

e-TENDER

FOR

SUPPLY & INSTALLATION OF SCIENTIFIC INSTRUMENTS
(PM₁₀Sampler, PM_{2.5}Sampler, Meteorological parameters, Spectrophotometer, Oven,
Desiccators, Balance and Refrigerator)



JHARKHAND STATE POLLUTION CONTROL BOARD
T. A. DIVISION BUILDING RANCHI-834004

Phone (0651) 2400851/852 FAX: (0651) 2400850

E-mail: ranchijspcb@gmail.com

Website: jspcb.nic.in

INDEX OF THE TENDER DOCUMENT

S.No	Contents	Page No.
1.	Scope of Work	01
2.	Procurement Schedule	01-03
	2.1 Tender cost	01
	2.2 Earnest Money Deposit (EMD)	01-02
	2.3 Return of EMD	02
	2.4 Warranty	02-03
	2.5 Payment Terms	03
	2.6 Penalty Terms	03
	2.7 Quantity of instruments /Equipment required	03
3.	Eligibility Criteria	04-05
4.	Terms & Conditions	05-07
5.	Documents Required	08
6.	Functional and Technical Specifications (Annexure I-VIII)	09-19
7.	Price Format (BoQ)	20
8.	Undertaking	21
9.	Integrity Pact	22-26

1 Scope of Work

Jharkhand State Pollution Control Board invites e-tender from eligible bidders for supply, installation, testing, demonstration, commissioning and comprehensive operation & maintenance services, and training of PM10 Sampler, PM2.5 Sampler, Meteorological parameters, Spectrophotometer, Oven, Desiccators, Balance and Refrigerator within Jharkhand and related services as specified in the bid document. It will be delivered and installed at locations as suggested by the JSPCB.

The bidders are requested to read the tender document carefully and ensure compliance with all specifications/instructions herein. Non-compliance with specifications/instructions in this document may disqualify the bidders from the tender exercise. **The Member Secretary, Jharkhand State pollution Control Board** reserves the right to select the item (in single or multiple units) or to reject any quotation wholly or partly without assigning any reason. Incomplete tenders, amendments and additions to tender after opening or late tenders are liable to be ignored and rejected.

Critical Date sheet related to bidding in Tender

Description	Date & Time	
Published Date	10.01.2025	12:00 Hours
Bid Document Download/Sale Start Date	10.01.2025	12:00 Hours
Clarification Start Date	10.01.2025	12:00 Hours
Clarification End Date	24.01.2025	15:00 Hours
Pre Bid Meeting	06.02.2025	15:00 Hours
Uploading of Minutes/Clarifications on JSPCB Portal	10.02.2025	15:00 Hours
Bid Submission Start Date	10.02.2025	15:00 Hours
Bid Submission End Date	25.02.2025	15:00 Hours
Bid Opening Date	05.03.2025	15:00 Hours

2 Procurement Schedule

2.1 Tender Cost

The bidder should submit a demand draft of Rs. 2000/- (Rupees Two Thousand only) towards non-refundable tender fee, drawn in favour of "Jharkhand State pollution Control Board". The bidder will upload the signed and scanned copy of proof for payment of Tender document cost.

2.2 Earnest Money Deposit (EMD)

The bidder shall furnish, as part of its bid, bid security for each instrument/equipment separately for the amount mentioned below. EMD to be drawn in favour of "**The Member**

Secretary, Jharkhand State Pollution Control Board” payable at Ranchi. The bidders should enclose a pre-receipted bill for the EMD to enable us to return the EMD of unsuccessful bidders. Failure to deposit Earnest Money will lead to rejection of tender. In the event of the awardee bidder backing out, EMD of that bidder will be forfeited.

SCHEDULE OF EARNEST MONEY DEPOSIT(EMD)

S.No.	Item Code	Instrument/Equipment	EMD(Rs.)
1.	JSPCB-01	PM10Sampler	@5% of quoted price
2.	JSPCB-02	PM2.5Sampler	
3.	JSPCB-03	Balance	
4.	JSPCB-04	Refrigerator	
5.	JSPCB-05	Desiccators	
6.	JSPCB-06	Oven	
7.	JSPCB-07	Spectrophotometer	
8.	JSPCB-08	Meteorological parameters	

- The tender system is **TWO BID SYSTEM** i.e. “**Technical bid**” and “**Commercial/Financial Bid**”. The financial bids of the technically qualified bidders will only be opened.
- Technical & Financial Bids should be submitted in PDF format.
- In case of financial bids, a standard BoQ format has been provided in price format section of the tender. Bidders are required to download the BoQ file and fill their financial offer on the same BoQ format. After filling the same, submit it online in PDF format, without changing the financial template format. If the BoQ format file is found to be modified by the bidder, the bid will be rejected

2.3 Return of EMD

- a) The earnest money of unsuccessful bidders will be returned to them without any interest after awarding the contract.
- b) The earnest money of the successful bidder will be returned to them after supply of material and submission of Bank Guarantee, without any interest after supply of material.

2.4 Warranty

- Bidders must give the comprehensive on-site warranty of at least five years from the date of successful installation of Equipment and also give the warranty declaration that “everything to be supplied by us hereunder shall be free from all defects and faults in material, workmanship and shall be of the highest quality and

material of the type ordered, shall be in full conformity with the specification and shall be complete enough to carry out the experiments, as specified in the tender document.

- The after sales service is most important to be considered for comparison of the bids. Bid of those firms who do not have Indian Agents or sufficient infrastructure facilities to provide after sales service during warranty period will not be considered.
- **Annual maintenance contract:** The bidder may quote the charges for annual maintenance contract after the warranty period for the instrument listed in “Price Format” of this tender document.

