

**REVISED GLOBAL E-TENDER FOR
SUPPLY, INSTALLATION AND COMMISSIONING OF EQUIPMENT/
INSTRUMENTS FOR LABORATORIES OF
CENTRAL POLLUTION CONTROL BOARD, DELHI**

Tender No.:C-47011/ICB/06-11/2018-19/Mat.



**Central Pollution Control Board
(Ministry of Environment Forests & Climate Change)
Parivesh Bhawan, East Arjun Nagar.
Delhi – 110032. India
Tel. Nos. 22308202, 43102030 – Extn.242, 243**

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Section-I

NOTICE INVITING TENDER (NIT) THROUGH E-PROCUREMENT

Tender No. C-47011/ICB/06-11/2018-19/Mat.

Dated: 06.11.2018

- 1.1 For Central Pollution Control Board (CPCB), Parivesh Bhawan, East Arjun Nagar, Delhi-110032 invites Global e-tenders for Supply, Installation and Commissioning of Laboratory Equipment/ Instruments (GC-ECD-FPD, HPLC, Stack Sampling Equipment, Atomic Absorption Spectrophotometer (AAS), Mercury Analyzer & Water Purification System) for use in analytical works of various Laboratories of Central Pollution Control Board, Govt of India. The Tender Documents will be available on official website www.cpcb.gov.in and on www.eprocure.gov.in
- 1.2 Details of the goods required, specifications, eligibility and pre-qualifications to bid and instructions on how to bid and other details are available in the Tender Document which can be downloaded from www.eprocure.gov.in, or www.cpcb.gov.in.
- 1.3 Interested Bidders may download the Tender Documents and submit their tenders online, only at Central Public Procurement Portal website: <https://eprocure.gov.in/eprocure/app>.
- 1.4 Earnest Money Deposit (EMD), as specified in **Table-I** given in the Tender No.:C-47011/ICB/06-11/2018-19/Mat., in the form of Bank Guarantee/DD/FDR in favour of “Central Pollution Control Board” payable at New Delhi, must reach at the address given below on or before the last date of submission of bids . Bidders, however, have to attach scanned copies of EMD along with the Technical bid of their e-tender.

Administrative Officer (Material),
Central Pollution Control Board,
Parivesh Bhawan,
East Arjun Nagar, Shahdara, Delhi-110032
011-22308202, 43102243

CRITICAL DATE SHEET

Description	Date	Time
Date of Publishing	06.11.2018	10.00 AM
Bid Document Download/Sale Start Date	06.11.2018	10.00 AM
Clarification Start Date	06.11.2018	10.00 AM
Clarification End Date	15.11.2018	03.00 PM
Pre Bid Meeting	26.11.2018	11.00 AM
Uploading of Minutes/ Clarifications/ Corrigendum on CPP Portal	29.11.2018	10.00 AM
Bid Submission Start Date	29.11.2018	10.00 AM
Bid Submission End Date	21.12.2018	06.00 PM
Technical Bid Opening Date	24.12.2018	11.00 AM
Financial Bid Opening Date	Will be intimated after Technical Evaluation	

- 1.5 The undersigned reserves the right to withdraw, modify and/or cancel the tender without assigning any reasons whatsoever.

-sd-
Member Secretary
CPCB, Delhi

TABLE - I

Srl No.	Item Code	Type of Equipment/Instrument	Number of Units required	Earnest Money Deposit (Rs.)
1.	ICB-06	Gas Chromatograph (GC-ECD-FPD)	1	Rs. 1,00,000/- (Rs. One Lakh Only)
2.	ICB-07	High Pressure Liquid Chromatograph (HPLC)	1	Rs. 1,00,000/- (Rs. One Lakh Only)
3.	ICB-08	Stack Sampling Kit	1	Rs. 1,50,000/- (Rs. One Lakh Fifty Thousand Only)
4.	ICB-09	Atomic Absorption Spectrophotometer (AAS)	1	Rs. 1,00,000/- (Rs. One Lakh Only)
5.	ICB-10	Mercury Analyzer	1	Rs. 75,000/- (Rs. Seventy Five Thousand Only)
6.	ICB-11	Water Purification System (WPS)	1	Rs. 25,000/- (Rs. Twenty Five Thousand Only)

SECTION - II
INSTRUCTIONS TO BIDDERS

2.1 Introduction

2.1.1 Central Pollution Control Board (CPCB) for invites e -tenders from eligible and qualified Bidders for supply, installation, commissioning of Laboratory Equipment/ Instruments (GC-ECD-FPD, HPLC, Stack Sampling Equipment, AAS, Mercury Analyzer & Water Purification System) to carry out day-to-day analytical works in the Laboratories of Central Pollution Control Board as detailed in Section IV “Schedule of Requirements” and which meet the pre-qualification criteria, specifications, technical details, quality assurance, etc. as indicated in Section IV & Annexure-II.

