



INDIAN INSTITUTE OF TECHNOLOGY MADRAS
Chennai 600 036

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Prof. Ramesh A
Project Coordinator

Ref: ME/19-20/827/METER
Dated: 02.03.2020

Limited Tender No: ME/19-20/827/METER

Due Date: 23.03.2020, 5 pm

Pre-Bid meeting: - Not required.

Technical Bid opening meeting on Due Date: 24.03.2020, 4 pm

Dear Sir/Madam,

On behalf of the Indian Institute of Technology Madras, offers are invited for the supply of “**AUTOMATIC GRAVIMETRIC FUEL CONSUMPTION METER**” 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 **Two bid system** (i.e.) Technical- and -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:
Prof. Ramesh A,
Department of Mechanical 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 Mechanical 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 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. **Technical Bid Opening:** The technical bid will be opened on **24.03.2020, 4 pm** at the **Department of Mechanical Engineering, IIT Madras** and the **financial bids** of those tenders who are technically qualified will be opened at a **later date under intimation to them.**
13. **Performance Security:-**The successful bidder should submit Performance Security for an amount of 5% of the value of the contract/supply within 21 days from the issue of work/purchase order. The Performance Security should be furnished in the form of an Account Payee DD / FD Receipt from the commercial bank (or) Bank Guarantee from any nationalized bank in India.
14. **Accept /Reject:** IIT Madras reserves the full right to accept / reject any tender at stage without assigning any reason.
15. **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.
16. **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.
17. **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".

Yours sincerely,

**Prof. Ramesh A,
Department of Mechanical Engineering
IIT Madras
Chennai - 600 036.**

Specifications of the Automatic gravimetric fuel consumption meter

1. Must be compatible with fuels like alcohols (Methanol, ethanol and butanol), gasoline, diesel, bio-diesel.
2. Must be able to give fuel consumption over a specified period of time, fuel consumption rate and fuel time for a given mass of fuel to be consumed.
3. Must be compatible with conventional, common rail, MPFI and GDI systems
4. Must be capable of taking the return fuel line from the engine.
5. Must have a fuel venting line.
6. Must be able to work with gravity feed of fuel.
7. The weight should be measured by a high precision capacitance based load cell
8. Provision for automatic calibration should be available
9. It should be possible to select different measuring masses based on the capacity of the engine.
10. The accuracy must be better than 0.15% of reading
11. Must be able to do running average of more than 50 consecutive readings
12. Measuring frequency in the rate mode (more than 5 Hz)
13. Must have a remote control and display for panel mounting.
14. Must have standard computer interfaces and must be capable of being connected to other standard automation systems.
15. Should have a measuring range of at least 100 kg/h

Qualifying conditions:

1. The bidder should have supplied at least eight numbers of the quoted product or equivalent in specifications or higher in specifications to NATRIP testing centers (National Automotive Testing and R&D Infrastructure Project). Reputed automotive OEMs (Original Equipment Manufacturers) and IITs/IISc in the last five years. Out of the 8 at least 2 should have been supplied to NATRIP testing centers like ARAI (Automotive Research Association of India) or ICAT (International Centre for Automotive Technology) or GARC (Global Automotive Research Centre) or NATRAX (National Automotive Test Tracks) and also at least 2 should have been supplied to reputed central institutes like IITs and IISc for automotive and internal combustion engine applications with BS IV capability or higher. Proof of supply has to be provided along with the bid.
2. The supplier should be the sole representative of the manufacturer of the offered item in India.
3. The supplier should be able to offer complete after sales service support in Chennai with office in Chennai.
4. Warranty should be for three years
5. Any other support systems that are needed for the functioning of the analyzer but do not form a part of the instrument should be specified in the technical bid.