2.5 Payment Terms

- After successful delivery of materials, 90% of quoted price will be paid. No advanced payment will be made.
- After successful installation, commissioning, and training to the nominated persons of Jharkhand State Pollution Control Board at their cost, rest 10 % of quoted price will be paid.

2.6 Penalty Terms

The Equipment should be delivered and installed within the period as specified in the purchase order and be ready for use within a month of the issue of purchase order unless otherwise prescribed. If the bidder fails to deliver and place any or all the Equipment's or perform the service by the specified date, penalty at the rate of 1% per week of the total order value subject to the maximum capping of 10% of total order value will be deducted. User department may have right to terminate the order and blacklist the bidder in case of any unjustified delay after reaching the maximum capping.

2.7 Quantity of Instruments/Equipment required

S.No.	Item Code	Instrument/Equipment	Quantity Requirement
1.	JSPCB-01	PM10Sampler	34
2.	JSPCB-02	PM2.5Sampler	29
3.	JSPCB-03	Balance	7
4.	JSPCB-04	Refrigerator	7
5.	JSPCB-05	Desiccator	7
6.	JSPCB-06	Oven	4
7.	JSPCB-07	Spectrophotometer	4
8.	JSPCB-08	Meteorological parameters	4

3 Eligibility Criteria

- A. Bidders should be the Indian manufacturer/authorized dealer. Letter of Authorization from Original Equipment Manufacturer (OEM) on the same and specific to the tender should be closed.
- B. The Bidders who have earlier supplied the equipment to CPCB & SPCBs or any of the Ministries/Department/PublicSectorUndertaking/ScientificInstitute of National Repute may only tender. Firms having experience in the relevant field for **at least 08 years** need only apply. The details of such institutions and the cost with name of equipment may also be supplied with the bids. The Air Quality Monitoring Instruments must have been in use with CPCB & 05 SPCBs for at least 08 years. A satisfactory performance report should be attached.
- C. Instruments must conform to BIS or any other National Standards (PM2.5 Sampler impactor must be certified from CSIR-NPL with an accuracy of +/- 1% of PM2.5 cut-off. Also PM10 sampler should be based on licensed technology only).
- D. Annual turnover certificate of the firm certified by chartered accountant and Valid income tax returns, VAT and any other tax as applicable for last two years need to be submitted along with bid. The firm should have a minimum turnover of 5 Crores in last three financial years.
- E. In this tender either the Agent on behalf of the Principal/OEM or Principal/OEM itself can bid but both cannot bid simultaneously for the same item/product. If an agent submits bid on behalf of the Principal/OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the same tender for the same item/product.
- F. Bidder will have to submit OEM authorisation on OEM letter head with Bid no for quoted product. Brochure and OEM compliance of the offered product on OEM letter head.
- G. The bidder should provide a complete list of spares and consumables required for **five years** for trouble free operation and maintenance of the instrument and a certificate to be given by manufacturer that spare parts will be made available for five years. A price list of such spare parts also be given.
- H. The rates should be quoted for all items (Individual items order will not be placed) in figures (typed or printed) and cutting should be avoided. The final amount should be in figures as well as in words. If there are cuttings, they should be duly initialled, failing which the bids are liable to be rejected.
- I. While sending rates, the firm shall give an undertaking to the effect that “the

terms/conditions mentioned in the enquiry letter/Tender Notice against which the rates are being given are acceptable to the firm.” in .pdf format. In case the firms do not give this undertaking, their rates will not be considered.

- J. An undertaking from the OEM is required stating that they would facilitate the bidder on a regular basis with technology/product updates and extend support for the warranty as well.
- K. OEM should be internationally/nationally reputed manufacturer/branded company.
- L. The OEM should not be banned/debarred/Blacklisted or imposed sanctions by any country or government institution globally. OEM declaration to be submitted.
- M. OEM brand should have established in India at least for 08 years, its presence should be supported with brand registration certificate like TM, COI etc.
- N. The bidder must have a local after sale service support facility at Jharkhand to ensure prompt maintenance.

4 Terms and Conditions

GENERAL CONDITIONS OF THE TENDER AND INSTRUCTIONS TO THE BIDDER

1. The bidders are requested to read the tender document carefully and ensure compliance with all specifications/instructions herein. Non-compliance with specifications/instructions in this document may disqualify the bidders from the tender exercise. The Member Secretary, Jharkhand State Pollution Control Board reserves the right to select the item (in single or multiple units) or to reject any quotation wholly or partly without assigning any reason. Incomplete tenders, amendments and additions to tender after opening or late tenders are liable to be ignored and rejected.
2. The tender will be rejected straightway without assigning any reasons if the firm involves in any criminal cases, declared black-listed by any Govt./Semi govt. department/agencies etc.
3. Only those Bidders, who are reputed Manufacturers or their Authorized Dealers /Distributors in the line and are in a position to complete the supplies within the 30 days' time or specified in the purchase order should quote.
4. Earnest Money Deposit amount as specified in the Tender Notification should be submitted in the shape of Demand Draft in favour of "The Member Secretary, JSPCB, Ranchi" along with the tender schedule for each item separately
5. The Government sponsored Institutions and registered SSI are exempted from the payment of Earnest Money Deposit provided they produce a Certificate from the concerned authorities to that effect, duly mentioning the product for which quoted.
6. Quantity: The approximate requirement is given in the Tender Point 2.7(Quantity of instruments/equipment required). But it must be clearly understood that the demand may fluctuate and no definite quantity can be guaranteed. The Member Secretary,

JSPCB, Ranchi, reserves to himself the right to invite fresh Bidders and to place orders against any quantity of any item in this Tender without specifying any reasons there for.

