

	<p style="text-align: center;">INDIAN INSTITUTE OF TECHNOLOGY MADRAS Chennai 600 036</p> <p style="text-align: center;">Telephone: (044) 2257 4187 E-mail: vinu@iitm.ac.in</p>	
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Dr. R. Vinu
Project Coordinator

Ref: CHE/1617/144/MUAY/RVIN/042
Dated: 23.11.2020

Limited Tender No: CHE/1617/144/MUAY/RVIN/042

Due Date: 14.12.2020, 3:00pm

Pre-Bid meeting: - Not required.

Bid opening meeting on Due Date: 14.12.2020, 4:00pm

Dear Sir/Madam,

On behalf of the Indian Institute of Technology Madras, offers are invited for the supply of “**ONLINE GAS ANALYZER**” conforming to the specifications given in (**Annexure-I**).

Terms and Conditions of Limited Tender

1. **Preparation of Bids:** - The Limited tenders should be submitted under **one bid system** (i.e.) Technical-cum-Financial bid.
2. **Delivery of the tender:** - The tender shall be sent to the below-mentioned addresses either by post or by courier (duly sealed and super scribed on the envelope with the reference No and due date) so as to reach the following address before the due date and time specified in our Schedule:
Dr. R. Vinu,
Department of Chemical Engineering
IIT Madras
Chennai - 600 036
3. **Price:** - The price should be quoted in net per unit (after breakup) and must include all packing and delivery charges to **Department of Chemical Engineering**.
 - a. The offer/bid should be exclusive of taxes and duties. The percentage of tax & duties should be clearly indicated separately. IIT Madras is eligible for concessional GST and relevant certificate will be issued.
 - b. In case of import supply, the price should be quoted without custom duty. IIT Madras is exempted from levy of IGST on Imports and eligible for concessional custom duty (not exceeding 5%) and the price should be quoted on EX-WORKS and CIP (stating the Cost, Insurance, Freight separately) and indicating the mode of shipment.
4. **Terms of Delivery:** - The item should be supplied to our Departments as per Purchase Order. In case of import supply, the item should be delivered at the cost of the supplier to our Institution. The Installation/Commissioning should be completed as specified in our important conditions.
5. **Catalogue:** Original catalogue (not any photocopy) of the quoted model duly signed must accompany the quotation in the Technical-cum-financial bid

- 6. Late offer:** - The offers received after the due date and time will not be considered
- 7. Payment:** - No Advance payment will be made for Indigenous purchase. However, 90% Payment against Delivery and 10% after installation are agreed to wherever the installation is involved. In case of import supplies the payment will be made only through 100% Letter of Credit i.e. (90% payment will be released against shipping documents and 10% after successful installation wherever the installation is being done).
- 8. Advance Payment:** - No advance payment is generally admissible. In case of specific percentage of advance payment is required, the Vendor has to submit a Bank Guarantee from a Nationalized Bank of India equal to the amount of advance payment.
- 9. On-site Installation:** - The equipment or machinery has to be installed or commissioned by the successful bidder within number of days (as prescribed by PI's) from the date of receipt of the item at site of IIT Madras.
- 10. Warranty/Guarantee:** - The offer should clearly specify the warranty or guarantee period for the machinery/equipment.
- 11. Validity:** Validity of Quotation not less than 60 days from the due date of tender
- 12. Bid Opening:** The bid will be opened on **14.12.2020, 4:00pm** at the Department of **Chemical Engineering**, IIT Madras.
- 13. Accept /Reject:** IIT Madras reserves the full right to accept / reject any tender at stage without assigning any reason.
- 14. Settlement of Disputes:** Any legal disputes arising out of any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction located within the city of Chennai in Tamil Nadu.
- 15. Risk Purchase Clause:** - In the event of failure of supply of the item/equipment within the stipulated delivery schedule, the purchaser has all the right to purchase the item/equipment from other sources on the total risk of the supplier under risk purchase clause.
- 16. Unsolicited offers:** "This notice is being published **for information only** and is not an open invitation to quote in this limited tender. Participation in this tender is by invitation only and is limited to the selected registered suppliers. Unsolicited offers are liable to be ignored. However, suppliers who desire to participate in such tenders in future may apply for registration as per procedure." The Website for Registration of vendors is <http://web.iitm.ac.in/supplier/> and the mail address for queries is "workflow@rt.iitm.ac.in".

Acknowledgement: - It is hereby acknowledged that the tenderer has gone through all the conditions mentioned above and agrees to abide by them.

**SIGNATURE OF TENDERER
ALONG WITH SEAL OF THE
COMPANY WITH DATE**

Yours sincerely,

Dr. R. Vinu,
Department of Chemical Engineering,
IIT Madras,
Chennai - 600 036

TECHNICAL SPECIFICATION FOR ONLINE GAS ANALYZER

An online gas analyzer (based on electrochemical / NDIR / paramagnetic sensors) is required to measure the concentration of the following gases at the outlet of a lab scale solid waste combustion unit.

Gas	Concentration range	Resolution/Accuracy
O ₂	0-100%	0.1%/±0.5-1%
CO	0-50%	0.1%±0.5-1%
CO ₂	0-50%	0.1%±0.5-1%
CH ₄	0-20%	0.1%±0.5-1%
H ₂	0-50%	0.1%±0.5-1%
NO	0-1000 ppm	5 ppm
SO _x	0-1000 ppm	5 ppm

Required Features:

Outlet temperature of the exhaust gases < 100 °C

All the above gas concentrations should be measured and not calculated.

Continuous sampling and analysis of the gases should be possible.

Calibration certificate should be provided for all the above mentioned gases and their mixtures.

In-built display of the gas concentrations.

Include data logger to record and transfer the data to a PC.

Tubing (10 meters) to connect the outlet of the exhaust to the analyzer.

In-built sampling pump provision is required.

Filter unit to trap the particulates and tarry vapors.

Should be capable of choosing the gases based on requirement.

Charging unit should be provided.

Warranty: 1 year from the date of installation.

Should provide cabinet or casing for the instrument.