CORRIGENDUM – 1

REVISED TECHNICAL SPECIFICATION

Complete Eddy flux / Covariance System Package	
Eligibility criteria for vendor	1. A list of at least 5 Institutions/R&D units where similar eddy flux / covariance system have been supplied in India within the last 10 years, including contact details (name of the person-in-charge, email, and phone number), is to be provided. 2. At least three performance certificates of the similar eddy flux / covariance system in reputed institutions in India should be enclosed duly signed and stamped by the concerned scientist.
Installation Location	The vendor should do the complete installation on-site. The site of installation is in a remote area of either Ramanathapuram District or Tirunelveli district
System Component	**Modified Specification**
DATALOGGER	Measurement and Control to log and store the data locally with SD memory card (16 GB or higher). **Optional USB Drive.**
GSM / GPRS for remote monitoring and data acquisition	The GSM /GPRS system should be compatible with the mobile network systems in India. Including network service plan for 5 years
OPEN PATH CO2/H2O GAS ANALYZER (Integrated or Stand Alone 3D SONIC ANEMOMETER)	Operating Temperature Range: **-25° to +50°C**
	Calibrated Pressure Range: 70 to 106 kPa
	Measurement Rate: 60 Hz
	Output Bandwidth: **5, 10, or 20 Hz**; user programmable
	Output Options: SDM, RS-485, USB / Ethernet **(CO2 and H2O Analog/Digital)**
	Auxiliary Inputs: air temperature and pressure
	Necessary conductors, mounting brackets and Cables of Length: Minimum 10m or more
	For Gas Analyzer
	Precision RMS (CO2) 0.2 mg/m3 (0.15 µmol/mol)
	Precision RMS (H2O) 0.004 g/m3 (0.006 mmol/mol)
	Accuracy within 2%

	Calibrated Range (CO2) 0 to **at least up to 1,000 µmol/mol or more**
	Calibrated Range (H2O) 0 to **at least up to 60 mmol/mol or more**
3D SONIC ANEMOMETER (Either Standalone or Integrated with the CO2/H2O gas analyzer)	This anemometer should be of rugged built, particularly suitable for precision 3-axis wind measurement applications for data involving high wind speeds.
	Measurement:
	Sampling Rate: 30 Hz or better
	Unit of parameters: m/s
	Wind Speed:
	Measuring Range: 0 to at least 30 m/s or more
	Resolution: 0.01 m/s or better
	Wind Direction:
	Range: At least ± 170° or better
	Resolution: 1^0or better
	Sonic Temperature
	Range : -40 °C to + 60°C
AIR TEMPERATURE & RELATIVE HUMIDITY SENSOR	Standard Operating Temperature Range: **-40° to +60°C or more**
	Relative Humidity:
	Measurement Range 0 to 100% RH
	Accuracy ±2% or better
	Air Temperature:
	Measurement Range **-40°C to +60°C**
	Accuracy ±0.5°C or better
	Solar Radiation Shield (Necessary conductors, mounting brackets and Cables of Length: minimum 10m or more)
WIND SPEED & DIRECTION SENSOR	The wind speed and direction sensor is optional with the same specification as per original

(Optional)	Wind Speed Range 0 to 60 m/s Accuracy ±2% (@ 12 m/s) Resolution 0.01 m/s Wind Direction Range 0° to 359° (no dead band) Accuracy ±3° Resolution 1° (Necessary conductors, mounting brackets and Cables of Length: Minimum 10m or more)
BAROMETRIC PRESSURE SENSOR	Either it can be standalone or System In-built as part of 3D sonic anemometer with the same specification as per original
	Pressure Range 600 to 1100 hPa Resolution ±0.01 hPa Accuracy ±2.0 hPa (@ -40° to +60°C) (Necessary conductors, mounting brackets and Cables of Length: Minimum 10m or more)
RAINFALL SENSOR	Resolution 1 tip
	Accuracy 1.0% up to 50 mm/h **or better**
	(Necessary conductors, mounting brackets and Cables of Length: Minimum 10m or more)
Multi Profile SOIL MOISTURE & TEMPERATURE SENSOR	Measurements Made: Volumetric water content (VWC),
	electrical conductivity (EC), and temperature
	Operating Temperature Range: -40° to +60°C
	Measurement at minimum 3 different depths
	Electrical Conductivity
	Range 0 to 10 dS/m
	Accuracy **±5% or better**
	Volumetric Water Content
	Range 0 to 100%
	Water Content Accuracy **±2% or better**
	Soil Temperature
	Accuracy ± **0.2°C or better**
	(Necessary conductors, mounting brackets and Cables of Length: Minimum 10m or more)
SOIL HEAT FLUX SENSOR (Self	Temperature Range -30° to +70°C
	Measurement Range ±2000 W m-2

Calibrating)	Accuracy: -15% to +5%
	Measurement at minimum 3 different depths
	(Necessary conductors and Cables of Length: Minimum 10m or more)
PAR Sensor	**Field of View (FOV): Hemispherical, 180°**
	Spectral Range: Range encompassing 400 to 650 nm
	Spectral Selectivity: < 10%
	Operating Temperature Range: **-40° to +60°C**
	Measurement Range: 0 to 4000 µmol m-2 s-1
	Sensitivity: 0.01 mV per µmol m-2 s-1
	(Necessary conductors, mounting brackets and Cables of Length: Minimum 10m or more)
Four Component NET RADIOMETER	Sensor Two thermopile pyranometers, two pyrgeometers
	Measures incoming and outgoing short-wave and long-wave radiation
	Pyranometer
	Spectral Range: Range Encompassing **300 nm to 2600 nm**
	Sensitivity: 150 µV/W/m2 or better
	Pyrgeometer
	Spectral Range: 5,000 to 30,000 nm **or better**
	Sensitivity: **150 µV/W/m2 or better**
	(Necessary conductors, mounting brackets, ventilation units and Cables of Length: Minimum 10 m or more)
Infrared Canopy Temperature (2Nos.)	Wavelength Range 8 to 14 µm (corresponds to atmospheric window)
	Field of View (FOV) At least 20° (half angle)
	Absolute Accuracy ±0.2°C (-10° to +65°C)
Software, Data Acquisition system and Online monitoring and control	All necessary software(s) to acquire, process and analyse the data including online monitoring and control should be provided
MOUNTING HARDWARE	Heavy Duty Adjustable Tripod **(2m to at least up to 4m or higher)**

Necessary Enclosures for the data loggers, power supply, battery / batteries, solar panels	As needed should be provided
Comprehensive Warranty (5 years)	Full Comprehensive AMC (including replacement of spare parts) for 5 years from the date of installation with field visits twice every year for 5 years
Installation	The vendor should do the complete installation on-site. The site of installation is in a remote area of either Ramanathapuram District or Tirunelveli district
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