7. Non-compliance of tender terms, non-submission of required documents, lack of clarity of the specifications, contradiction between bidder specification and supporting documents etc. may lead to rejection of the bid.
8. Furnishing of wrong/ambiguous information in the compliance statement may lead to rejection of bid and further black-listing of the bidder, if prima-facie it appears that the information in the compliance statement was given with a malafide/fraudulent intent.
9. The Member Secretary, JSPCB, Ranchi reserves the right to place order on the next higher successful Firms if the Firm quoting lower rates do not meet the whole demand due to his limited capacity/Monitory limit/Offer etc.
10. Bidders quoting for the above items should have minimum 08 years of experience in the supply and produce latest authorization certificate.
11. Bidders without E.M.D. or S.S.I. registration certificate will be rejected at the time of opening of tenders. A valid SSI certificate giving details of items of manufacture along with proof of address of the Firm should be submitted with the tender schedule.
12. Failure to abide by any of the conditions stated above will result in the Bid being rejected without notice.
13. Any bids received after last date of Tender Submission shall not be considered.
14. The quantity shown against the item is approximate and may vary as per demand of the Institute at the time of placing order.
15. The bidders or their authorized representatives may also be present during the opening of the Technical Bid, if they desires, at their own expenses.
16. The tendering firm will also submit an undertaking that the product offered by them is as per technical specifications of the tender.
17. The rates shall be inclusive of transport and other costs for delivery of the items at Ranchi.
18. The rates shall be inclusive of all taxes applicable taking into consideration the warranty period as per the Tender Document. However, while submitting bills for payment, taxes should be shown separately.
19. All the supplies should be delivered to the consignee in the manufacturer's original packing and original markings.
20. Manual and documentation: All the manuals necessary for operating and servicing the equipment (including details of electronic circuits) will have to be provided along with the instrument.
21. Articles/instruments supplied shall be as per the approved sample and specifications. Or else, such Articles shall be rejected and returned to the Bidder at his own cost for replacement. Action will simultaneously be taken either to reduce the rates of the Articles/ instruments to be supplied up-to the extent of 10% or to blacklist the Firm besides affecting forfeiture of Earnest Money Deposit and initiation of action to obtain supplies from alternative sources at the risk and cost of

the Bidder.

22. In case of any breach of contract, Terms of Agreement and Purchase Order and its conditions, the decision of the Member Secretary, JSPCB, Ranchi is final and binding on the bidder.
23. Rejected goods or materials shall be removed at the expenses of bidder within seven days, after the notice has been given to the bidder. If not removed, the Member Secretary, JSPCB, Ranchi may cause the goods or materials to be removed and penalize the bidder with all expenses incurred in such removal.
24. The Bidders should affix stamp clearly of the concerned Firm on each item supplied by them after issue of Purchase Order while making delivery to this office Stores.
25. FORCE MAJEURE: Vendor shall not be considered in default if delay in delivery occurs due to causes beyond his control such as acts of God, natural calamities, civil, wars, strikes, fire frost, floods, riots and acts of usurped power. Only those causes which have duration of more than 7 calendar days shall be considered cause of force majeure. A notification to this effect duly certified by the Local Chamber of Commerce/Statutory Authorities shall be given by the Vendor to the buyer by registered letter. In the event of delay due to such cases a length of time equal to the period of force majeure or at the option of the buyer, the order may be cancelled. Such cancellation would be without any liability whatsoever on the part of buyer. In the event of such cancellation the vendor shall refund any amount advanced by the Purchaser and deliver back any material issued to him by the Purchaser and release facilities, if any, provided by the Purchaser.
26. Tender expenses and documents: All costs incurred by the bidder in the preparation of the tender shall be at the entire expense of the bidder.
27. Tender Evaluation Criteria: The technical bids will be opened and evaluated by a duly constituted committee. After evaluation of the technical bid, the financial bid for only those offers which have qualified in the evaluation of technical bid will be opened. After examination of the technical bid and price bid, JSPCB will have discretion to award the contract to more than one firm, if their rates are same.
28. JSPCB reserves the right to relax any terms and conditions in the govt. interest with the approval of Competent Authority.
29. This call of tenders does not bind the Jharkhand State Pollution Control Board to place order. The Jharkhand State Pollution Control Board reserves the right to cancel the tender at any stage (point of time) without assigning any reason.
30. Injury or Death of Person: The Supplier shall be liable for and shall indemnify the Board against any liability, loss claim or proceedings whatsoever arising under any statute or law in respect of personal injury death or any disability caused by the carrying out the Works unless due to any act or neglect of the Board, or of any person for whom the Board is responsible.

5 Documents required

The self attested & stamped scanned copies of following documents required to be attached with technical bid:-

1. The Demand draft of **Rs.2000/-** as Application Fee.
2. E.M.D. in favour of duly signed, scanned and attached amounting as per schedule of requirements.
3. Certificate regarding registration with DGS&D/NSIC, if claim EMD exemption.
4. Tax Registration Certificate.
5. Copy of latest Tax deposit receipt.
6. Technical specifications along with literature/brochure of the quoted product.
7. Tender Acceptance Letter.
8. List of owners/partners/directors etc.
9. Certificate for non-blacklisting of firm and non-registration of criminal case..
10. Undertaking that the product offered by them is as per technical specifications of the tender.
11. Undertaking for comprehensive warranty/guarantee for the period.
12. Documents showing experience in supplies to Govt Organizations.

