NORTH EASTERN ELECTRIC POWER CORPORATION LTD.

(A Government of India Enterprise)

OFFICE OF THE EXECUTIVE DIRECTOR), SURVEY & INVESTIGATION

NEEPCO Bhawan ,R.G.Baruah Road, Sundarpur, Guwahati-781005, Assam

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Memo No. NEEPCO/ED/S & I/GHY/T-3/2014-15/ 513 Dated : 01/9/2014.

Corrigendum to Notice Inviting Bid No. 02 Dated 12/08/2014

(Through E-Tendering)

Corrigendum to NIB No.02 Dated 12/08/2014 invited by NEEPCO Ltd. for "Supply, Installation, Testing, Commissioning and Maintenance of Automatic Weather Station (AWS) and Automatic Water Level Recorder (AWLR) at 4(four) different locations of Assam, Meghalaya, Manipur and Nagaland for automatic acquisition of hydro-meteorological data through sensors, its collection with hardware, software and other peripherals along with a comprehensive warranty of two years and maintenance for three years after the expiry of the warranty period"

The rescheduling of dates are as follows:

Earnest Money Deposit	*Tenure of Contract*	*Cost of Bid Documents (non-refundable)*	*Vendor Registration*	*Important Dates*
Rs. 88000.00 (Rupees Eighty Eight Thousand)only	60(Sixty) Days from the date of issue of the work order or Letter of Intent, whichever is earlier.	Rs.3000.00 (Rupees Three Thousand) Only.	Rs.3000.00 (Rupees Three Thousand) Only.	1.Document Download End Date & Time :11/9/2014(17:00 Hours) 2.Last date & time for receipt of online bids & offline documents: 12/9/2014(12:30 Hours) 3.Date & Time of opening of Opening of Techno-Commercial Bids online: 12/9/2014 (15:30 Hours)

The modified price schedule in Section-IV (Part B) has been incorporated & Addendum to Technical Specifications are uploaded in NEEPCO Websites.

Other terms and conditions & eligibility criteria shall remain same as published earlier.

For Detailed Notice Inviting Bid, scope of work, qualifying criteria, procedure for payment of Bid Fee and Vendor Registration details, documents to be furnished by the bidders, prospective bidders may visit NEEPCO Website: www.neepco.gov.in & www.neepco.abcprocure.com .

01/09/14

Executive Director
Survey & Investigation
NEEPCO Ltd., Guwahati

ANNEXURE – I

SCHEDULE OF RATES

Sl. No.	Item Description	UNIT	Quantity	Rate per UNIT in INR	Total Price excluding service Tax in INR	Service Tax in INR	Total Price inclusive of Service Tax in INR	Total price inclusive of Service Tax IN INR in Words
1	2	3	4	5	6	7	8	9
1(A)	*Annual Maintenance for 1st Year after warranty period of 2(Two) Years*	NO.	4					
1(B)	*Annual Maintenance for 2nd Year after warranty period of 2(Two) Years*	NO.	4					
1(C)	*Annual Maintenance for 3rd Year after warranty period of 2(Two) Years*	NO.	4					
2	*Installation Charges for All Equipments*	NO.	4					

NOTE: 1. Rate of the Spares/ Materials supplied during Annual Maintence will be paid on actual along with applicable VAT/CST.

2. Rate under Col (6) is inclusive of All Statutory obligations except Col (7) i.e, Service Tax.

Seal & Signature of the Bidder with Date

1.(A) : **COMBINED WIND SPEED/WIND DIRECTION SENSOR**

ANNEXURE-V

Sl.No.	Parameter	Specification
	WIND DIRECTION	
1	Sensor	Wind vane coupled to a Linear endless Potentiometer
2	Range	0-359 Degree from North
3	Accuracy	± 3 Degree
4	Output	0 to 5 K ohms resistance corresponding to the range
5	Power Input	5 to 12 Volt depending on the users requirement.
6	Termination	On a 4/5pin MS connector (including Anemometer)

Sl No	Parameter	Specification
	WIND SPEED	
1	Range	Wind speed 0 to 60 Meters /sec
2	Accuracy	± 2% of full scale
3	Starting Threshold	0.3 Meters /sec
4	Output	TTL level pulses frequency proportional to Wind .Speed.
5	Linearity	Within the accuracy limits.