2.1.2 This section gives instructions to Bidders regarding preparation and submission of tenders and explains the mode and procedure to be adopted for receipt and opening, scrutiny and evaluation of tenders and subsequent placement of contract.

2.1.3 Failure to provide the required information and/or failure to comply with the instructions in these tender documents or give false/incorrect information may result in rejection of its tender.

2.2 Definitions

2.2.1 The following terms used in these documents shall have the meaning as indicated below:

2.2.2 Definitions:

- i. “Bidder” means Bidder who has submitted valid bid in this tender.
- ii. “Contract” means the written agreement entered into between the Purchaser and the Supplier together with all the documents mentioned therein and including all attachments, annexures, etc.
- iii. “Consignee” means the person to whom the goods are required to be delivered as specified in the Contract. If the goods are required to be delivered to a person as an interim consignee for the purpose of dispatch to another person as provided in the Contract then that “another” person is the consignee, also known as ultimate consignee.
- iv. “Contract price” means the price provided in Section II of the tender document.
- v. “Day” means calendar day.
- vi. “Delivery” means supply of systems or stores in finished and completely ready-for-use condition. The delivery shall be deemed to take place on delivery of the systems or stores at the places of installation in accordance with the terms of the Contract after taking over the systems and issuance of delivery & acceptance certificate to the Supplier of the same at the sites and approval of the same by the jurisdictional Commissioners of the Department or the Inspecting Authority.
- vii. “Goods” means the goods indicated in the Schedule of Requirements (Section IV).
- viii. “Earnest Money Deposit” (EMD) means monetary guarantee to be furnished by a Bidder.
- ix. “Inspection” means activities such as measuring, examining, testing, gauging one or more characteristics of the product or service and comparing the same with the specified requirement to determine conformity.
- x. "Inspecting Authority" means the authorized representative of the Department to act as Inspecting Authority for the purpose of this contract and for the purpose of ascertaining the progress of the deliveries under the contract.
- xi. “L1” means the Bidder whose tender is the lowest;
- xii. "Material" means anything used in the manufacture or assembly of Equipment/ Instruments or its parts.
- xiii. “Maintenance Contractor” means the contractor entrusted with the responsibility of maintaining the goods in warranty and post warranty period.
- xiv. “Original Equipment Manufacturer” means the firm which manufactures, assembles/ integrates and supplies the offered Equipment/ Instruments.

- xv. “Performance Security / Security Deposit” means monetary guarantee to be furnished by the Supplier for due performance of the terms of contract.
- xvi. “Purchaser” means the President of India acting through Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi-110032 and includes his successors in office, nominees, authorized representatives.
- xvii. “Services” means services allied and incidental to the supply of goods, such as transportation, installation, commissioning, provision of technical assistance, training, after sales service, maintenance service, product support and other such obligations of the Supplier covered under the contract.
- xxviii. “Specification” means the document / standard that prescribes the requirement with which the goods or service have to conform and include;
 - a. Specifications / Requirements
 - b. Drawings / Data and other relevant information for the turn key execution of contract
 - c. Proprietary mark or brand means the mark or brand of a product, which is registered by an industrial Bidder.
 - d. Any other details governing the construction, manufacture or supply of goods as may be prescribed in the Contract.
- xix. “Supplier” means the individual, company or the firm supplying the goods and services, to which the award has been issued under this tender.
- xx. “E-Tender/Tender” means quotation/bid submitted online.
- xxi. “Bidder” means individual, company, firm offering the tender.
- xxii. “Technical specification” includes-
 - a. Specifications, Drawings, Documents and certificates as referred in Annexure-II.
 - b. Any other details governing the construction, manufacture or supply of stores as may be prescribed in the contract.
- xxiii. "Test / Trial" means such tests as are prescribed in specifications to be made by the Purchaser or his nominee.
- xxiv. “User Laboratory /Commissionerate” means those Offices under whose jurisdiction the Equipment & Instruments are to be installed and accepted as detailed in Section IV.
- xxv. “Central Board” means Central Pollution Control Board, Ministry of Environment, Forest & Climate Change, Govt of India.