6 Functional and Technical specification

Annexure I

Technical Specifications of Respirable Dust Sampler (PM₁₀ Sampler)

Parameters	Technical Requirement
Flow Rate	0.8 to 1.4 cubic meters per minute free flow with flow stabilization by constant flow control device
Suction pump/Blower	Brush less motor capable of giving flow up to 1.6 cubic meters per minute (free flow)
Size Selective Inlet and Particle Size	Cyclonic flow as per design developed by any CSIR Lab / IIT or impaction inlet as per USEPA design, for cut off particle greater than 10 µm. Particles of 10 microns and below collected on filter media
Filter holder	Designed to accept any standard glass fiber filter of 20.3 cm x 25.4 cm made out of fine finished Aluminium casting with Rubber gasket
Height of the inlet	The height of the inlet should be between 1.5 – 1.8, from the ground level and the sampler should stand alone firmly at erected position
Sampling time	24 hours (Flexible to set any interval of time)
Time Totalizer	0 to 9999.99 hours. Time-totalizer circuit detects blower stoppage due to any reason.
Automatic Sampling	24 hour programmable timer to automatically shut-off the system after pre-set time intervals.
Power Supply	230 ± 10 V AC; 50 Hz ± 3% AC Mains
Gaseous Sampling Attachment	
Flow Rate	0 - 2 LPM (Least count 0.05 LPM)
Flow Control	Four inlet and one outlet manifold with built in needle valves and fitted with Silica Gel Tubes with locking facility for flow control of each inlet for running all types of impingers viz. Fritted, Midget and Muenke
Sampling Train	4 Nos. of 35 ml Borosilicate glass midget impingers kept in ice tray
Top Loading Orifice Calibration unit (Optional)	Top Loading Orifice Calibration unit with resistance plates, U-tube manometer and barometer (as per USEPA design) to fit on the filter support plate of the sampler

**TECHNICAL SPECIFICATIONS
MANUAL FILTER BASED LOW VOLUME PM_{2.5} SAMPLER**

Sampler	Manual Filter Based Sampler (filter diameter 47 mm) as per sampler design & performance criteria as mentioned at Section A,B,C & D in the document.
Flow rate	1 m ³ /hour (16.7 lpm) controlled by a suitable Flow Controller. The Flow Performance criteria should comply with BIS method 5182 (Part 24) 2019 Accuracy $\pm 2\%$ of the reading.
Size Selective Inlets	Should have opposed jet impaction for PM10 cut-off and WINS impactor/VSCC for PM _{2.5} collection on filter paper.
Height of the Inlet	The height of the inlet should be between 2 ± 0.2 m from the base of the sampler and the sampler should stand alone firmly at erected position
Time Totalizer	Operates only during operation of the pump, display time with a resolution of one second.
Vacuum pump	Suitable pump with brushless motor for providing the designed flow rate. Pulsating pump should have built-in pulse dampeners.
Flowrate Control	<p>Sampler should maintain designed volumetric flow rate (16.7 LPM) at inlet incorporating dynamic volumetric corrections with respect to temperature and barometric pressure. Necessary compensation of volumetric flow rate due to compensating pressure drop across the filter should also be ensured.</p> <p>Ambient temperature, barometric pressure during sampling must be displayed and recorded.</p> <p>Flow rate should be measured at least at 30 seconds interval and averaged over 5 minutes. The flow rate shall not vary more than $\pm 5\%$ from the specified flow of 16.7 lpm.</p>
Data Management	<p>Memory-based recording for flowrate and total volume over five minutes should be downloadable to a computer through a suitable port and USB drive.</p> <p>Current/last logged data should be displayed. Logged data should have cloud connectivity and data of last sampling ten days must be available for crosschecking.</p> <p>Data management requirements (other) & ready reference as mentioned in the document Sections C & D.</p>

n /

Power Supply	A stabilized power supply through suitable voltage stabilizer having display of input and output voltage should ensure an output voltage within 230 ± 10 V, AC 50 Hz.
Supply of Accessories	Manufacturer's standard operation kit must include all required, fittings and accessories for the operation of sampler. Accessories to be supplied with each unit should include Leak check unit-1No., Filter cassettes-2Nos, Filter Cassette Holder-1No., Blunt Tip Forceps-1No., Filter Carrier-3Nos., Silicon Grease 10gm -1 box, Impaction Oil - 100 ml-1 bottle, One Set of O-rings and Cleaning Brush.
Documents	Operation and maintenance manual of sampler, along with data transfer protocols used with their technical description for data management and data transfer.
Certificates	Calibration certificates issued by the manufacturer with references used for Flowrate, Temperature, Barometric Pressure and Time Totalizer should be supplied with each instrument. A satisfactory performance check certificate as mentioned in section B (para 2) is provided along-with all the data-sets recorded in the system for data management etc.
Validation	Preliminary test report/validation issued by NPL to be submitted for respective make and model. Any changes in model or declared components of the equipment require revalidation by NPL. Submission of a preliminary test report/validation from NPL as per the set criteria of NPL is mandatory on or before 30 th September 2023.

Section A: Sampler Design Criteria

Impactors of the sampler shall be designed as per specifications mentioned in Appendix L of 40 CFR part 50 Appendix L as defined in BIS 5182 part 24 and tolerances to be followed as specified for PM₁₀ and PM_{2.5} impactor in L14 & L21.

