



ICAR Research Complex for N.E.H. Region
Tripura Centre, P.O. Lembucherra-799210 West Tripura.



<http://www.tripuraicar.gov.in>

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No. F. RC/TC(T-4)/2010/AAS/

Dated the 23rd April 2012.

NOTICE INVITING TENDER FOR AWS & DIGITAL DISPLAY

Sealed tender are invited from the bonafide supplier/contractor enlisted under the CPWD/PWD/BSNL/NBCC for Supply /installation/commission of Automatic Weather Station at Nehru Park Agartala as mentioned below so as to reach the Joint Director, ICAR, Research Complex for NEH Region, Tripura Centre, Lembucherra on or before 10-05-12 up to 3 PM. The tender forms can be downloaded from the ICAR (Tripura) website (<http://www.tripuraicar.gov.in>).

Schedule of work	Name of the work	Maximum Estimated Cost in (Rs)	Cost of tender document	EMD As D-Call	Last Date of Submission
Tender Schedule	Supply of Automated Weather Station as per specification may be seen in centre's website. Installation of the above AWS at Nehru park, Agartala. Establishment of computer interface with AWS	6.0 lacs	200/-	21,000/-	10th May 2012 at 3-00 pm.
	Supply of Digital Display of with 6" x 3" each digit size. Having Computer interface for each updates Installation of Digital Display				

All the supply should be completed within 30 days from the date of issuing of order. After satisfactory installation of the AWS & Display Board, bill in triplicate with installation certificate, handed over certificate should be submitted to the undersign for payment. The Joint Director, ICAR Research Complex for NEH Region, Tripura Centre, reserves the right to accept/reject any or the entire tender without assigning any reason what so ever. Selection of lowest bid will be considered on the basis of the total of the Schedule. Duly signed tender may be submitted by hand or through mail in PDF format. Tender submitting through mail must be accompanied with a scanned (in best resolution) copy of EMD & Draft/ Cheque. Mail may be sent to jdr.icar@nic.in and aas.lembucherra@gmail.com.

Sd/-
(M. Dutta)
Joint Director
ICAR, Tripura Centre, Lembucherra

From:

To,

Joint Director
ICAR Research Complex for NEH Region
Tripura Centre, Lembucherra
West Tripura-799210, Tripura

Dear Sir

1. I/we offer to supply & commission as detailed in the schedule here to or such portion thereof as you may specify in the acceptance of tender at the price given in the specified date. I/we shall be bound by a communication of acceptance despatched within the aforesaid date.
2. I/we have understood the instructions and conditions of contract pertaining to the above mentioned tender and have thoroughly examined the specifications and/or pattern quoted in the schedule there to and am/are fully aware of the nature of the stores required and my/our offer is to supply strictly in accordance with requirements.
3. The following pages have been added to as part of the tender:
 - a.
 - b.
 - c.
 - d.
 - e.
4. A demand draft / Bankers cheque No..... Dt.....of Rs. 200/- (Rupees two hundred) only drawn in favour of The Joint Director, ICAR Research Complex for NEH Region, Tripura Centre on the State Bank of India, Agartala, West Tripura is enclosed towards the cost of tender form.
5. A **D-Call** No..... Dt.....of Rs. 21, 000/- (Rupees twenty one thousand two) only drawn in favour of The Joint Director, ICAR Research Complex for NEH Region, Tripura Centre on the State Bank of India, Agartala, West Tripura is enclosed towards **the EMD**.
6. I/we also agree to execute the contract bond/ agreement as per ICAR rules.

Yours faithfully,

Signature of witness
Address:

(SIGNATURE OF TENDERER)

