



Indian Institute of Technology Madras  
Department of Civil Engineering  
Chennai-600 036  
dated 28.11.2014

Ref No: CIE/2014/ PM Mass/SPL  
To

DUE DATE : 15.12.2014

Sir/Madam,

1. Quotations are invited **in duplicate (Two bidding covers)** for the **item/s shown as per enclosed Specifications.**
2. The quotations duly sealed and superscribed on the envelope with the enquiry reference No. & due date should be addressed to the **Head of the Department, and contain in 2 bid system i.e. Technical bid and Commercial bid in two separate envelopes and these two envelopes should be enclosed in a Single envelope so as to reach on or before the due date.**
3. The quotation should be valid for **(60) Sixty days from the due date and period of delivery time** required.
4. Relevant literature pertaining to the items quoted with full specifications (and drawing, if any) should be sent along with the quotations, **wherever applicable.** Samples if called for, submitted free of charge and collected back at the suppliers expenses.
5. Firms outside Chennai: Quotations should be for F.O.R. Chennai. If F.O.R. consignor station, freight charges by passenger train/lorry transport must be indicated. If Ex-godown, packing Forwarding and Freight charges must be indicated.
6. Local Firms: Quotations should be for free delivery to this Institute. If quotations are for Ex-godown, delivery charges should be indicated separately.
7. Goods should be **supplied by carriage paid and insured.** Goods shall not be supplied **without an official supply order.**
8. PAYMENT: The mode of payment should be mentioned.
9. Rate of Sales/General Taxes and percent of such other taxes legally leviable and intended to be claimed should be distinctly shown along with the price quoted. Wherever this is not done, no claim for any taxes will be admitted at any stage and any ground whatsoever. The taxes leviable should take into consideration that we are entitled to have Concessional Sales Tax applicable to Non-Government Educational Institutions run with no profit motive for which a concession. Sales Tax Certificates will be issued at the time of final settlement of the bill. The Price should be quoted without Excise Duty, Since IIT Madras is exempt from payment of Excise duty.
10. Warranty period: Explicitly Warranty period is to be given by the firms.

Yours sincerely

For Head of the Department

## SPECIFICATION FOR PARTICULATE MATTER NUMBER AND CONCENTRATIONS MEASURING INSTRUMENT

The system should be designed and manufactured under ISO-9001 and should comply with most of international regulatory and safety requirement. The instrument should be portable with suitable carry case for safe transportation of the equipment. The system should be compatible with the Microsoft Windows operating system for data acquisition and data analysis.

### **Technical Specifications:**

1. **PM mass and number concentrations:** Instrument should be capable of measuring particulate matter mass and number concentration in the ambient and indoor environments. Option should be available for measuring both mass and number concentration simultaneously or separately. Also, facility to collect the particulate matter on filter for further chemical characterization. Filter paper used for instrument should be available in Indian market.
2. **PM mass concentration range:** Instrument should be capable of measuring PM10, PM2.5 and PM1 mass concentrations
3. **PM number concentration range:** Instrument should be capable of measuring wide range of particulate matter ranging from 10 nm to 10 micron.
4. **Instrument working principle:** Light scattering/electrical/optical or combination of any two.
5. **Data storage:** Onboard memory with USB storage option.
6. **Measurement intervals:** 1 minute
7. **Digital display:** PM mass/number/graphical display.
8. **Communication:** Bluetooth/USB/RS232
9. **Power supply:** Regular power supply with proper adaptor. Instrument should also operate with Li-Ion battery (minimum battery backup of 8 hours). Provision for internal charging facility.
10. **Operating conditions:** Instrument should function without any problem under Chennai weather conditions.
11. **Instrument calibration:** Frequency of instrument calibration should not be less than 8 months.
12. **Warranty period:** Minimum warranty period should be one year.

### **Accessories:**

1. **Filter paper:** Specification of the filter paper and cost per pack.