



भारतीय प्रौद्योगिकी संस्थान (भारतीय खनि विद्यापीठ), धनबाद

धनबाद, झारखण्ड, भारत, पिन-826004

(मानव संसाधन विकास मंत्रालय, भारत सरकार के अधीन राष्ट्रीय महत्त्व का एक संस्थान)

INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD
DHANBAD, JHARKHAND, INDIA, PIN-826004

(An Institute of National Importance under Ministry of H.R.D., Govt. of India)

STORES & PURCHASE SECTION Phone:(0326) 2235678 || Email : purchase@iitism.ac.in || Website : www.iitism.ac.in

No. PE/PRJ/126/18-19

Date: 27 August 2018

NOTICE INVITING TENDER

Subject: Supply, Installation & Commissioning of an Autoclave Setup

Indian Institute of Technology (Indian School of Mines), Dhanbad invites quotations for the following to be supplied and delivered in Petroleum Engineering Department.

S No	Full Description of items/ store	Qty	Delivery
1	Supply & Installation of Autoclave Setup (Detailed Specification is given in Annexure – I)	01 No.	At the Earliest /Ex-Stock

Tender Schedule

Particulars	Date & Time
Tender Cost	Rs. 500.00 (Five Hundred Only)
Bid Security or Earnest Money Deposit	Rs. 16,000.00 (Sixteen Thousand Only)
Last date and time for submission of tenders	03.10.2018 at 1:00 P.M.
Date and time of opening of tenders	03.10.2018 at 4.00 P.M.

1. You are requested to quote your lowest rates for the supply of above items in the attached format for Financial Bid (Annexure – II)
2. You may send your representative in the office of the undersigned at the scheduled date and time of opening of tender.
3. Tender should be submitted in sealed cover only superscribed with Enquiry No. and due date at the following address only:

The Deputy Registrar (P&S)
Indian Institute of Technology (Indian School of Mines),
Dhanbad – 826 004 Jharkhand



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Terms & Conditions

- 1) The rates should be quoted for each item separately.
- 2) Conditional offer will not be accepted.
- 3) IIT (ISM) does not issue any Form 'C' or 'D' towards sales tax concessional rate. Hence, full rate of sales tax/VAT, GST applicable should be quoted.
- 4) **Educational discount**, if any, should be clearly mentioned.
- 5) You are requested to submit your quotation strictly as per the specifications mentioned in the NIT.
- 6) Earnest Money Deposit (EMD) and Tender Cost : Should be submitted in form of A/C payee demand draft drawn in favor of Registrar, IIT(ISM) and payable at SBI, IIT (ISM) campus branch or any other Bank/ Branch located in Dhanbad.
- 7) Your tender must be valid for **minimum 90 days** from the date of opening of tender.
- 8) Please mention warranty/ guarantee in your offer clearly. Material/ equipment to be supplied must have minimum warranty/guarantee of **24 Months**.
- 9) Each page in the bid document must be numbered properly and duly signed & sealed by the bidder on every page of the bid.
- 10) **The items/ materials shall be required to be delivered at Petroleum Engineering Department/ Section through Purchase & Store Section, IIT (ISM) Dhanbad at the risk and cost of the tenderer.**
- 11) Unloading and installation shall be the complete responsibility of the supplier.
- 12) The stores are required to be delivered within 30 days. Late delivery may not be accepted.
- 13) The items offered should be of good quality confirming to BIS standards, wherever applicable.
- 14) Successful bidders may have to submit Performance Security (PBG) in the form of Bank Guarantee only as per the Purchase Order as per rules.
- 15) **Advance payment is not admissible.** Payment shall normally be made within 4-6 weeks subject to receipt and acceptance & installation (as per Purchase Order Terms) of the ordered materials/items.
- 16) In the event date on which the tender is opened for acceptance is declared to be a holiday, the tenders shall be deemed to remain open for acceptance till the next working day.
- 17) Please send your offer by Regd. Post/ Speed Post/ Courier along with Courier receipt. Tender/ quotation will be received during IIT (ISM) working hours only (i.e. Monday to Friday). *Late or delayed tenders shall be summarily rejected.*
- 18) Any other information that you may like to obtain, you are free to contact IIT (ISM) before submission of tender.
- 19) IIT (ISM) reserves the right to accept and/or to reject any/ all tenders without assigning any reason.