2.3 Abbreviations:

“AERB”	-	Atomic Energy Regulatory Board of India
“AMC”	-	Annual Maintenance Contract
“BG”	-	Bank Guarantee
“CD”	-	Custom Duty
“CIF”	-	Cost, Insurance & Freight
“CIP”	-	Carriage and Insurance Paid
“CPCB”	-	Central Pollution Control Board
“CPPP”	-	Central Public Procurement Portal
“DD”	-	Demand draft
“DDP”	-	Delivery Duty Paid
“EMD”	-	Earnest Money Deposit
“FOR”	-	Free on Road
“NIST”	-	National Institute of Standards & Technology
“NIT”	-	Notice Inviting Tender
“OEM”	-	Original Equipment Manufacturer
“USEPA”	-	United States Environmental Protection Agency

2.4 Language of tender

2.4.1 The tender and all subsequent correspondence shall be in English. If any literature submitted by the Bidder is any other language, an authenticated English translation thereof should also be submitted and in such a case, the English translation shall be considered for interpretation of the tender.

2.5 Eligible Bidders

2.5.1 Only Bidders who fulfil the pre-qualification criteria specified in Section V are eligible to apply.

2.6 Tendering Expense

2.6.1 The Bidder shall bear all costs and expenditure incurred and/or to be incurred by it in connection with its tender including preparation, mailing and submission of its tender and for subsequent processing the same. The Purchaser will, in no case be responsible or liable for any such cost, expenditure etc. regardless of the conduct or outcome of the tendering process.

2.7 Amendments to Tender Documents

2.7.1 Purchaser may, at any time prior to the deadline for submission of tenders, for any reason, whether at his own initiative or in response to a clarification requested by a potential Bidder, modify the Tender Documents by issuance of Addenda or Corrigenda. They can be downloaded from the website www.cpcb.gov.in or www.eprocure.gov.in.

2.7.2 All such amendments shall be binding on the Bidder. The tender Documents shall be deemed to be amended only by way of the amendments mentioned above. Any other communication issued to the Bidders shall not be construed as an amendment to the Tender Documents.

2.7.3 In order to give the potential Bidder reasonable time to prepare their tenders as per the amendment, the Purchaser may, at its discretion extend the deadline for the submission of tenders and other allied time frames, which are linked with that deadline.

2.8 Clarifications on Tender Documents

2.8.1 Prospective Bidders seeking clarifications on the tender document should submit their queries through email at sethuraman.cpcb@nic.in on or before the clarification end date prescribed in NIT. These queries would be answered in the pre-bid conference. Instructions for submitting online tender is enclosed in Appendix-1.

2.8.2 A **Pre-Bid conference** will be held on the date prescribed in NIT, at Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Shahdara, Delhi-110032. Bidders or their authorized representative(s) may attend the Pre-bid conference. The authorized representative(s) (maximum two) who attend the Pre-Bid Conference should bring with them letters of authority from the Bidder they represent.

2.8.3 All clarifications provided at or in connection with the pre-bid conference shall be uploaded on the websites www.cpcb.gov.in or www.eprocure.gov.in. No queries and requests for clarifications, either written or oral, will be entertained after the Pre-Bid Conference.

2.9 Documents Comprising the Tender

2.9.1 The Tender shall be submitted online in two covers, First cover will contain Technical Bid and second cover will contain Price Bid.

2.9.2 Technical Bid i.e. first cover, shall, *inter alia*, contain the following:

- a) Scanned copy of Earnest money furnished in accordance with clause 2.16 of Section II or, documentary evidence as per Section II for claiming exemption from payment of earnest money.
- b) Tender Form as per Form-1 of Section VII.
- c) Documentary evidence, establishing that the Bidder is eligible to submit the tender and, also, qualified to perform the contract if it's tender is accepted. The documentary evidence needed to establish the Bidders qualifications shall be:
 - (i) In this tender either the Indian 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. The supplier/ authorized Indian agent/Authorised Representative should have minimum two years' continuous agency /partnership/joint venture/participation or collaboration with their principal foreign supplier/OEM. The documentary proof of such agency ship /authorization/MOU should be submitted alongwith the technical part as per Form - 2 of Section VII in this document.. The bid of the firm does not contain the proof of such nomination/authorization as Indian agent/authorized representative will be rejected.

