

# NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR

Silchar – 788 010 (ASSAM)

No: NITS/PS-600/EIE/Solar Array Simulator/18

Date: 28/05/2018

## NOTICE INVITING TENDER

FOR SUPPLY AND INSTALLATION OF SOLAR ARRAY SIMULATOR FOR ELECTRONICS &  
INSTRUMENTATION ENGG DEPARTMENT AT NIT SILCHAR



LAST DATE & TIME OF SUBMISSION : 22/06/2018 up-to 01.00 PM

DATE & TIME OF OPENING : 22/06/2018 at 03.30 PM



NATIONAL INSTITUTE OF TECHNOLOGY  
SILCHAR - 788 010

Tel.No. Director: (03842) 224879

Fax: (03842) 224797

NOTICE INVITING TENDER

**Adv. No: NITS/PS-600/EIE/Solar Array Simulator/18**

Sealed Tender/Quotations are invited from reputed Firms/Agencies/Manufacturer/Authorized Dealer **FOR SUPPLY AND INSTALLATION OF SOLAR ARRAY SIMULATOR FOR ELECTRONICS & INSTRUMENTATION ENGG DEPARTMENT AT NIT SILCHAR** along with Earnest Money Deposit (EMD) @2% of the total bid value in the form of Demand Draft/Bank Guarantee in favour of "The Director, NIT Silchar", Payable at Silchar. No Interest shall be paid on EMD at the time of return.

Detail specification of the item/items is given in **(Annexure – A)**.

Tender documents can be obtained from Purchase Section, NIT Silchar or may be downloaded from our website [www.nits.ac.in](http://www.nits.ac.in) or <http://eprocure.gov.in>. **The cost of tender document is Rs.1000/-** (Non-refundable) to be submitted in the form of DD in favour of The Director, NIT Silchar-788010, Payable at Silchar. The last date and time for submission of Tender document will be 22/06/2018 up-to **01.00PM** and tender will be opened on the same date at **03.30 PM** in office of HOD, EIE Dept., NIT SILCHAR.

The offers without Cost of Tender & Earnest Money Deposit (EMD) shall be out rightly be rejected.

Director, NIT Silchar reserves the right to extend the date or cancel the tender, accept or reject any/all quotations or not to purchase all or any of the items.

Quotations are to be sent/submitted in sealed covers addressed to:-

The Faculty-In-Charge, Purchase  
National Institute of Technology, Silchar-788 010, Cachar, Assam  
Email : [purchasecell.nits@gmail.com](mailto:purchasecell.nits@gmail.com)

Registrar, NIT Silchar

## NOTICE INVITING TENDER

### Credential Criteria:

- The bidder should have provided similar nature of services to IITs/NITs/Govt. Departments/Semi Govt. Departments/PSU/Educational Institutions of National Importance etc. during last 3(three) years. **Duly certified copies are to be enclosed.**
- Quotations are to be submitted in **TWO PARTS** i.e. (a) **Technical Bid** and (b) **Price Bid**, in two separate properly sealed covers; and both these covers will have to be again put in to a single sealed cover. Also, the address of the firm submitting the quotation must appear distinctly on both the inner sealed covers, indicating also **TECHNICAL BID / PRICE BID** as may be applicable. The outer most cover shall be super scribed as
  - "QUOTATION FOR SUPPLY & INSTALLATION OF .....FOR  
..... NIT SILCHAR.
  - VIDE TENDER REF NO NITS/PS-....., DATED.....
  - DATE OF OPENING .....

[The bid will summarily be rejected & returned to the bidder if the sealed envelope containing the quotation is not super scribed as above].