The Material of Construction for the impactor assembly shall be strictly anodised aluminium only

Sampler Body must be of two parts for ease of transport and fabricated by lightweight rust-free metal. The door must open up to 180 degrees and be fitted with a master lock and key. A soft handle with metallic holder and lock should be provided on the machine for ease of handling.

n . f . m

The connectors shall be leak proof, preferably push fit type with engraved groove for gaskets at male parts.

Filter cassette loading mechanism and filter holder assembly shall be designed in user-friendly way and sufficient space must be provided to ensure proper handling of filter while loading and unloading it in the sampler.

Pressure drop across the filter should be monitored during sampling and whenever it reaches above 200 mm of Hg; the sampler shall stop automatically with an error message recorded.

Provision is required to limit the temperature rise of the sample filter from insolation & internal heat dissipation. The rise should not be more than 5-degree C above the ambient temperature during the sampling duration. The temperature error message should be recorded if temperature rise is more than 5 degrees C.

Section B: Sampler Performance criteria

The coefficient of variation (CV) in sample flow rate (taken at every 30 seconds) should be calculated and if the %CV (in 24hours of operation) is found more than 4% error message should be displayed and recorded.

Satisfactory performance check (the variation in PM_{2.5} concentrations against sampler fitted with certified impactors should be within ± 10 %) for a minimum of five samples should be undertaken for every sampler manufactured and a certificate for satisfactory performance to be provided.

Section C: Data management requirements(other)

The 5 minutes recording of the average Flow rate, Barometric Pressure, Ambient Temperature, Filter Temperature with the date and time stamp should be available with the sampler

The software should be able to collect the flow sensor status every 30 seconds and display on the screen and compare it with the set flow (i.e, 16.7 LPM). Deviation should not be more than ± 5 % of the set value (16.7 LPM).

The software should have the capability to compare the recorded 5 minutes' average flow data with the set value of 16.7 lpm. If the deviation is more than 10% of set value for 6 consecutive readings instrument must be automatically switched off with an error message.

Average flow should be derived by the cumulative volume data recorded (collected by integration of flow data at desired intervals) divided by the ON-Time of machine.

Section D: The Data management requirements - ready reference -

Parameter	Availability				Formats & resolutions	
	Anytime on display	End of Period in download	Visual Display on Screen	Data Output in download	Digital Reading	Units
Flow Rate, 30 Seconds Interval	Required	Not required	Required	Not required	XX.X	L/min
Flow rate, average for the sample period	Not required	Required	Required	Required	XX.X	L/min
Flow rate, Coefficient of variation (CV), for the sample period	Not required	Required	Not required	Required	XX.X	%
Flow rate, 5 minutes average	NA	Required	Not required	Required	XX.X	L/min
Sample volume, Total	Required	Required	Any Time	Required	XX.XXX	m3
Temperature, ambient, 30 seconds interval	Required	Not required	Yes	Not required	XX.X	°C
Temperature, ambient Average for recording interval (5 minute)	NA	Required	Not required	For sampling period	XX.X	°C
Barometric Pressure, ambient, 30 seconds interval	Required	Not required	Yes	Not required	XXX	mmHg / mbar
Barometric Pressure, ambient Average for Recording Interval (5 Minute)	Not required	Not required	Not required	For sampling period	XXX	mmHg / mbar
Filter Temperature, 30 seconds interval	Required	Not required	Yes	Not required	XX.X	°C
Date and Time	Required	Required	Required	For sampling period	dd/mm/yy * HH.MM.S S	D/M/Y HR:M: S

∩ ∩

Specifications of Hot Air Oven:

SNo.	Specifications	Requirement
1.	Internal Chamber Size	50x50x70cm(LxWxH)
2.	Outer body	Powder coated Mild steel.
3.	Inner Chamber	Double wall construction inner chamber made of Corrosion resistant stainless steel
4.	Trays	3Nos.stainless steel, perforated, adjustable
5.	Door	Single door fitted with heavy brass chrome plated Hinges and door lock
6.	Cabinet	Cabinet double walled mild steel
7.	Insulation	Glass wool
8.	Air Circulation	Ventilated through internal noise free fan with ISI Mark to assist circulation of air
9.	Operating temperature range	Ambient to 250°C
10.	Temperature control	Microprocessor based system with PID-temperature controller with digital display with accuracy of ± 0.5 °C, installation should be on top towards door side. Temperature Controller should be calibrated.
11.	Power	230 \pm 10volts50HzAC
12.	Heaters & heating load	ISI marked heating elements 2KW
13.	Environmental factors	The unit shall be capable of operating continuously In ambient temperature of 10– 40 °C and relative humidity of 15-90%
14.	Ventilator	Two adjustable air ventilator on both upward side of The instrument
15.	Standard	The apparatus should confirm to IS:6365-1971(Reaffirmed 1995) with latest amendments in Indian Standard Specifications for Laboratory Electric ovens or equivalent International Standards covering marking, tests and safety requirements.

Specifications of Meteorological Instrument

Specifications for Weather Monitoring Station Specifications of Wind Speed Sensor–

Principle : Three cup Anemometer with non-contact Optical Sensing
 Range : 0.5 to 100km/hr.
 Accuracy : +/- 0.5 m/sec.
 Operating Temp : 0 to 55 deg C.