1(B) : **TEMPERATURE AND HUMIDITY COMBINED SENSOR**

Sl.No.	Parameter	Specification
Temperature		
1	Sensing	RTD sensing element PT100 mounted inside a weather shield
2	Range	-40 to + 60 º C
3	Accuracy	Within ± 0.2^{o} C
4	Resolution	0.1 º C
5	Output	O to IV
6	Housing	Nylon body with weather shield and brass stem to mount the sensor. The sensor is fitted with a three pin connector for easy removal.
Humidity		
1	Sensor	Solid state capacity type sensor
2	Range	0 – 100% operating at -40^{o}C to +50^{o}C
3	Accuracy	±3% of full scale reading
4	Resolution	0.1%
5	Response time	10 Secs or lesser
6	Weather Shield	Weather shield with weather proof reflective white paint coating.
	Size of body	250 (H) x 90 mm diameter. (with weather shield)

1(C): RAINFALL SENSOR

Sl.No.	Parameter	Specification
1	Sensor	Tipping bucket
2	Base material	cast metal - thermoplastic, FRP or Equivalent
3	Collector material	thick metal, FRP or Equivalent
4	Rim material	gun metal/brass or equivalent
5	Range	0 – 100 mm
6	Accuracy	Better than ±5%
7	Resolution	0.5mm
8	Operating Temp	- 4 ^{o} C to +50 ^{o} C.
9	Capacity	Unlimited.
10	Sensitivity	0.5 mm or, 0.2 mm (rainfall per pulse)

1(D) : EVAPORIMETER

Sl.No.	Parameter	Specification
1	Operating temperature	-5 to 60º C
2	Diameter of the pan	1.2 m or more
3	Accuracy	Better than 1mm
4	Sensor	Float potentiometer combination in a stilling well.
5	Linearity	0.5%.
6	Measurement range of sensor	150 mm
7	Material	Stainless steel / Copper with white weather proof paint.

1(E): DATA LOGGER (FOR AUTOMATIC WEATHER STATION)

Sl.No.	Parameter	Specification
1	Communication Interfaces	**Ethernet Port** Interface: 10BaseT (10Mbps) Protocol: TCP/IP, Modbus Slave **Host RS232 Port** Speed: 300 to 115,200 baud (57,600 default) Flow Control: Hardware (RTS/CTS), Software (XON/XOFF).
	Serial Channels	1 SDI-12 input, a digital channel. Input can support up to 10 SDI-12 sensors.
2	Data Memory	Capacity: 128MB = approx 10,000,000 data points
3	Operating Temperature	-45^0 C to $+70^0$ C
4	Power Supply	
	External Voltage Range	10 to 30Vdc
	Pick Power	6W (typical) (12Vdc 500mA)
5	Analog Channels	2 analog input channels
	Sampling	Integrates over 50/60Hz line period for accuracy and noise rejection Maximum sample speed: 25Hz Effective resolution: 18 bits Linearity: 0.01% Common mode rejection: >90dB Line series mode rejection: >35dB

	Inputs	Inter-Channel Isolation: 100V (relay switching) Analog Section Isolation: 100V (opto-isolated) Input impedance: >100MΩ, 100KΩ (30v range) Common mode range: ±3.5V or ±35V on 30V range
6	Threshold	Less than 1 m/sec
7	Resolution	18 bit or better
	Command Interface	Access the ASCII command interface of the Logger via TCP/IP
	Web Server	Access current data and status from any web browser. Custom HTML pages can be defined. Download data in CSV format. Command interface window.
8	Real Time Clock	Normal resolution: 200µs Accuracy: ±1 min/year (0°C to 40°C), ±4 min/year (-40°C to 70°C)
9	Display and Keypad	Type: LCD, 2 line by 16 characters, backlight. Display Functions: channel data, alarms, system status. Keypad: 6 keys for scrolling and function execution. Status LEDs: 4 for sample, disk, attention and power
10	Alarms	Condition: high, low, within range and outside range Delay: optional time period for alarm response Actions: set digital outputs, transmit message, execute any*dataTaker* command.

11	Solar Power Supply	The batteries required for the equipment above shall be maintenance free, rechargeable sealed batteries with the following features: a) Overcharge and deep discharge protection b) Leak-proof c) Easy handling – no special shipping container required d) Long service life e) Excellent recharge ability The batteries pack provided shall have adequate capacity to sustain the maximum sized data collection unit configuration of sensors and telemetry equipment. The necessary housing and configuration of the batteries shall be furnished in detail by the tenderer /contractor. The battery pack shall also include arrangements of charging through a standard 220 V AC domestic power supply outlet and also from solar panels established as above. The normal supply to the data collecting unit equipment shall be from battery pack only. The sealed construction shall allow trouble-free, safe operation in any position. The battery case shall be high-impact, with sufficient resistance to shock, vibration, chemicals and heat. **Maintenance Inspections**: As a part of the maintenance, the batteries shall be inspected on a yearly basis. Such inspection shall be carried out in the pre-monsoon period and any faults noticed shall be attended immediately