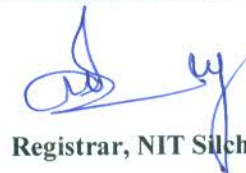
- **Genuine Pricing** (Both foreign & indigenous) :Vendor is to ensure that quoted price is not more than the price offered to any other customer in India to whom this particular item has been sold recently, particularly to IIT/Institutes and other Government Organization.
- **No Part Delivery:** Part shipment for any items will not be allowed.
- **Any Optional item quoted by the supplier will not be entertained.**
- **Termination for default :** Default is said to have occurred -
- If the supplier fails to deliver any or all of the items/services within the time period(s) specified in the purchase order or any extension thereof granted by NIT Silchar, the Institute may terminate the contract / purchase order in whole or in part and forfeit the EMD/PBG as applicable.

### TERMS & CONDITIONS:

1. The bidding agency should be reputed firm and having all necessary certificates, viz. GST registration certificate, PAN, Registration, Sale Tax clearance Certificate, Authorized Dealership/Distributorship certificate, etc. The photocopies of all the certificates should be attached with the tender.
2. The firm should be an original equipment manufacturer (OEM) in the business of manufacture or supply of equipment for minimum 3-5 years. The firm should submit audited financial statements for latest three financial years in support of this claim.
3. The items being quoted should be of Original Manufacturer and no non-standard item should be quoted. All detailed specifications with make & model no. of the items accompanied by proper leaflets should be clearly mentioned and attached with the offer. In case of proprietary or patented item, necessary certificates in support of the same should be attached. The bidder must submit the Compliance Statement and Deviation Statement of technical specification.
4. The firm should have satisfactorily manufactured and supplied equipment, as requisitioned in this tender, to IITs/NITs/Govt. Departments/Semi Govt. Departments/PSU/Educational Institutions of National Importance etc. during the last 3(three) years ending the last day of March 2017.
5. **The rate quoted must be both in words and figures and F.O.R. / Destination National Institute of Technology Silchar -788010, Assam inclusive of packing, forwarding etc. Octroi, surcharge, insurance, Installation, Demonstration and any other charges.** Educational discount, if any should be indicated clearly. Tenderer(s) may note that the Government of India exempts this Institute from paying custom duty/excise duty on selected items. Necessary documents will be furnished if required on demand by the Tenderer(s). **Rate quoted for any other destination shall not be accepted.**
6. Quoted rate should be inclusive of all taxes. Nothing extra will be paid by the Institution. If there is any increase / decrease of statutory taxes will be reimbursed accordingly.

7. **Payment: Payment 100% shall be made only after receipt of ordered items as per specification and quantity and after successful installation, demonstration, training (where applicable) and commissioning.**
- **In connections to foreign items Payment shall be made 90% through irrevocable Letter of Credit and 10% after receipt of ordered items as per specification and quantity and after successful installation, demonstration, training (where applicable) and commissioning.**
8. Manufacturer's/Company's name, it's trademark should be mentioned in the tender and illustrative leaflets giving technical particulars, etc. should be attached in the tender.
9. Tenderer(s) registered with the State/Central Government must quote his registration numbers, if any, and submit a xerox copy of registration along with the tender.
10. Guarantee/Warranty period offered for the tendered item is to be clearly specified.
11. The rates to be quoted by the agency should be valid for a period of **6(six) months** after the deadline date specified in the tender.
12. The quantity against each item mentioned in the tender may vary according to the actual requirements at the time of placing Purchase Order.
13. It is not binding for the bidding agency to quote for all the items.
14. **Each bidder should clearly specify that the bidder agrees to abide by the conditions of this tender document on their printed letter head duly sealed & signed by an authorized person.**
15. **Bid Price**
- a) The contract shall be for the full quantity as described above. Corrections, if, shall be made by crossing out, initialing dating and rewriting.
  - b) **The bidder should quote the total price for each item inclusive of packing and forwarding, all duties, levies, insurance, installation, demonstration and any other charges, etc. only taxes & (discount if any) should be mentioned separately.**
  - c) The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
16. Each bidder shall submit only one quotation.
17. All necessary documents shall be furnished along with the bid.
18. Validity of Tenders/Quotations: Tenders/Quotations shall remain valid for a period not less than **6 (six) months** after the deadline date specified for submission of tender.
19. **Packing**
- a) The Supplier 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 during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall have to be taken into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit.
  - b) The packing, marking and documentation within and outside the packages shall comply strictly with such special requirements as shall be provided for in the Contract including additional requirements.
20. **Evaluation of Quotations :**
- NIT Silchar will evaluate and compare the quotations determined to be substantially responsive i.e. which
- a) are properly signed
  - b) Conform to the terms and conditions, and specifications.
21. **Award of contract:**
- NIT Silchar will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.

