

Annexure

File no.: CIMFR/PUR-14 (19) 2010

Memo no.: CIMFR/PUR/SPO/32 Dated: 22/11/2010

NIT No.CIMFR/PUR/14(12)2011 Date : 07.07. 2011

Specification including the corrections/additions/clarifications after Pre Bid Conference dated 25/07/11

S. No	Specifications				
	ANALYZERS		Minimum Range	Maximum Range	
1	GASES, MEASUREMENT RANGES & MEASUREMENT PRINCIPLE	CO₂	0 – 100 ppm	0 - 100%	using NDIR measurement principle
		CH₄	0 – 500 ppm	0 - 100%	using NDIR measurement principle
		CO	0 – 200 ppm	0 - 100%	using NDIR measurement principle
2	<i>Analyzers should have:</i>				
	a) LCD display				
	b) Microprocessor based Diagnostic capabilities				
	c) RS 232 port				
	d) Operating temperature: Ambient to 40°C or higher				
3	SAMPLE CONDITIONING & MONITORING SYSTEM				
	a) Sample conditioning & monitoring system like: sampling pump, coarse & fine dust filter, along with PTFE sample tube, flow monitoring, moisture detector and removal for processing the raw sample (Coal mine fire gas samples have high temperature, moisture and dust) to feed the respective analyzers as per requirement of the analyzer).				
	b) Sample collection device for continuous monitoring (to collect samples from mine fire cracks and send it to the analyzer system at a distance of about 25 m). The tentative design as attached.				
4	Essential Accessories				
	Additional facility to measure following gases of combustion origin:				
	a) SO_x by using UV fluorescence measurement principle				
	b) NO_x by using Chemiluminescence measurement principle				

	c) N₂O by using NDIR measurement principle
	d) All desired calibration gas cylinders and any other required items for calibration of the analyzers. A calibration certificate against asked ranges of the entire analyzers from manufacturer is needed.
	e) Data acquisition software and complete interface module for connecting with data acquisition system (laptop PC) shall be supplied with the branded data acquisition system (Dell /HP/Toshiba/Sony) of latest specification and accessories.
	f) Necessary power supply source: power generator and UPS etc to support the analyzer and data acquisition system for at least 8 hrs.
	g) The analyzers should be mounted in minimum two racks/cabinet of one meter height, excluding the height of wheels. At the base of cabinets arrangement of wheels should be made for easy transportation and movement, loading and unloading from vehicle. The provision of anti-vibration mounting pads should be made for better safety. Vehicle Swaraj Mazda will be provided by CIMFR.
	h) To avoid CO & CH ₄ hazard to the operator, portable taximeter is to be provided.
	i) A high temperature stainless steel thermocouple probe with digital display has to be provided to measure gas temperature in cracks/vents.
	j) Any other relevant part/job required to operate the assembly successfully.
	k) All Consumables and spares to operate the complete system for one year.
5	Warranty 3 years including calibration of instrument, AMC for next 2 year.
6	Demonstration, Training & Operation Proper operational, maintenance and data generation training shall be provided by the supplier for 8 monitoring campaigns of 10 days each with satisfactory data output. During this period the responsibility of maintenance and operation of the supplied material will be of supplier. This campaign has to be finished within six months of installation of equipment.