - d. Details of any technical service, if required for erection assembly, commissioning and demonstration.
 - e. Conform that the prices quoted are inclusive of all taxes, levies, duties arising in the tenderer's country.
 - f. Samples, if called for, will be sent free of all charges.
 - g. Late tenders and Delayed will not be considered.
 - h. Offers made by Indian Agents on behalf of their Principals, should be supported by the Proforma Invoice of their Principals.
 - i. The authority of person signing the tender, if called for, shall be produced.
 - j. The purchaser reserves the right to accept or reject the lowest or any other offer in whole or in part without assessing any reason.
11. **Tender Opening:** All tenders will be opened at **Pratheeksha Building**. Authorized representatives with **authorization letters** of the bidders may attend the Tender Opening.

INSTRUCTION TO TENDERERS [INDIGENOUS]

1. Tenders should be sent in sealed envelopes superscribing the relevant tender no. and the due date of opening. Only one tender should be sent in each envelope.
2. Sales Tax and /or other duties/levies where legally levies and intended to be claimed should be distinctly shown separately in the tender.
3. (a). Your quotation should be valid for a minimum period of 90 days from the date of opening of the Tender. Quotation with firm prices will be preferred.
(b). Prices are required to be quoted according to the units indicated in the Invitation to Tender. When quotations are given in terms of units other than those specified in the tender form, relationship between the two sets of units must be furnished.
4. **(a) Preference will be given to those tenders offering supplies from ready stocks. The basis of delivery is at IISER site free of cost.**
(b) Our payment terms are within 30 days of receipt and acceptance of the item at our site.
5. (a) All available technical literature, catalogues and other data in support of the specifications and details of the items should be furnished along with the offer.
Specifications: Stores offered should strictly conform to our specifications. Deviations, if any should be clearly indicated by the tenderer in their quotation. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature and samples, wherever necessary along with the quotations. Test Certificates wherever necessary should be forwarded along with supplies. Whenever specifically mentioned by us the tenderer could suggest changes to specifications with appropriate reasons for the same.
6. IISER shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portion of the quantity offered and the tenderers shall supply the same at the rates quoted.
7. Corrections, if any, in the Quotation must be attested. All amounts shall be indicated both in words as well as in figures. Where there is difference between amounts quoted in words and figures, amount quoted in words shall prevail. Quotation must have price for each line item and totaling of the price including taxes and duties should be clearly mentioned.
8. The tenderer should mention the name of his bankers, Sales Tax Registration, PAN number etc in the tender.
9. The authority of the person signing the tender, if called for, should be produced.
10. IISER being a Govt of India Educational and Research Institute, is exempted from payment of Excise Duty under Notification No. 10/97 and Customs Duty under Notification No. 51/96- Customs dated 23rd July 2009. Also, we can issue Form 16 as per VAT Rules.
11. The stores supplied should be covered with minimum of 1 year warranty from the date of supply, installation and commissioning.
12. Earnest Money Deposit/ Bid Security should be submitted along with your quote as mentioned in Invitation for Tender. EMD should be in favour of Indian Institute of Science Education and Research Thiruvananthapuram valid for 90 days.

Annexure-I

Technical Specifications for Fiberized Solar Simulator System (Updated)

1) Class A Solar simulator:

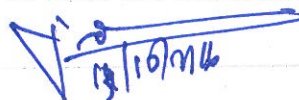
<i>Solar Simulator Class</i>	: Class A (As per ASTM E927 or IEC 60904-9 or JIS C8912). Test Reports for class A conditions has to be attached.
<i>Type of lamp</i>	: Xenon
<i>Power Range</i>	: 300 W or higher
<i>Illuminated area</i>	: At least (25 mm × 25 mm)
<i>Light Source</i>	: Steady State
<i>Air Mass Filter</i>	: AM1.5G Standard
<i>Spectral Range</i>	: At least 400 to <u>1100 nm</u>
<i>Optical Design</i>	: Compact design with flexible fiber illumination attachment
<i>Collimator lens</i>	: Lenses for parallel light illumination
<i>Lamp lifetime</i>	: <u>500 hours (average) or higher</u>
<i>Light intensity control</i>	: 100 mW/cm ² (1SUN) with continuously adjustable using multiple steps
<i>Spectral Match</i>	: ±85% or better
<i>Non-uniformity of irradiance</i>	: ≤ 2% or better (this has to be demonstrated at the time of installation)
<i>Temporal Stability</i>	: ≤ 2% or better for long times
<i>Optimum Working Distance</i>	: 200 mm or higher
<i>Cooling method</i>	: Forced air cooling
<i>Shutter</i>	: Remote controlled
<i>Exposure time set</i>	: 0.5 – 10000 sec or better
<i>Air Mass filter</i>	: Air Mass 1.5G filter
<i>Emitting method</i>	: Bundled light guide
<i>Controller</i>	: Remote controller (Cable length=2m)
<i>Remote control</i>	: RS232C or USB
<i>Safety mechanism</i>	: Xenon lamp problem, Top door is open, Lamp usage exceeds 1000 hours, Cooling fan problem, Temperature anomaly
<i>Operating environment</i>	: Temperature 15 - 35 deg C or better : Humidity 30 - 75% or better (Avoid condensation)
<i>Suitable to measure the following PV Technologies</i>	: a) Quantum dot solar cell : b) Perovskite solar cell : c) DSSC : d) Organic solar cell
<i>Power Supply</i>	: Single Phase, 220-240 Volts AC, 50-60Hz
<i>System design</i>	: Compact and light weight
<i>Warranty</i>	: <u>1 year standard and additional 2 years as complimentary</u>
<i>AMC</i>	: <u>After warranty, yearly basis cost</u>

2) Accessories

i. Calibrated Reference Cell with Connecting Cables

Material: Standard Silicon cell or Mono-crystalline Photovoltaic Cell encased in a Metal Enclosure with protective quartz window.

Certificate of calibration: It should be certified by NIST or AIST and traceable to NREL


13/10/16

- ii. **One Spare Xenon Lamp for Solar Simulator:** 300W with average life 1000 hours
- iii. **Desktop computer:** Powerful, 60.9 cm (24 inch) all-in-one desktop with articulating stand, rich multimedia features, intel processors, full HD, built-in performance speakers, and all operating software for solar simulator.
- iv. **Digital Light Meter:** Battery operated and portable to check light intensity of $100\text{mW}/\text{cm}^2$ (1SUN) or equivalent.

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