- d) Documents and relevant details to establish that the goods and the allied services to be supplied by the Bidder conform to the requirement of the tender documents. These include documents such as technical data, literature, drawings, etc.
- e) Power of Attorney of firm / resolution of Board of Directors of company for person or persons authorized to sign the Tender;
- f) Power of Attorney / Authorization letter by the Manufacturer to Indian company/ firm/ representative to represent the Manufacturer in India;
- g) Copies of documents defining constitution and legal status of the Bidder;
- h) Documents indicating arrangements with the OEM (if the Bidder is not an OEM itself);
- i) Certified published annual reports for the last three continuous years showing the turnover and financial results of the Bidder;
- j) Documentary proof (Purchase Orders and Performance Certificate) to show that the Bidder has supplied the quoted instruments during the past three years to any Govt Ministries/Department/Public Sector Undertaking/Scientific Institute of National Repute.
- k) Certificate for 03 years Comprehensive On-site warranty.
- l) List of Spares and Consumables required for 10 years of trouble-free operation and maintenance.
- m) Performance certificates for the offered equipment/ instruments, from the Govt Ministries/Department/Public Sector Undertaking/Scientific Institute of National Repute.

2.9.3 Price bid shall be as per proforma given in Section VI of the Tender document. **It shall be ensured that Price bid is only submitted online**, on the specified form.

2.9.4 Indication of the bid price in the Technical bid directly or indirectly will render the entire bid invalid.

2.9.5 A tender, which does not fulfil any of the above requirements and/or gives evasive information / reply against any such requirement, shall be liable to be ignored and rejected.

2.10 Tender currencies

2.10.1 Equipment / Instrument price may be quoted in Indian rupees or in any freely convertible currency. However, the installation and commissioning charges should be quoted in Indian rupees only. Also, price for maintenance services should be quoted in Indian Rupees only. The prices should be quoted both in figures and in words, in such a way that interpolation is not possible.

2.10.2 Commission for Indian Agent, if any payable by the Bidder, should be indicated in the price schedule in Indian Rupees only.

2.11 Contract Price

2.11.1 The Contract Price of the equipment/ instrument shall be the price of equipment/ instrument chargeable for delivery at the place of installation. This price shall be firm and fixed and not subject to any variation except in cases where the rate of applicable taxes payable in India or at the place of delivery undergoes a change. These taxes shall be paid as per actuals. The contract price shall also include the cost of installation & commissioning, insurance, inspection & survey charges, test and trials, delivery, training, services of manufacturer's for three years Comprehensive Warranty period.

2.11.2 If Purchaser is required by Indian Law to deduct or withhold any other taxes or other amounts, the gross amount payable by Purchaser shall be paid after making such deductions or other withholdings. Necessary certificate for the deductions so made will be issued by the Purchaser.

2.11.3 The Contract Price shall not be subjected to any adjustment in respect of rise or fall in the cost of labour, materials, currency rate variation, devaluation or any other matter having implication on the cost of the execution of the Contract and adjustments for subsequent legislation, statute, ordinance, decree, law, regulation that may occur in the country in which the equipment/ instrument is being manufactured.

2.11.4 Further, during the period of delivery systems, in case the supplier delivers equipment/ instrument having same quoted model at less price to any other party (price being the sole consideration in the supply), the contract price will be deemed to have been reduced by the difference between the price offered to the Purchaser and the other party. Any difference in the terms of supply shall be duly accounted in the process.

2.12 Duties and Taxes

2.12.1 The Bidder shall pay all outside-India taxes, duties, and levies, lawfully assessed against the Purchaser or the Bidder in pursuance of the contract.

2.12.2 All the duties and taxes paid by the Supplier in India or at the place of delivery will be reimbursed as per actual. No claim, on account of increase in cost of the raw materials due to increase of taxes or duties, will be entertained.

2.12.3 The Bidder should indicate tentative duties and taxes in the proforma as applicable. However, payment of duties and taxes shall be made as per actual and the statutory variations in taxes and duties shall be allowed during the delivery period as agreed in terms of the Contract. The Purchaser shall get the benefit if duties and taxes get reduced and pay extra to the supplier if the same increase. However, the variations shall not apply to any duties or taxes on the raw material/components/inputs.

