

Tender Document for Purchase of Engineering Instruments for Renewable Energy Laboratory

Within jurisdiction, Navsari Agricultural University, Dediapada

NAU/CAET/01/2020-21



**Principal
College of Agricultural Engineering & Technology
NAU, Dediapada – 393040
Mobile No. 99135 99332**

Notice Inviting Tender

NAU/CAET/01/2020-21

Tender Document for Purchase of Engineering Instruments for Renewable Energy Laboratory

Principal, College of Agricultural Engineering and Technology, NAU, Dediapada invites tender for the Purchase of Engineering Instruments for Renewable Energy Laboratory bids from manufacturer/ supplier/company. The list of items to be purchased under this tender is given underneath. The detail terms and conditions and tender document are available on website www.nau.in under tender section.

1	Period for Tender document downloading and submitting	15/01/2021 to 08/02/2021 upto 17:00 Hrs.
2	Last date for submission of tender fee, EMD and other documents by RPAD / Courier / Speed post etc.	08/02/2021 upto 17:00 Hrs.
3	Bid validity period	31/03/2021
4	Tender Fees (<i>Non refundable</i>)	1,500/-
5	Earnest Money Deposit (EMD) (<i>Refundable</i>)	3% of order price
6	Security deposit (Successful bidder) (<i>Refundable</i>)	5% of order price
7	Tender submission / Communication address	Principal College of Agricultural Engineering and Technology Navsari Agricultural University, Parsi Tekra, Dediapada-393 040, Dist. Narmada, Gujarat

Further details can be obtained from above office during working hours. Details are also available on website www.nau.in

Place: Dediapada

Date. 15/01/2021



Principal
College of Agril. Engg. & Tech.,
NAU, Dediapada – 393 040

Tender Fee, Earnest Money Deposit (EMD) and Security Deposit

The bidder shall furnish Tender Fee amounting to Rs. shown as below (Non refundable) and an Earnest Money Deposit (EMD) (Refundable) respective amounting, without which tenders will not be considered. There should be two separate draft for Tender fee Rs. 1500/- (Non refundable) and EMD. The amount should be deposited in the form of only Bank Draft (drawn) in favor of "**Principal, CAET AND PAE, Dediapada**" drawable at SBI (IFSC Code: SBIN0007787) Dediapada.

Sr. No.	Name of the Item	EMD Amount ₹	Tender Fee ₹
1	Solar flat plate (PV – thermal) collector	3% of order price	1500/- (Non refundable)
2	Flat Plate collector type solar air heater		
3	Packed bed collector type solar air heater		
4	Centrifugal air blower		
5	Moisture Analyzer, MA 100 C		
6	Anemometer, PCE-WSAC 50-711		

Refund of Tender Fee: The Tender Fee is non refundable.

Refund of EMD: The Bank Draft (drawn) or banker's cheque of earnest money of unsuccessful Bidder shall be refunded soon after finalization of purchase procedure. The EMD of the successful bidder will be retained till the bid remain valid and will be returned as per the terms of the university on request and submission of original receipt.

Forfeiture of EMD: The earnest money will be forfeited in the following cases:

- When Bidder withdraws or modifies the offer after opening of tender but before acceptance of tender.
- When Bidder does not execute the agreement if any, prescribed within the specified time.
- Bidder does not accept the hiring order.
- If the terms and condition not fulfilled anytime.

Security Deposit: Successful bidders have to deposit 5% of ordered price as security deposit which is refundable as per NAU rules.

Terms and Conditions of the Tender

1. Duly filled Tender in sealed envelope should reach the Principal, College of Agricultural Engineering and Technology, NAU., Dediapada, Dist. Narmada by post/courier/register a.d., etc. before **08/02/2021** up to 5:00 p.m. along with tender fee Rs. 1500/- (not refundable) in Demand Draft/Cash in favour of "**Principal, CAET AND PAE, Dediapada**" payable at Dediapada.
2. Please write on top of envelope "***Tender NAU/CAET/01/2020-21: Engineering Instruments for Renewable Energy Laboratory***" and mention clearly sender's name and address.
4. Tenders shall be opened as in office working date and time.
5. However, if committee deems proper, the negotiation for the final price will be done with the tenderers. First chance will be given to the lowest price in the chronological order.
6. No correspondence shall be entertained after submission of Tender.
7. Delivery should be made within time limit after receiving supply order at **College of Agricultural Engineering and Technology, Parsi Tekra, Dediapada 393 040, Di. Narmada.**
8. **No advance payment will be made.**
9. No penalty or penal interest will be paid due to delay in payment on account of unforeseeable reasons.
10. Payment will be made only after satisfactory supply and installation/demonstration.
11. Discount if any offered, may please be specified in the tender document
12. Authorized dealer should enclose authorization certificate (Attested photocopy) of manufacturing company.
13. **Attach the separate sheet mentioning detail specifications along with literature/brochures/photos.**
14. Provide **the list of your valued customers of the said items in State Agricultural University, ICAR Centers, Other Government and Semi Government Bodies, NGOs, etc in India.**
15. In case of dispute, decision of the Principal, College of Agricultural Engineering and Technology, NAU, Dediapada will be final and acceptable to all the parties.