Specifications of Wind Direction Sensor –
 Principle : Potentiometer type with SS shaft
 Range : 0-355 degrees electrical & 0-360 degrees mechanical
 Resolution : 1 degree
 Accuracy : + / - 3 degrees
 Operating Range : 0 to 55 deg C

Specifications of Relative Humidity Sensor -
 Principle : Solid State Thin film Capacitor based Humidity Sensor
 Range : 3-99%
 Operating Temp : 0 to 60 deg C
 Response time : Less than 15 sec
 Accuracy : +/- 3 % of full scale reading
 Resolution : 0.1%

Specifications of Temperature Sensor - Principle :
 Standard PT1000 Platinum Resistance
 Range : 0 to 60 deg C
 Accuracy : +/- 0.2 deg C
 Resolution : 0.1 deg C

Specifications of Rainfall Sensor -
 Principle : Tipping bucket with Reed Switch Sensor
 Accuracy : 1mm of rainfall
 Resolution : 0.5 mm of rainfall

Specifications of Solar Radiation Sensor -
 Calibration: Calibrated against Precision Spectral Pyranometer (PSP) under natural daylight conditions.
 Typical error under these conditions should be $\pm 5\%$.

Sensitivity: Typically 90 μA per 1000 W m⁻².
 Linearity: Maximum deviation of 1% up to 3000 W m⁻².
 Stability: < $\pm 2\%$ change over a 1 year period.
 Response Time: 10 μs .
 Temperature Dependence: 0.15% per °C maximum.
 Operating Temperature: -40 to 65°C

Memory Capacity : Forty five days storage of all parameters in non-volatile flash memory.

Synchronization with Real Time : Built-in battery backed Real time clock.

Data Access : The system should be interfaced directly to a standard RS232 (COM) Port / USB Port of a PC/Laptop for data transfer.

Software : Windows compatible, Software should be provided for data download to a PC and analysis. Software should also support analysis tools include export to MS Excel, Graphs, Monthly Averages & Windrose Diagrams.

Power Requirement: The system should be powered by a Rechargeable Ni-MH battery pack that can keep the system operating for about 15 hours. An optional Solar Panel based charger should also be provided to make system independent of mains power.

Annexure V**Specifications for Micro Analytical Balance**

The Micro Analytical Balance for weighing of PTFE filters used in PM2.5 monitoring with StainlessSteel Draft Shield.

S.No.	Specifications	Requirement
1.	Readability	0.001mg(6decimals)
2.	Weighing Range/Capacity	6gm
3.	Tarring Facility	Entire range
4.	Repeatability	$\leq\pm 0.001\text{mg}$
5.	Linearity	$\leq\pm 0.004\text{mg}$
6.	Sensitivity Drift	Maximum $\pm 1\text{ppm}/^\circ\text{C}$
7.	Stabilization Time	$\leq 5\text{secs.}$
8.	Weighing pan diameter	50mm (minimum) (for weighing 47mm filters)
9.	Display	LCD/Graphic
10.	Calibration adjustment	Internal, fully automatic adjustment
11.	Power supply	Should operate on $230\pm 10\text{Volts}, 50\text{Hz. AC}$
12.	Other requirement	Provision to neutralize interference From electrostatic charges
13.	Optional	Standard Weight Box of E2 Class traceable to National/International Standards

Specifications for Refrigerator (Small 180-210 Liters)

S.No	Specifications	Requirement
1.0	Technical Specifications	
1.1	Type	Vertical (5star BEE Rating)
1.2	Storage Capacity	180 to 210 liters
1.3	Model Type	Single Door
1.4	Method of Defrosting	Frost Free
1.5	Ambient Temperature	15°C-40°C
1.6	Temperature Range	0°C-10°C(Refrigerator) -1°C-10°C(Freezer)
1.7	Voltage Range at40°C	Capable of working on 230±10Volt, 50Hz AC
1.8	Temperature Display	Dual display temperature controller cum Indicator for each compartment
1.9	Insulation	Puff/Maxi2/Polyurethane
1.10	Refrigerant Gas	CFC free
1.11	Compressor	Power saver compressor
1.12	Power Source	230±10Volts, 50HzAC
1.13	Stabilizer	Inbuilt stabilizer
1.14	Colors	Any Color with metallic finish (Metallic Color)
2.0	Additional Specifications	
2.1	Accessories Required	Adjustable shelves, chiller tray, temperature controller, auto lamp On/off feature should be supplied with all standard accessories. The freezer compartment should have room for Four standard ice trays.
2.2	Door Lock & Security Key Lock	Lock and set point security option, facility of Key access.

Specifications of Desiccator

- Material: 3.3 Borosilicate Glass
- Colour: Clear
- Approx ID Ground Flange: 450mm
- Class/ Quality Grade: Type I
- Quantity Per Case: 1

Technical specifications of Spectrophotometer (UV-VISIBLE)

Computer / software controlled UV– Visible Spectrophotometer with USB interface, which can work as stand alone in the absence of PC. Should be supplied with PC and printer (color)		
Spectral Band width	:	2nm or better
Optical System	:	Double beam, Blazed holographic grating in Czerny-Turner using 1200 lines/mm holo graphic grating. Light source Deuterium and Tungsten-halogen lamp with facility of auto optimization of beams
Detector	:	Silicon photo diode
Wavelength Range	:	190 to1100 nm
Accuracy	:	Better than or equal to1nm
Reproducibility	:	0.1nm
Photometric detail Readout	:	High resolution LCD
Range	:	0.00to150.0T, 0.000to3.0A 0.000to1999C
Accuracy	:	Better than1% or 0.005A
Noise	:	Better than 0.00005A at 500nm
Stability	:	0.001A/hour at constant temperature
Filter and Lamp selection	:	Automatic coupled with wavelength
Cell Holder	:	For holding 10 mm & 50 mm path length Rectangular cuvettes having automatic selection capability
Other features	:	Standard software includes Scan, Overlay, Ratioing, Sequential scan, Scan storage, Time course plot, Method storage, Reaction kinetics, Curve fitting, Editing, Peek seek, Automatic search and Base line flattening
Power	:	230±10V/50HzAC
Standard item to be supplied	:	Four square quartz cuvettes (10 mm path length), Two rectangular quartz cuvettes (50mm path length); Operation and maintenance manual(English), Dust cover, Power cable with plug to suit Indian socket.
Consumables and spares	:	For three year operation
Optional Accessories	:	Absorbance filters (0.25, 0.5, 1.0, 1.5 A) and Wavelength filters (Holmium and Didymium) with certificate