2.12.4 The Supplier shall intimate to the Purchaser the anticipated delivery date of the equipment/ instrument, 30 (Thirty) days in advance of the anticipated date of delivery.

2.12.5 Central Pollution Control Board is registered with DSIR, Govt. of India and is exempted from Custom Duty / Concessional GST (as a research institute). Exemption Certificate to this effect will be issued by Central Pollution Control Board. The bidder will take care this while quoting the prices.

2.13 Terms and Mode of Payment

2.13.1 Terms of Payment: Payment will be made only after delivery and satisfactory installation, testing, commissioning etc depending upon the availability/release of funds by the Govt. and the agencies/contractors shall have no claim in case of delayed payment and no interest will be paid for the delayed payment.

- (i) In case of imported supplies, payment (excluding Indian agency commission, if any) will be made through irrecoverable Letter of Credit in two installments. 80 % of the money will be released on submission of shipping of documents. Remaining 20 % will be released after successful installation and commissioning of the instrument and submission of a performance bank guarantee for 10% of the Purchase Order value from a nationalized/scheduled bank, valid for 2 months beyond the period of expiry of the warranty. All the bank charges within India will be borne by the Board and outside India will be borne by the Supplier.
- (ii) In case of required item quoted in INR, 100% payment will be released on satisfactory supply, installation and commissioning of the item and submission of performance guarantee.
- (iii) For imported equipment, the Letter of Credit will be opened for the amount excluding agency commission in Indian Rupees. The firm should clearly mention the address of foreign bank in the financial bid.

Important - Bank charges: Three months' time for shipment and further 21 days for negotiation will be given. All Bank charges inside the country (in India) will be buyers account and all Bank charges outside the country should be borne by the supplier / beneficiary's. The bidders may note this and quote the price of the instrument/ equipment accordingly. In the case of Foreign Suppliers, they will have to ensure shipment of the consignment as per the validity of the letter of credit established in this regard. In case of extension of supply date is sought, the bank charges should be borne by the Supplier/their authorized Indian representatives.

2.13.2 No advance payment shall be made.

2.13.3 The payment shall be made in the currency / currencies authorised in the contract.

2.13.4. The payment in foreign currency shall be made through Direct Bank Transfer (DBT) through irrevocable Letter of Credit (LC) in the quoted currency. The rate of exchange shall be the rate on the day of release of payment. Documents, which the supplier is to furnish while claiming payment, are specified in the Letter of Credit, but usually are:

- i) Supplier's original invoice giving full details of the goods including quantity, value, and so on;
- ii) Packing list;
- iii) Certificate of country of origin of the goods to be given by the bidder;
- vi) Certificate of insurance;
- vii) Bill of lading/airway bill/rail receipt or any other dispatch document, issued by a Government agency (like the Department of Posts) or an agency duly authorised by the concerned Ministry/Department, indicating:
 - a) Name of the vessel/carrier;
 - b) Bill of lading/airway bill;
 - c) Port of loading;
 - d) Date of shipment;
 - e) Port of discharge and expected date of arrival of goods; and
- viii) Any other document(s) as and if required in terms of the Notification of award/Purchase Order.

2.13.5 The Supplier shall send its claim for payment in writing, when contractually due, along with relevant documents etc., duly signed with date, as specified

2.14 Indian Agent

2.14.1 If a foreign Bidder has engaged an Indian agent in connection with its tender, the foreign Bidder, in addition to indicating Indian agent's commission payable by him, if any, shall also furnish the following information:

- a) The complete name and address of the Indian Agent and its permanent income tax account number as allotted by the Indian Income Tax authority.
- b) The details of the services to be rendered by the agent for the subject requirement.

2.15 Earnest Money Deposit (EMD)

2.15.1 The earnest money is required to protect the Purchaser against the Bidder's withdrawing or altering its bid during the validity period. Hence an EMD amount as specified in Table-I, Section-I must accompany with the tender. EMD is required to be submitted in original separately-itemwise on or before the last date of submission of bid as per the NIT. Scanned copy of EMD is required to be uploaded along with Technical bid. Bidders, who are currently registered and also will continue to remain registered during the tender validity period with MSME or with National Small Industries Corporation (NSIC), New Delhi are exempted from payment of Earnest money. In case the Bidder falls in these categories, they should furnish certified copy of their registration with these agencies, clearly specifying the details of items for which they are registered.