Assistant Registrar



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Annexure – I

Technical Specifications for Supply and Installation of Autoclave Setup

1. Name of Equipment: Autoclave
2. Purpose of Purchase: Gas Hydrate Studies
3. Specific Purpose / Details: Performance of various inhibitors (existing and newly developed) would be tested in this autoclave for flow assurance of oil and gas in pipelines, valves, and other production equipments.
4. Main features of the Equipment:
 - a) High-pressure, high-grade stainless steel reactor cell with operating temperature from subzero to around 50 deg. C.
 - b) High-resolution camera for picture and video recording.
 - c) Turbine-stirrer
 - d) View windows
 - e) Temperature control system for the cell.
 - f) Control panel
 - g) SCADA software
5. Specifications in detail:

S.No.	Name	Description
1	Minimum volume of cell	450 ml
2	Construction	SS 316 (no welding)
3	Body & Head Sealing & Opening	Zero leak and quick opening (auto connect/disconnect) system
4	Max. operating pressure	200 Bar
5	Max. operating temperature	-10 to 60 deg. C
6	Motor for Stirrer	100-1450 RPM (variable speed)
7	Stirrer	Turbine stirrer with zero leakage shaft sealing (magnetic drive coupling for minimum maintenance issues)
8	Heating/cooling Jacket	SS304 (Max. pressure 6 Bar)
9	Heating/cooling bath with circulator and temperature controller	-20 to 200 deg. C, PID, Controller accuracy 0.5 deg. C Rate of cooling: 2 deg. C/hr – 60 deg. C/hr
10	View window	2 Sapphire windows for clear view of inside the cell
11	Digital Microscopic Camera	Magnification at least up-to 300x, Minimum 2 Megapixel. Enough lighting and recording of photos and videos(30 fps) directly to a laptop/computer



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12	Safety	High pressure & High temperature alarm
13	Control panel	SS control panel with digital temperature, digital pressure indicator, motor speed controller and high temp and pressure alarm
14	Control Panel Output	RS485/232 convertor withusb output for data transfer to a laptop or desktop
15	Software specifications	Dreamsoft (Front end: Vb.net 2008, Back end: Ms Access, Reporting tool: Crystal report)
16	SCADA software input requirements	Input for multiple staged cooling. In every stage, software should ask for a) rate of cooling, b) stage set-point temperature and c) stage final time. Last stage final time will be indefinite time.
17	SCADA software output requirements	Cell temperature, pressure, rpm and current during stirring with time. Display and recording of pictures, and videos.
18	Cable length	Minimum 10 meters with RS485/232 convertor with usb output
19	SS-316 Ball valve with funnel	Powder/liquid inlet at atmospheric pressure without having to open the cell
20	Sampler	To collect exit gases from the cell for chromatography
21	Provisions	Inlet and outlet auto connect/disconnect option forvacuuming the cell, metering mass inlet and outlet rate and controlling pressure of the cell
22	Pressure Regulator at Inlet	High precision
23	Mounting	Movable Strong Trolley
24	Vacuum pump	Quiet, Very low ultimate pressure, low maintenance

6. Warranty: 24 months from the date of installation

7. Documentation:

- Operational
- Technical specifications
- Data sheet for main components with individual costing
- Detailed diagram of the set-up

8. Spare Parts: 0-rings and any other spare parts required to operate the equipment for at least 5 years smoothly

9. Installation& Demonstration

- On-site for free
- At least one demonstrating experiments with results matching the standard methane hydrate formation and dissociation curve from the literature



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Annexure - II

Format for Financial Bid

NIT No.: PE/PRJ/126/18-19

Date: 27 August 2018

Bidders Ref. No.:

Date:

GSTIN:

Subject: Supply & Installation of Autoclave Setup

Sl. No.	Full Description of Items (With HSN Code/SAC Code)	Qty.	Rate	Amount
			Packing & Forwarding (if any)	
			Total	
			GST (if any)	
			Freight (if any)	
			Installation (if any)	
Amount should be in figure as well as word			Grand Total	

Note:

- 1) Price basis must be FOR IIT(ISM) Dhanbad only.
- 2) All the details must be provided as per prescribed format only.
- 3) Prices quoted by the bidders should include all local taxes, VAT, service tax, GST, HSN Code, SAC Code, livies, transportation cost and insurance costs etc. if any
- 4) All the rates must be quoted in Indian Rupees.