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Terms and Conditions

1. Only bonafide firm / supplier duly registered are eligible for submitting the tender. Tenderer having quoted for ISI/ISO certified equipment/service shall have preference.
2. EARNEST MONEY: - As mentioned in tender notice Earnest money to be deposited in the form of D-Call favouring JOINT DIRECTOR, ICAR RESEARCH COMPLEX FOR NEH REGION, TRIPURA CENTRE, payable at SBI, AGARTALA drawn on STATE BANK OF INDIA only. Tender received without appropriate Earnest money shall be rejected summarily. The demand draft to be enclosed in a separate envelope of size 9" x 4" superscripted as "EARNEST MONEY DEPOSITED of ` Rs FOR THE SUPPLY OF AUTOMATED WEATHER STATION & DISPLAY BOARD" without which the offer shall not be entertained.
In case of submission of tender by mail, the cost of form & EMD must be reach to the office within 7 (seven) days from the closing date subject to submission of same as scanned copy attached with the mail.
3. The EMD will not carry any interest on it. The EMD refunded in full on receipt of request after the finalization of tender. However in case of tender accepted for the purpose the EMD refunded only after final execution of work/ satisfactory supply. The refund of EMD not claimed within three years from the last date of receipt of tender will stand forfeited. EMD is compulsory to all and no exemption is allowed.
EMD stand forfeited if conditions at clause-I above not fulfilled. Tender in complete or part of it to be submitted in a sealed cover (wax sealed) of sizes 12"x 10". It should also mention Name of the item on top left corner of envelope, without which the offer not be entertained. Tender submitted in person or by mail (Registered/Speed post) only. In case of forms downloaded from website, should be accompanied with cost of tender form Rs. 200/- in form of DD or Bankers Cheque.
4. The supply should be completed within 30 days from the issue of the order failing which a penalty @5% (five percent) of the value of the item for delay of 15 days or fraction thereof will be imposed and be deducted from the bill or the earnest money and the purchase order shall automatically stand cancelled.
5. Tender should reach this office on or before 10.05.2012 by 15.00 hour. This office shall not take any responsibility for postal delay/loss in transit. Deposit tender sent by hand delivery in the tender Box in the Office of the Joint Director, ICAR Research Complex for NEH Region, Tripura Centre, Lembucherra, West Tripura.
Duly signed tender may also be submitted through mail in PDF format. Tender submitting through mail must be accompanied with a scanned (in best resolution) copy of EMD & Draft/ Cheque along with other documents.
The tender will be opened (if possible) on 10.05.2012 at 15.00 hours or next working day in case of holidays.
6. Selection of lowest bid will be considered on the basis of the total of Schedule/ part of it.
7. Payment will be made by cheque/DD/pay order within one month after satisfactory execution of work order in full.
8. The appropriate tax / TDS as per the govt. prescribed rate will be deducted from the suppliers' bill.
9. Decision of Joint Director, ICAR Research Complex for NEH Region, Tripura Centre, on any dispute related to this Tender shall be final and binding.
10. The tender for any item(s) will not be opened if the total number of Tender Bids received by the Institute is less than three.
11. Tenders received after the stipulated date and time WILL NOT be considered and that not in conformity with the terms and Conditions as above are liable to be rejected.
12. Period for which the offer will remain open/contract period: The tenders shall remain valid up to one year from the date of approval.
13. The Institute shall not be responsible for any postal delay whatsoever.
14. The authority reserves the right to accept or reject any tender without assigning any reason thereof. The authority also reserves the right to accept any tender in case of lowest tenderers fails to complete the work (i.e. it is not mandatory to award the work to the 2nd lowest).

ACCEPTED

Sd/-
(M.Dutta)
Joint Director

(SIGNATURE OF TENDERER)

Please Note:

1. All correspondence relating to the tender should be addressed to :-
**Joint Director,
ICAR Research Complex for NEH Region,
Tripura Centre, Lembucherra, West Tripura-799210, Tripura**

TENDER SCHEDULE

Name of work : - EXCAVATION OF POND UNDER NICRA AT FARMERS FIELD

Agency : - Departmental through tender/ contractor

Sl No.	Specification	Quantity (No)	Rate (Rs.)	Amount (Rs.)
1	Supply of Automated Weather Station as per specification may be seen in centre's website. Installation of the above AWS at Nehru park, Agartala. Establishment of computer interface with AWS	1		
2	Supply of Digital Display of with 6" x 3" each digit size. Having Computer interface for each updates Installation of Digital Display	1		
Total quoted cost in (Rs) (From Sl No 1 to 2)				
Total quoted cost in Rs. In words. Rupees				
.....only				

Signature of the Tenderer.....