2. Delivery:

The application for extension of delivery period shall be sent to concern ordering office of Navsari Agricultural University at least 5 days prior to the expiry of delivery period of each items. The officer in charge, who is placing the order may grant extension or reject the application and their decision in the matter shall be final and binding to all.

3. Demonstration:

Supplier has to perform on-site live demonstration as per trial requirements.

4. Warranty:

- 4.1 **Period of Warranty:** The bidder must provide comprehensive onsite warranty for **minimum 1 year or as asked in specifications**, from the date of installation for all items. Please clearly mention the parts, which are not covered under warranty, separately.
- 4.2 If any instrument(s), properly not working and repetitively fault is found, say twice a week during the warranty period, the bidder shall replace the item with new item without any additional cost to the purchaser.

5. GST Guideline:


Navsari Agricultural University is working under of Agriculture, Farmers Welfare & Co-operation Department Government of Gujarat. According to provision made in the notification No. 47/2017 of Ministry of Finance, Government of India GST is leviable at the rate of 5% on the goods specified against serial no. 1 under column 3 of table given in this notification. As per subsequent amendment in notification no 47/2017 notification no. 10/2018, college/Research center of this university is eligible for GST leviable at the rate of 5% on the goods listed in the Tender. A certificate from University will be issued for the said goods after finalization of party.


Date:

Stamp & Signature of Bidder

List of Item with Specifications

TENDER - Engineering Instruments for Renewable Energy Laboratory

No.	Name of the Item and Specifications	Qty.																				
1	<p>Flat Plate collector type solar air heater Aperture area is approximate (1000 × 2000 × 100 mm); Glazing: 4 mm thick toughened glass; Absorber plate: Black painted for better absorption of solar radiation; Glasswool Insulation: 50 mm thick insulation at the bottom and sides of the air heater; Casing: Water proof and good quality sealing material; Air flow under the absorber plate/aperture area of the air heater; Inlet and Outlet: had facility in series or parallel configuration with rectangular opening and possible to interconnection by butt type joint sealed with RTV sealant</p>	01																				
2	<p>Packed bed collector type solar air heater Aperture area is approximate (1000 × 2000 × 100 mm); Glazing: 4 mm thick toughened glass; Absorber plate: Black painted for better absorption of solar radiation; Packing material: About 3 kg of black painted aluminium helical springs distributed uniformly in the air heater; Glasswool Insulation: 50 mm thick insulation at the bottom and sides of the air heater; Casing: Water proof and good quality sealing material; Air flow through packing material and on the aperture of the air heater; Inlet and Outlet: had facility in series or parallel configuration with rectangular opening and possible to interconnection by butt type joint sealed with RTV sealant</p>	01																				
3	<p>Solar flat plate (PV – thermal) collector Aperture area is approximate (1000 × 2000 × 100 mm); Glazing: 4 mm thick toughened glass with solar photovoltaic cell; Absorber plate: Black painted for better absorption of solar radiation; Glasswool Insulation: 50 mm thick insulation at the bottom and sides of the air heater; Casing: Water proof and good quality sealing material; Air flow over the absorber/aperture area of the air heater; Inlet and Outlet: had facility in series or parallel configuration with rectangular opening and possible to interconnection by butt type joint sealed with RTV sealant; Junction box at back side of the collector; Transparent coating used back side of the cell, so solar radiation can reach upto the absorber plate. DC Ammeter and Voltmeter or DC energy meter to measure the power output from the panel.</p>	01																				
4	<p>Moisture Analyzer, MA 100 C</p>  <p style="text-align: center;">TECHNICAL SPECIFICATION OF MOISTURE ANALYZER, MA 100 C</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Parameter</th> <th style="text-align: left;">Specifications</th> </tr> </thead> <tbody> <tr> <td>Model No.</td> <td>: MA100C</td> </tr> <tr> <td>Minimum sample wt.</td> <td>: 0.1gm</td> </tr> <tr> <td>Power supply</td> <td>: 115/230V +15%, -20%, 50-60Hz</td> </tr> <tr> <td>Switch off criteria</td> <td>: Automatic, manual, time control</td> </tr> <tr> <td>Weighing capacity</td> <td>: 100 gm</td> </tr> <tr> <td>Readability in mg</td> <td>: 0.1mg</td> </tr> <tr> <td>Readability in %</td> <td>: 0.001%</td> </tr> <tr> <td>Repeatability, Average (%)</td> <td>: + 0.1% for initial sample weight > 1gm +0.02% for initial sample weight >5gm</td> </tr> <tr> <td>Heating Element</td> <td>: Infrared Heating by Ceramic</td> </tr> </tbody> </table>	Parameter	Specifications	Model No.	: MA100C	Minimum sample wt.	: 0.1gm	Power supply	: 115/230V +15%, -20%, 50-60Hz	Switch off criteria	: Automatic, manual, time control	Weighing capacity	: 100 gm	Readability in mg	: 0.1mg	Readability in %	: 0.001%	Repeatability, Average (%)	: + 0.1% for initial sample weight > 1gm +0.02% for initial sample weight >5gm	Heating Element	: Infrared Heating by Ceramic	01
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	<p>Temperature Range : 30°C to 230°C with 1 degree increment</p> <p>Calibration : Fully automatic weight calibration with built –in weights, Fully automatic with temperature adjustment kit, Reproducibility test for determining the repeatability of the weighting system using internal weights</p> <p>Heating mode : Standard drying, Quick drying, gentle drying, phase drying : 3×0.1-999minutes</p> <p>Analysis mode : Fully automatic, semi automatic: 1-50mg/5-300 sec. 0.1-5.0%/5-300 sec. Time setting: 3×0.1-999min. Time mode + fully / semi automatic: 2×0.1-999 min + automatic. Auto search, auto programming mode for standardization of new methods for unknown samples & setting of test parameters</p> <p>Programs storage capacity : 30 programs, statistics of the last 9,999 measurements, end point upto the next moisture analysis run.</p> <p>Display mode for result : %moisture, %dry weight (solids), % RATIO g residue, g/kg residue, mg weight loss, calculated value (measured value × factor)</p> <p>Display : Back-lit LCD display with all the analysis parameters on the display during the analysis. It should have online display of the moisture evaporation rate of the samples</p> <p>Data printer : Integratable, printout GLP complaint, user configurable</p> <p>Dimensions : 350 × 453 × 156 mm (W × D × H)</p> <p>Sample identification : Text input for sample identification using soft-key prompts, Alpha-Numeric keypad for user, sample identification and parameter input</p> <p>Printer : YDPO1MA</p> <p>Aluminum sample pan : 160 no.</p> <p>High quality latest configure desktop computer with multifunction laser printer cum scanner</p>	
5	<p>Anemometer, PCE-WSAC 50-711</p> <p>Power supply : 230 V AC</p> <p>Supply voltage for sensors (output) : 12VDC - 24 V DC</p> <p>Measuring range : 0 - 50 m/s or 0 - 110 m/h</p> <p>Measuring accuracy : ± 3% of measuring range</p> <p>Signal input : 4...20mA</p> <p>Alarm relay : 2 NO/NC relays with max. load of 220 V AC / 10 A</p> <p>Optional interface : RS-485 modbus</p> <p>Operating temperature : -20 - +60 °C / -4 - +140 °F</p> <p>Dimensions : 197.5 x 90 x 45 mm / 7.7 x 3.5 x 1.7"</p> <p>Weight : Approx. 400 g / 0.89 lb</p>	01
6	<p>Centrifugal air blower</p>  <p>Single phase direct motor drive blower Volume: 4000 m³/hr at 100 °C Operating Temperature Static pressure: 100 mm of water gauge Motor : 1.5 H.P., 2800 RPM Inlet and outlet diameter: 100 mm Flange connection is required. Direction of rotation and discharge: Clockwise direction and C5 180°</p>	01