- a) The bidder whose bid is accepted will be notified of the award of contract by the NIT Silchar prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.
- b) Normal commercial warranty/guarantee shall be applicable to the supplied goods.
- c) The goods (both indigenous & imported) should be insured against theft, loss or breakage during transit till destination.
- d) Upon delivery of goods, the supplier shall submit Suppliers Invoice, Insurance certificate, Warranty Certificate, or any other document as required/demand.
22. **Acknowledgement of the Purchase Order:** The supplier shall give an acknowledgement of the Purchase Order within 15(fifteen) days of the date of the Purchase Order. In case, the supplier fails to acknowledge the Purchase Order within the stipulated time, the Institute is at liberty to cancel the Purchase Order.
23. No alternations in tender forms shall be made by the bidder and if any such alteration is made, the tender is liable to be rejected.
- a) Delivery Schedule and Penalty for Delay:** Delivery of equipment should be made within 30(thirty) days OR as per terms and condition of Purchase Order from the date of issue of Purchase Order. **Penalty at the rate of 0.5% or part thereof of the order value per week, subject to a maximum of 2.5% will be imposed for delayed delivery and installation.**
24. Demurrages and penalty, if any, paid by the supplier shall not be borne by the Institute.
25. The tenders submitted shall clearly mention the name of the firm/person in whose favour the purchase order is to be placed.
26. Contact details of the person for all post sales/installation maintenance support should clearly be given with **Name & Designation, Phone No, Fax No, Mobile, E-mail and official address.**
27. National Institute of Technology Silchar is not liable for non-receipt of the tender forms in time due to wrong address/ any delivery delay of the mail service provider/ force majeure. Tender documents received after the last date and time for receiving tenders will be summarily rejected.
28. **Successful bidder shall give a performance security @5-10% (as per Purchase Order) of the total order value in the form of Bank Guarantee.** The performance security shall be furnished after the order for supply is placed and before the final payment. Validity of the Performance Security shall cover the warranty period.
- The proceeds of the Performance Security shall be payable to the purchaser as compensation for any loss resulting from the suppliers failure to complete its obligations under the contract.
29. All legal disputes shall be under the jurisdiction of the Silchar Courts of Cachar District in the state of Assam.

  
Registrar, NIT Silchar

## **DECLARATION**

I / We hereby declare that no case is pending with the police/ court against the proprietor/ firm/ partner or the company (Agency). Also I /We have not been suspended / blacklisted by any PSU / Government Department / Financial Institution / Court.

**(Signature & seal of the contractor)**

Place:

Date:

## **NO DEVIATION CERTIFICATE**

Notwithstanding anything mentioned in our bid, we hereby accept all the terms and conditions of this tender and we do not have any deviation to this tender enquiry. We hereby undertake and confirm that we have understood the scope of work properly and shall be carried out as mentioned in this tender enquiry.

**(Signature & seal of the contractor)**

Place:

Date:

**BIDDERS DETAILS**

Name of the Contractor /Party/ Firm	:	<input type="text"/>
Name of Authorized Representative	:	<input type="text"/>
Phone Nos.	:	<input type="text"/>
Mobile Nos.	:	<input type="text"/>
Fax No.	:	<input type="text"/>
E-Mail Address	:	<input type="text"/>
Web Site Address ( If Any)	:	<input type="text"/>

(Signature & seal of the contractor)

Place:

Date:



## TECHNO-COMMERCIAL BID

NAME OF THE WORK: Supply and Installation of ..... at NIT Silchar					
TENDER NO. : NITS/PS-....., Dtd....., LOS : .....					
Sl. No.	Name of item with Specification, Make & Model	QTY.	Rate per Unit in	Taxes in %	Total Amount in
Sub Total Amount					
Discount (if any)					
Taxes (if any)					
Other Charges (if any)					
<b>Grand Total Amount</b>					
<b>(AMOUNT IN WORDS)</b>					

I/ we have gone through all the Special & General Conditions and the contractor's obligations enclosed with this tender document and agree to abide by these.