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SPECIFICATIONS FOR AUTOMATIC WEATHER STATIONS

Automatic Weather Station should be included of the following:

Air Temperature & Relative Humidity Sensor: One combined AR/RH Sensor is required along with Radiation Shield

RELATIVE HUMIDITY

Measurement Range: 0 to 100% RH, non-condensing
Output Signal Range: 0 to 2 V dc max.
Accuracy: Field calibrated against references: $\pm 2-3\%$ RH (0-100% RH)
Temperature Dependence: max $\pm 0.05\%$ RH/ $^{\circ}\text{C}$
Typical Long-Term Stability: Better than 1% RH per year
Response Time (90%): max 15 s with membrane filter
Settling Time: max 500 ms
Supply Voltage: 12 V DC Nominal or equivalent
Current Consumption: max 4 mA (Active)
Operating Temperature: -40° to $+60^{\circ}\text{C}$
Mounting Hardware should be provided for the sensor

TEMPERATURE

Sensor: PRT based
Measurement Range: -40° to $+60^{\circ}\text{C}$
Output signal range: 0 to 1.0 V (typical)
Accuracy: at least 0.5% for the range
Mounting Hardware should be provided for the sensor
Data output should be compatible to the dedicated data logger.

ATMOSPHERIC PRESSURE SENSOR

Pressure Range 600 to 1100 hPa (mbar)
Operating Temperature -50 to $+60^{\circ}\text{C}$
Accuracy at least ± 0.5 hPa (mbar) at -50 to $+60^{\circ}\text{C}$
Mounting Hardware should be provided for the sensor
Data output should be compatible to the dedicated data logger.

SOLAR RADIATION SENSOR

Pyranometer based sensor
Light Spectrum Waveband: 400 to 1100 nm
Sensitivity: Typically 80 per1000 Wm^{-2}
Linearity: Maximum deviation of 1% up to 3000 W m^{-2}
Accuracy: $\pm 5\%$
Mounting Hardware should be provided for the sensor
Data output should be compatible to the dedicated data logger.

TIPPING BUCKET RAIN GAUGE

Tips at 0.1 mm increments (0.004 in)
Orifice diameter is max 24.5 cm (9.66 in)
Accuracy is $\pm 1\%$ at rates up to 1 in hr-1
Output: - Momentary switch closure activated by tipping bucket mechanism.
Environmental Limits:
Temperature: 0° to $+50^{\circ}\text{C}$ and Humidity: 0 to 100%
The bucket should have leveling arrangement for horizontal mounting
Mounting Hardware should be provided for the sensor
Data output should be compatible to the dedicated data logger.

WIND SPEED AND DIRECTION SENSOR (PROPELLER TYPE)

The sensor should be made out of rigid UV-stabilized thermoplastic with corrosion proof stainless steel and anodized aluminum fittings. The sensor should have stainless steel precision-grade ball bearings for the propeller shaft and vertical shaft bearings.

WIND SPEED

Range: 0-100 m/s
Accuracy: ± 0.3 m/s
Starting threshold: 1.0 m/s

WIND DIRECTION

Range: 0-360°
Accuracy: $\pm 3^\circ$
Starting threshold: 1.1 m/s
Damping ratio: max 0.25
Output: Analog dc voltage from potentiometer linearity 0.25%,
Mounting Hardware should be provided for the sensor

Data output should be compatible to the dedicated data logger. All the sensors should have at least 20m cable for proper connectivity to the data-logger.

Dedicated data Acquisition System for AWS

The data logger should have battery-backed SRAM for CPU usage, program storage, and data storage for up to at least one million data values with upgradeable the memory size at a later date without any hardware replacements and with inherent noise reducing facility. It should be compatible with 12VDC power supply and should have programming and math functions capability for deriving calculated parameters with high program execution rate of up to 100 Hz for making fast measurements. It should have ability to implement conditional statements in the data logger programming. The Histogram instruction is required to process input data as either a standard histogram (frequency distribution) or a weighted value histogram. It should be possible to calculate the standard deviation of the Source over the output interval and store the results in a Data Table.

Range and Auto Ranging:

Support of +/-5VDC range and should have auto ranging facility apart from making measurements on following ranges specific to a channel: e.g., ± 5000 mv, ± 2500 mv, ± 250 mv, ± 25 mv, ± 7.5 mv, ± 2.5 mv, etc

Resolution: on the most sensitive range better than 0.5 microvolt.

Switched voltage excitations: The system should have switched outputs provided for precision excitation voltages.

Digital I/O ports

At least eight ports minimum should be provided for frequency measurements, digital control, and triggering. Switched 12 Volt: Two independent 12 V unregulated sources switched on & off under program control.