7. Price format (BoQ)

S. No.	Item Code	Instrument/Equipment	The Specification offered by the Bidder	Difference in Specifications of tender document and that of Bid, if any	Quantity Required	Unit Price	Total Amount (Inclusive of the cost of Training/Installation/GST etc to be mentioned) (Please indicate breakup)
1.	JSPCB-01	PM10Sampler			34		
2.	JSPCB-02	PM2.5Sampler			29		
3.	JSPCB-03	Balance			7		
4.	JSPCB-04	Refrigerator			7		
5.	JSPCB-05	Desiccator			7		
6.	JSPCB-06	Oven			4		
7.	JSPCB-07	Spectrophotometer			4		
8.	JSPCB-08	Meteorological parameters			4		

(Note: Price of all the instruments must be submitted as per the format given above)

UNDERTAKING

DATE _____
TENDER NOTICE NO _____

TO
THE MEMBER SECRETARY
JHARKHAND STATE POLLUTION CONTROL BOARD
T. A. DIVISION BUILDING, RANCHI-834004

Sir,

Having examined the conditions of Tender Document and specifications of the instruments, the receipt of which is hereby acknowledged. We, the undersigned, offer to supply, delivery and successful installation of the following:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 8.
- 9.
- 10.

(Please add additional pages, if required).The above supply, installation & commissioning shall be in conformity with the specifications and conditions of supply.

We undertake if our bid is accepted to deliver the instruments quoted by us, we shall deliver and install within the period indicated by us in our offer. We also undertake that in case of our failure to deliver the item on specified time, appropriate penalty can be levied on us.

We agree to abide by this bid for a period of 180 days from the date fixed for Bid opening and it shall remain binding upon us and may be accepted at any time before expiration of that period.

We are submitting a Demand Draft for Rs...../in bid Currency in favour of "**The Member Secretary, Jharkhand State pollution Control Board** ", Ranchi towards the Earnest Money.

This Bid, together with your written acceptance thereof in your notification of award shall constitute a bidding contract between us. We understood that you are not bound to accept the lowest or any bid you may receive.

Dated this.....day of.....2025

Signature of authorized Person, Name with Stamp & full Address.

INTEGRITY PACT

General

This Contract Agreement (hereinafter called the Integrity Pact) is made onday of the month of2025, between, JSPCB, An autonomous body acting through Member Secretary, JSPCB hereinafter called the “BUYER”, which expression shall mean and include, unless the context otherwise requires, his successors in office and assigns of the First Part and M/s..... represented by Shri....., Chief Executive Officer (hereinafter called the “BIDDER / SELLER” which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second Part.

WHEREAS the BUYER proposes to procure (Name of the Stores/Equipment/Item) and the BIDDER/Seller is willing to offer/has offered the stores and

WHEREAS the BIDDER is a private company/public company/Government undertaking/partnership/registered export agency, constituted in accordance with the relevant law in the matter and the BUYER JSPCB work under the ageis of Environment & Forests, performing its functions as per the provisions of Water Act 1974, Air Act ,1981 and EPA Act, 1986.

NOW, THEREFORE, To avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to :-

Enabling the BUYER to obtain the desired said stores/equipment at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement, and Enabling BIDDERS to abstain from bribing or indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the BUYER will commit to prevent corruption, in any form, by its officials by following transparent procedures. The parties hereto hereby agree to enter into this Integrity Pact and agree as follows:

1. Commitments of the BUYER

- 1.1. The BUYER undertakes that no official of the BUYER, connected directly or indirectly with the contract, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the BIDDER, either for themselves or for any person, organization or third party related to the contract in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.
- 1.2. The BUYER will, during the pre-contract stage, treat all BIDDERS alike, and will provide to all BIDDERS the same information and will not provide any such information to any particular BIDDER which could afford an advantage to that particular BIDDER in comparison to other BIDDERS.
- 1.3. All the officials of the BUYER will report to the appropriate Government office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.
- 1.4. In case any such preceding misconduct on the park of such official(s) is reported by the BIDDER to the BUYER with full and verifiable facts and the same is prima facie found to be correct by the BUYER, necessary disciplinary proceedings, or any other action as deemed fit,

including criminal proceedings may be initiated by the BUYER and such a person shall be debarred from further dealings related to the contract process. In such a case while an inquiry is being conducted by the BUYER the proceedings under the contract would not be stalled.