**Note:** In case of discrepancy in rates between figure & words the higher will be taken for evaluation of bid and lower value will be taken for award of work.

**(Signature & seal of the contractor)**

Place:

Date:

## CHECK-LIST (TECHNICAL BID)

### SUMMARY OF COMPLIANCE TO REQUIREMENT OF TENDER

Sl. No.	Description of Requirement	Yes / No / NA	Page No.
1.	Tender Cost Rs.1000/- (Non-refundable) in the form of Demand Draft in favour of "Director, NIT Silchar" in a separate envelope		
2.	EMD @2% of total bid value in the form of Demand Draft /Bank Guarantee in favour of "Director, NIT Silchar" in a separate envelope		
3.	Copy of Manufacturer/ Authorized Supplier Certificate		
4.	Audited financial statement for the last 3 years		
5.	Copy of the PAN card.		
6.	Copy of GST registration certificate		
7.	Copies of previous work order of similar work with completion certificate (if any)		
8.	Declaration certificate		
9.	No Deviation certificate		
10.	Bidder's details		
11.	Technical Specification		
12.	NSIC/SSI Certificate where applicable		
13.	All the pages of tender document have been signed		
14.	Price bid in separate sealed envelope.		
15.	Complete copy of Techno Commercial Bid submit along with the Price Bid.		

(Signature & seal of the contractor)

Place:

Date:

**ANNEXURE – A**

Sl. No.	Specification of Articles	Qty																																																																						
1.	<p><b>SOLAR ARRAY SIMULATOR</b>  <b>Rating: 0-150V/40A/2KW</b>  <b>MAKE: Chroma</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">Specification required for Solar Array Simulator of 2KW</th> </tr> <tr> <th style="text-align: center;">Parameters</th> <th style="text-align: center;">Specification</th> </tr> </thead> <tbody> <tr> <td colspan="2"><b>Output Ratings</b></td> </tr> <tr> <td>Output Voltage</td> <td>0-150V or more</td> </tr> <tr> <td>Output Current</td> <td>0-40A or more</td> </tr> <tr> <td>Output Power</td> <td>2000W</td> </tr> <tr> <td colspan="2"><b>Line Regulation</b></td> </tr> <tr> <td>Voltage</td> <td>±0.01% F.S. or less</td> </tr> <tr> <td>Current</td> <td>±0.05% F.S. or less</td> </tr> <tr> <td colspan="2"><b>Load Regulation</b></td> </tr> <tr> <td>Voltage</td> <td>±0.05% F.S. or less</td> </tr> <tr> <td>Current</td> <td>±0.01% F.S. or less</td> </tr> <tr> <td><b>Voltage Measurement Accuracy</b></td> <td>0.10% or less</td> </tr> <tr> <td><b>Current Measurement Accuracy</b></td> <td>0.20% or less</td> </tr> <tr> <td colspan="2"><b>Output Noise &amp; Ripple</b></td> </tr> <tr> <td>Voltage Noise pk-pk</td> <td>500mV or less</td> </tr> <tr> <td>Voltage Ripple (rms)</td> <td>100mV or less</td> </tr> <tr> <td>Current Ripple (rms)</td> <td>100mA or less</td> </tr> <tr> <td colspan="2"><b>OVP Adjustment Range</b></td> </tr> <tr> <td>Range</td> <td>0-110% programmable</td> </tr> <tr> <td>Accuracy</td> <td>±1% of full-scale output</td> </tr> <tr> <td colspan="2"><b>Programming Response Time</b></td> </tr> <tr> <td>Rise Time: Full Load / No Load</td> <td>10ms or less</td> </tr> <tr> <td><b>Voltage slew rate Range</b></td> <td>(0.01V/ms - 10V/ms) or wider and user controlled</td> </tr> <tr> <td colspan="2"><b>Programming &amp; Measurement Resolution</b></td> </tr> <tr> <td>Voltage (Front Panel)</td> <td>10mV or better</td> </tr> <tr> <td>Current (Front Panel)</td> <td>1mA or better</td> </tr> <tr> <td>Voltage (Digital Interface)</td> <td>0.002% of Vmax or better</td> </tr> <tr> <td>Current (Digital Interface)</td> <td>0.002% of Imax or better</td> </tr> <tr> <td><b>Remote interface</b></td> <td>Analog programming, USB, RS232 and RS485 etc.</td> </tr> <tr> <td><b>Input Specification</b></td> <td>1-phase, 200-220VAC</td> </tr> <tr> <td colspan="2">SAS should be supplied with Solar Array Simulation Software .</td> </tr> <tr> <td colspan="2">The SAS should have facility to simulate the I-V curves/data of any kind of PV array's operating conditions, such as partial/ complete shadowing of solar cell(s), PV module, panel, bypass diode failure etc. Simulation of dynamic irradiation intensity and temperature level from clear day to cloud cover conditions</td> </tr> <tr> <td colspan="2">SAS should be capable of real world weather simulation &amp; fast I-V curve update rate.</td> </tr> <tr> <td colspan="2">SAS should be capable of real time analysis of PV inverter, MPPT tracking &amp; data record.</td> </tr> </tbody> </table>	Specification required for Solar Array Simulator of 2KW		Parameters	Specification	<b>Output Ratings</b>		Output Voltage	0-150V or more	Output Current	0-40A or more	Output Power	2000W	<b>Line Regulation</b>		Voltage	±0.01% F.S. or less	Current	±0.05% F.S. or less	<b>Load Regulation</b>		Voltage	±0.05% F.S. or less	Current	±0.01% F.S. or less	<b>Voltage Measurement Accuracy</b>	0.10% or less	<b>Current Measurement Accuracy</b>	0.20% or less	<b>Output Noise &amp; Ripple</b>		Voltage Noise pk-pk	500mV or less	Voltage Ripple (rms)	100mV or less	Current Ripple (rms)	100mA or less	<b>OVP Adjustment Range</b>		Range	0-110% programmable	Accuracy	±1% of full-scale output	<b>Programming Response Time</b>		Rise Time: Full Load / No Load	10ms or less	<b>Voltage slew rate Range</b>	(0.01V/ms - 10V/ms) or wider and user controlled	<b>Programming &amp; Measurement Resolution</b>		Voltage (Front Panel)	10mV or better	Current (Front Panel)	1mA or better	Voltage (Digital Interface)	0.002% of Vmax or better	Current (Digital Interface)	0.002% of Imax or better	<b>Remote interface</b>	Analog programming, USB, RS232 and RS485 etc.	<b>Input Specification</b>	1-phase, 200-220VAC	SAS should be supplied with Solar Array Simulation Software .		The SAS should have facility to simulate the I-V curves/data of any kind of PV array's operating conditions, such as partial/ complete shadowing of solar cell(s), PV module, panel, bypass diode failure etc. Simulation of dynamic irradiation intensity and temperature level from clear day to cloud cover conditions		SAS should be capable of real world weather simulation & fast I-V curve update rate.		SAS should be capable of real time analysis of PV inverter, MPPT tracking & data record.		01
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SAS should have in-built facility for Static & Dynamic MPPT efficiency testing .
Should Simulate different solar cell material I-V characteristics.
The simulator should be capable of simulating I-V curves for the SUN intensity ranging upto 2000W/m <sup>2</sup> or more.
The SAS should be capable to simulate combined effect of the temperature and intensity conditions.
The simulator should have a built-in digital control and precision voltage & current measurement circuits with a voltage accuracy of 0.05% and a current accuracy of 0.1% or better.