2.15.2 The earnest money shall be furnished in the form of Bank Guarantee/DD/FDR (format for EMD Bank Guarantee is given in Form-3 of Section VII of this document).

2.15.3 The earnest money shall be valid for a period of 90 days beyond the validity period of the tender.

2.15.4 Unsuccessful Bidder's earnest money will be returned, without any interest, to them not later than 45 days after the expiry of the tender validity period. Successful Bidder's earnest money will be returned without any interest, after receipt of performance security from that Bidder.

2.15.5 Earnest money of a Bidder will be forfeited, if the Bidder withdraws or amends its tender or impairs or derogates from the tender in any respect within the period of validity of its tender. The successful Bidder's earnest money will be forfeited if it fails to furnish the required performance security within the specified period.

2.16 Tender Validity

2.16.1 The tender shall remain valid for acceptance for a period of 180 days (one hundred eighty days) from the date of tender opening prescribed in the tender document. Any tender valid for a shorter period shall be treated as non-responsive and rejected.

2.16.2 In exceptional cases, the Bidder may be requested by the Purchaser to extend the validity of their tenders up to a specified period. Such request(s) and responses thereto shall be conveyed by e-mail or fax followed by signed hard copy delivered by hand/post/courier. The Bidders, who agree to extend the tender validity, are to extend the same without any change or modification of their original tender and they are also to extend the validity period of the EMD accordingly.

2.16.3 In case the day up to which the tenders are to remain valid falls on/ subsequently declared a holiday or closed day for the Purchaser, the tender validity shall automatically be extended up to the next working day.

2.17 Instructions on e-tendering

2.17.1 The Bidders shall submit their tenders in accordance with Annexure-I of this Tender Documents.

2.18 Alteration and Withdrawal of Tender

2.18.1 The Bidder, after submitting its tender, is permitted to alter / modify its tender so long as such alterations / modifications are done within the deadline for online submission of tenders. Any alteration/ modification in the tender thereafter is not permitted.

2.18.2 No tender can be withdrawn after the deadline for online submission of tender and before expiry of the tender validity period. If a Bidder withdraws the tender during this period, it will result in forfeiture of the earnest money furnished by the Bidder in its tender.

2.19 Opening of e-Tenders and Scrutiny

2.19.1 The Purchaser will open on-line the Technical bids on prescribed date and time. In case the specified date of tender opening falls on / is subsequently declared a holiday or closed day for the Purchaser, the tenders will be opened at the appointed time and place on the next working day.

2.19.2 Physical presence of the bidder at the time of opening of tender will not be essential in the e-tendering process. At the appointed time, the bid openers would open the bids online and the details of technical bids offered by the bidders would be known to all on the CPP Portal.

2.19.3 The first cover, i.e. technical bids will be opened online, first and evaluated by the TEC to assess that the goods and services offered are as per the Pre-qualification Criteria, Schedule of Requirements and as per the Technical Specifications.

2.19.4 The second cover, i.e. price bids of only technically qualified offers shall be opened online and evaluated..

2.20 Preliminary Scrutiny of Tenders

2.20.1 The tenders will first be scrutinized to determine whether they are complete and meet the essential and important requirements viz, pre-qualification criteria, conditions, etc. as prescribed in the Tender Document. The bids, which do not meet the basic requirements, are liable to be treated as non-responsive and rejected.

2.21 Discrepancy in Prices

2.21.1 If, in the price structure quoted by a Bidder, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless the Purchaser feels that the Bidder has made a mistake in placing the decimal point in the unit price, in which case the total price as quoted shall prevail over the unit price and the unit price corrected accordingly.

2.21.2 If there is a discrepancy between the amount expressed in words and figures, the amount in words shall prevail.

2.22 Purchaser's Right to accept any Tender and to reject any or All Tenders

2.22.1 The Purchaser reserves the right to accept in part or in full any tender or reject any tender without assigning any reason or to cancel the tendering process and reject all tenders at any time prior to award of contract, without incurring any liability, whatsoever to the affected Bidder or Bidders.