2. Commitments of BIDDERS

The BIDDER commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract stage in order to secure the contract or in furtherance to secure it and in particular commit itself to the following:-

- 2.1 The BIDDER will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BUYER, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.
- 2.2 The BIDDER further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BUYER or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or execution of the contract or any other contract with the Government for showing or forbearing to show favour or disfavour to any person in relation to the contract or any other contract with the Government.
- 2.3 BIDDERS shall disclose the name and address of agents and representatives and Indian BIDDERS shall disclose their foreign principals or associates.
- 2.4 BIDDERS shall disclose the payments to be made by them to agents/brokers or any other intermediary, in connection with this bid/contract.
- 2.5 The BIDDER further confirms and declares to the BUYER that the BIDDER is the original manufacture/integrator/authorized government sponsored export entity of the defence stores and has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate or in any way to recommend to the BUYER or any of its functionaries, whether officially or unofficially to the award of the contract to the BIDDER, nor has any amount been paid, promised or intended to be paid to any such individual, firm or company in respect of any such intercession, facilitation or recommendation.
- 2.6 The BIDDER, either while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payments he has made, is committed to or intends to make to officials of the BUYER or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.
- 2.7 The BIDDER will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.
- 2.8 The BIDDER will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.
- 2.9 The BIDDER shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by the BUYER as part of the business relationship, regarding plans, technical proposals and business details, including information contained in any electronic

data carrier. The BIDDER also undertakes to exercise due and adequate care lest any such information is divulged.

- 2.10 The BIDDER commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.
- 2.11. The BIDDER shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.
- 2.12 If the BIDDER or any employee of the BIDDER or any person action on behalf of the BIDDER, either directly or indirectly, is a relative of any of the officers of the BUYER, or alternatively, if any relative of an officer of the BUYER has financial interest/stake in the BIDDER's firm, the same shall be disclosed by the BIDDER at the time of filling of tender
- 2.13 The BIDDER shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the BUYER.

Previous Transgression

- 3.1 The BIDDER declares that no previous transgression occurred in the last three years immediately before signing of this Integrity Pact, with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India that could justify BIDDER's exclusion from the tender process.
- 3.2 The BIDDER agrees that if it makes incorrect statement on this subject, BIDDER can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

4. Sanctions for Violations

- 4.1 Any breach of the aforesaid provisions by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER) shall entitle the BUYER to take all or any one of the following actions, wherever required: -
 - i. To immediately call off the pre-contract negotiations without assigning any reason or giving any compensation to the BIDDER. However, the proceedings with the other BIDDER (s) would continue.
 - ii. The Earnest Money Deposit (in pre-contract stage) and/or Security Deposit/Performance Bond (after the contract is signed) shall stand forfeited either fully or partially, as decided by the BUYER and the BUYER shall not be required to assign any reason therefore.
 - iii. To immediately cancel the contract, if already signed, without giving any compensation to the BIDDER.
 - iv. To recover all sums already paid by the BUYER, and in case of an Indian BIDDER with interest thereon at 2% higher than the prevailing Prime Lending Rate of State Bank of India, while in case of a BIDDER from a country other than India with interest thereon at 2% higher than the LIBOR. If any outstanding payment is due to the BIDDER from the BUYER in connection with any other contract for any other stores, such outstanding payment could also be utilized to recover the aforesaid sum and interest.

- v. To encash the advance bank guarantee and performance bond/warranty bond, if furnished by the BIDDER, in order to recover the payments, already made by the BUYER, along with interest.
- vi. To cancel all or any other Contracts with the BIDDER. The BIDDER shall be liable to pay compensation for any loss or damage to the BUYER resulting from such cancellation/rescission and the BUYER shall be entitled to deduct the amount so payable from the money (s) due to the BIDDER.
- vii. To debar the BIDDER from participating in future bidding processes of the Government of India for a minimum period of five years, which may be further extended at the discretion of the BUYER.
- viii. To recover all sums paid in violation of this Pact by BIDDER (s) to any middleman or agent or broker with a view to securing the contract.
- ix. In cases where irrevocable Letters of Credit have been received in respect of any contract signed by the BUYER with the BIDDER, the same shall not be opened.
- x. Forfeiture of Performance Bond in case of a decision by the BUYER to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.

4.2 The BUYER will be entitled to take all or any of the actions mentioned at para 4.1 (i) to (x) of this Pact also on the Commission by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER), of an offence as defined in Chapter IX of the Indian Penal code, 1860 or Prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption.

4.3 The decision of the BUYER to the effect that a breach of the provisions of this Pact has been committed by the BIDDER shall be final and conclusive on the BIDDER.

5. Fall Clause

5.1 The BIDDER undertakes that it has not supplied/is not supplying similar product/systems or subsystems at a price lower than that offered in the present bid in respect of any other Ministry/Department of the Government of India or PSU and if it is found at any stage that similar product/systems or sub systems was supplied by the BIDDER to any other Ministry/Department of the Government of India or a PSU at a lower price, then that very price, with due allowance for elapsed time, will be applicable to the present case and the difference in the cost would be refunded by the BIDDER to the BUYER, if the contract has already been concluded.

6. Facilitation of Investigation

In case of any allegation of violation of any provisions of this Pact or payment of Commission, the BUYER or its agencies shall be entitled to examine all the documents including the Books of Accounts of the BIDDER and the BIDDER shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination.

7. Law and Place of Jurisdiction

This Pact is subject to Indian Law. The place of performance and jurisdiction is the seat/place of the BUYER.

8. Other Legal Actions

The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

9. Validity

9.1 The validity of this Integrity Pact shall be from date of its signing and extend upto 5 years or the complete execution of the contract to the satisfaction of both the BUYER and the BIDDER/Seller, including warranty period, whichever is later. In case BIDDER is unsuccessful, this Integrity Pact shall expire after six months from the date of the signing of the contract.

9.2 Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact shall remain valid. In this case, the parties will strive to come to an agreement to their original intentions.

10. The parties hereby sign the Integrity Pact aton.....

BUYER

BIDDER

Name of the Officer

CHIEF EXECUTIVE OFFICER

Designation

Deptt./MINISTRY/PSU

Witness

Witness

1.....

2.....

1.....

2.....