		Solar Panel mounting hardware designed to allow a great variety of attachment methods and accommodate a variety of mounting surfaces. They may be used to mount a module on a horizontal or vertical surface, on surfaces at angles between horizontal and vertical and on metal or wooden poles. Attachment methods include bolts, lag bolts, U – bolt brackets and stainless steel hose clamps. The Solar power supply shall be mounted on the roof of site buildings where existing. The contractor shall optionally supply a pole – mounted arrangement including a standard pole and necessary foundation and fixing arrangements. The location of solar power installation shall be indicated by the concerned engineer – in – charge of each station. In order to guard against frequent theft of solar panels the mounting device shall be so designed as to make the solar panel detachable as and when required. It is intended to store the solar panel during the night hours as well for longer durations in the non-monsoon period and the arrangement should be designed in such a way that the arrangement is sturdy and capable of handling frequent disconnections and re-connections. The power supply shall primarily function through a set of sealed maintenance free rechargeable batteries capable of preventing deep discharge.

2(A): AUTOMATIC WATER LEVEL RECORDER

Sl.No.	Parameter	Specification
1	Pressure Range	0-3, 0-15, 0-30, 0-60, 0-120, 0-250, 0-500 ft
2	Accuracy	+/-0.1% at full scale at constant temperature, ±0.2% over 35°F to 70°F
3	Resolution	Infinitesimal (Analog)
4	Temperature range	-40° to +185°F (-40° to +85°C)
5	Humidity	0-100% Non-condensing
6	Supply Voltage	8 to 36VDC
7	Outputs	4-20mA or 0.5 to 2.5VDC across 125 ohms
10	Vented Cable	Compatible with the system. Should be enclosed with marine grade polyether jacket, polyethylene vent tube, full foil shield. Length may vary as per site condition. Maximum length upto 150.0m.
11	Overpressure	Not to exceed 2 x full scale range
12	Linearity & Hysteresis	±0.1% FS
13	Sensor Element	Silicone Diaphragm, Wet/Wet Transducer

2(B): DATA LOGGER (FOR AUTOMATIC WATER LEVEL RECORDER)

Sl.No.	Parameter	Specification
1	Communication Interfaces	**Ethernet Port** Interface: 10BaseT (10Mbps) Protocol: TCP/IP, Modbus Slave **Host RS232 Port** Speed: 300 to 115,200 baud (57,600 default) Flow Control: Hardware (RTS/CTS), Software (XON/XOFF).
2	Serial Channels	1 SDI-12 input, a digital channel. Input can support up to 10 SDI-12 sensors.
3	Data Memory	Capacity: 128MB = approx 10,000,000 data points
4	Operating Temperature	-45^0 C to $+70^0$ C
5	Power Supply	
	External Voltage Range	10 to 30Vdc
	Pick Power	6W (typical) (12Vdc 500mA)
6	Analog Channels	2 analog input channels
	Sampling	Integrates over 50/60Hz line period for accuracy and noise rejection Maximum sample speed: 25Hz Effective resolution: 18 bits Linearity: 0.01% Common mode rejection: >90dB Line series mode rejection: >35dB
7	Resolution	18 bit or better
8	Command Interface	Access the ASCII command interface of the Logger via TCP/IP

9	Web Server	Access current data and status from any web browser. Custom HTML pages can be defined. Download data in CSV format. Command interface window.
10	Real Time Clock	Normal resolution: 200µs Accuracy: ±1 min/year (0°C to 40°C), ±4 min/year (-40°C to 70°C)
11	Display and Keypad	Type: LCD, 2 line by 16 characters, backlight. Display Functions: channel data, alarms, system status. Keypad: 6 keys for scrolling and function execution. Status LEDs: 4 for sample, disk, attention and power
12	Alarms	Condition: high, low, within range and outside range Delay: optional time period for alarm response Actions: set digital outputs, transmit message, execute any*dataTaker* command.

ADDENDUM TO TECHNICAL SPECIFICATIONS

Sl.No.	Particulars
1	All sensors outputs shall be preferred to be digital. However, Analog outputs compatible with Data Logger shall also be allowed.
2.	The Transmission module shall come with GSM/GSRM. In most of the locations presently network is not available. However, network facility may get extended in future.
3.	Solar Power Supply shall be provided for Data Logger of Automatic Water Level Recorder. Technical Specification shall be as per that for Automatic Weather System.
4.	Civil Work is not in the scope of the contract.
5.	Bidder shall take full responsibility for safety of sensor against flood, debris, boulders, etc. Protective civil works shall be carried out by NEEPCO as per advice of Bidder.

Seal & Signature of the Bidder with Date