

Detailed Specifications of Global/Open Tender Notice No: 09/2014

S. NO	TENDER NO.	BRIEF DETAILS OF ITEM(S)	PAGE NOS.
1.	14-VI/RASD(739)14-PB/ T-55	Greenhouse Gas (GHG) Analyzer for continuous Carbon Dioxide and Methane measurement in ambient air.	2-3

Modified Technical specifications for Greenhouse Gas (GHG) Analyzer for continuous Carbon dioxide and Methane measurement in ambient air

The GHG Analyzer will be installed at western Himalayan monitoring site at IHBT Campus, Palampur (H.P.) and will be integrated with the NPL's Continuous Ambient Air Monitoring Station (CAAMS)' for remote monitoring, data acquisition and transmission of data to NPL via GPRS and/or LAN.

S.No.	Item	Specifications
1	Name of instrument	Greenhouse Gas (GHG) Analyzer for continuous measurement of ambient carbon dioxide (CO ₂) and methane (CH ₄) using CRDS based technique. The GHG analyzer should be supplied with complete ambient air sampling system (with provision to draw the ambient air samples from a height of ~ 15 meters, and removal of ambient moisture etc), sequencer and other required accessories and spares for continuous operation. The GHG analyzer should have capability to provide dry mole fractions of CO ₂ and CH ₄ along with water vapor correction values. Quotation should include itemized quote for each component.
2	Working range	<ul style="list-style-type: none">• CO₂ operating range from 200 to 1000 ppm or better• CH₄ operating range from 0.5 to 20 ppm or better
3	Precision	<ul style="list-style-type: none">• ±0.1 ppm or better for CO₂• ±2 ppb or better for CH₄
4	Accuracy	±4% , or better
5	Power requirement	230±10% AC / 50±5% Hz
6	Output signals (Either A or B)	A. Industrial output signals of 4-20 mA current loop to be provided for integration of GHG analyzer's data acquisition system with that of CAAMS data system for transmission of data to NPL from remote location through GPRS and/or LAN. Vendor will ensure technical help in integration of data

		<p>acquisition system with that of CAAMS system.</p> <p>B. Otherwise vendor should provide a complete and compatible data transmission & receiving system for using GPRS from monitoring site to NPL . All SIM recurring rental and modem charges (for first year) will be borne by vendor</p>
7	Warranty	Two year's on-site warranty after installation and commissioning
8	Installation and training	Onsite demonstration and training for at least two persons for five working days or more (as per requirement)
9	Instrument manual	Operating manuals should be provided
10	Calibration cylinders (Optional)	Eight GHG calibration mixtures covering the range of mole fractions of CO ₂ from 350 ppm to 500 ppm and CH ₄ from 1500 ppb to 3000 ppb traceable to NMI in eight cylinders of size ≥ 30 liters with Two-Stage High-Purity Nickel Plated Brass Regulators- (Noncorrosive Model).
11	Additional Spares and accessories (optional)	Sufficient for two years of operations. Provide itemized list of spares.
12	Onsite Extended Warranty (optional)	For two years after warranty period
13	AMC (optional)	AMC should be quoted for two years after the warranty period