Operating Temperature Range: -55° to $+50^\circ\text{C}$;

The data logger should have ability to reject the 50Hz noise for accurate measurements.

Software: - Special Software with Data logger should be provided to monitor various sensors.

POWER SUPPLY: -Power Supply should include the following

POWER SUPPLY Charger/Regulator 12 VDC

POWER SUPPLY wall Adaptor AC-DC 240 VAC to 18 vdc

Power Cord With Type -C plug

SMF BATTERY 12V, 7 AH

Enclosure: The data logger should be housed in a weatherproof enclosure of NEMA-IV rating.

Warranty: 2 year minimum.

The rate should be included all taxes, installation and commission of the station.

Deliveries and installation will be at Department of Forest, Govt of Tripura, Gurkhabasti, Agartala.

WEATHER REPORT				
DEPARTMENT OF FOREST, GOVT OF TRIPURA				
Max Temp (°C)	****	Rainfall (mm)	*****	Date ***** (dd/mm/yy)
Min Temp (°C)	****	Yearly Cumm Rain (mm)	*****	
Rel Hum (%)	**	Avg Wind Speed (Kmph)	*****	Last Updated **.** on (hr)
Solar Radiation	*****	Atmospheric Pressure (mbar)	*****	

WEATHER FORECAST								
<i>(Based on Medium Range Weather Forecast prepared by IMD)</i>								
Courtesy: AAS Unit, ICAR Research Complex for NEH Region, Tripura								
Month (mmm)	***	Year (yyyy)	****	Day	From	**	to	**

Date (dd)	**	**	**	**	**
Max Temp (°C)	****	****	****	****	****
Min Temp (°C)	****	****	****	****	****
Rain (mm)	*****	*****	*****	*****	*****
Rel Hum (max)	**	**	**	**	**
Rel Hum (min)	**	**	**	**	**
Wind Speed (Kmph)	*****	*****	*****	*****	*****
Wind Direction	**	**	**	**	**
Cloud	**	**	**	**	**

Abbreviation:

Wind Direction

N : Northerly S: Southerly W: Westerly E: Easterly
 NE: North Easterly NW: North Westerly SW: South Westerly SE: South Easterly

Cloud

CL: Clear MC: Mainly Clear PC: Partly Cloudy GC: Generally Cloudy OC: Overcast

***: Electronic Digit (Size: 6" X 3")**

No of display in each block marked with different number of *sign

The size of the board should be made proportionately with the size of the display.

Contrast background color should be used for easy visibility of the contents.

SAMPLE DISPLAY BOARD**WEATHER REPORT****DEPARTMENT OF FOREST, GOVT OF TRIPURA**

Max Temp (°C)	38.4	Rainfall (mm)	121.3	Date (dd/mm/yy)	25/10/12
Min Temp (°C)	23.2	Yearly Cumm Rain (mm)	1925.4		
Rel Hum (%)	89	Avg Wind Speed (Kmph)	110.4	Last Updated on (hr)	04:30
Solar Radiation	42.37	Atmospheric Pressure (mbar)	1000.0		

WEATHER FORECAST*(Based on Medium Range Weather Forecast prepared by IMD)***Courtesy: AAS Unit, ICAR Research Complex for NEH Region, Tripura**

Month (mmm)	JUN	Year (yyyy)	2012	Day	From	22	to	26
Date (dd)	22	23	24	25	26			
Max Temp (°C)	34.2	35.6	34.2	35.8	35.6			
Min Temp (°C)	21.8	20.9	21.6	22.2	23.4			
Rain (mm)	11.4	25.4	0.0	0.0	3.0			
Rel Hum (max)	98	96	96	98	95			
Rel Hum (min)	45	59	51	52	48			
Wind Speed (Kmph)	7.7	14.2	115.6	3.0	25.2			
Wind Direction	N	SW	NW	NE	S			
Cloud	CL	MC	PC	GC	OC			

Abbreviation:**Wind Direction**

N : Northerly

S: Southerly

W: Westerly

E: Easterly

NE: North Easterly

NW: North Westerly

SW: South Westerly

SE: South Easterly

Cloud

CL: Clear

MC: Mainly Clear

PC: Partly Cloudy

GC: Generally Cloudy

OC: Overcast

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