2.23 Evaluation and Award Criteria

2.23.1 Separate evaluation of Bids received for each type of tendered equipment/ instrument will be carried out.

2.23.2 Technical bids will be evaluated on the basis of information and data provided in the bids as well as the actual performance of the equipment/ instruments being offered. Technical bids of the Bidders, who fulfill qualification criteria laid down in Section V, shall be evaluated first in terms of requirements/specifications given in Section IV & Annexure-II of the tender document. If the details/data given in the technical bids are found in conformity with the technical specification prescribed in Annexure-II, testing of the models offered by the Bidders may be carried out by the Tender Evaluation Committee, if required to ascertain the actual performance of the equipment/ instrument. Bidder, will arrange, at his cost, the demonstration of the equipment/ instruments.

2.23.3 Price bids of the Bidders, whose technical bids are qualified, shall only be opened.

2.23.4 The lowest Bidder (L1) shall be determined on the basis of Price quoted by the bidder altogether for Supply, Installation, & Commissioning which will be inclusive of the Training, Demonstration, Testing etc.

2.24 Notification of Award

2.24.1 Before expiry of the tender validity period, the Purchaser will notify the successful Bidder(s) online as well as in writing, by registered / speed post or by fax/ telex/cable. The successful Bidder(s) must furnish to the Purchaser the performance security within twenty one (21) days from the date of the notification in Form-4 of Section VII (details of the performance security are in clause 3.5 of Section III).

2.25 Issue of Contract

2.25.1 Within twenty one days from the date of the award, the successful Bidder and Purchaser shall sign contract on the contract form (Form-5 of Section VII) as per the mutually convenient date.

2.26 Non-Receipt of Performance Security and Contract by the Purchaser

2.26.1 If the successful Bidder fails to provide performance security within the specified time or fails to sign the contract, his EMD will be forfeited and further actions as deemed necessary by the Purchaser will be taken against him.

2.27 Publication of Tender Result

2.27.1 The name and address of the successful Bidder(s) receiving the contract(s) will be displayed on the www.eprocure.gov.in.

2.28 Integrity Pact

2.28.1 Prospective bidders have to sign a Integrity Pact as per the format given in Form-7 of Section VII and submit it alongwith the Technical Bid. Bidders are advised to read the Integrity Pact carefully, fill in the required details, sign and affix the seal and submit alongwith the technical bid. The bids which does not contain the Integrity Pact will be summarily rejected.

2.29 Make in India Purchase Preference

2.29.1 Except as otherwise prescribed by the Nodal Ministry i.e. MoEF&CC, Govt of India, and subject to purchaser's verification of the fact that there is sufficient local capacity and local competition, purchase preference will be given to eligible suppliers as per Govt of India, Min of Commerce and Industry, DIPP order NO. P-45021/2/2017-B.E-II dated 15 June 2017, on submission of certificate of minimum local content from statutory auditor or cost auditor or from a practising chartered accountant giving the percentage of local content.

SECTION - III

GENERAL CONDITIONS OF CONTRACT

3.1 Application

3.1.1 The following General Conditions of Contract shall be applicable for this purchase.

3.2 Use of contract documents and information

3.2.1 The Bidder shall not, without the Purchaser's prior written consent, disclose the contract or any provision thereof including any specification, drawing, sample or any information furnished by or on behalf of the Purchaser in connection therewith, to any person other than the person(s) employed by the Bidder in the performance of the contract emanating from this Tender Document. Further, any such disclosure to any such employed person shall be made in confidence and only so far as necessary for the purposes of such performance for this contract.

3.2.2 The Bidder shall not, without the Purchaser's prior written consent, make use of any document or information mentioned in sub-clause 3.2.1 above except for the sole purpose of performing this contract.

3.2.3 Except the contract issued to the Bidder, each and every other document mentioned in sub-clause 3.2.1 above shall remain the property of the Purchaser and, if advised by the Purchaser, all copies of all such documents shall be returned to the Purchaser on completion of the Supplier's performance and obligations under the contract.

3.3 Patent Rights

3.3.1 The Supplier shall, at all times, indemnify and keep indemnified the Purchaser, free of cost, against all claims which may arise in respect of goods & services to be provided by the Supplier under the contract for infringement of any right protected by patent, registration of designs or trademarks. In the event of any such claim in respect of alleged breach of patent, registered designs, trademarks etc. being made against the Purchaser, the Purchaser shall notify the Supplier of the same and the Supplier shall, at his own expenses take care of the same for settlement without any liability to the Purchaser.

3.4 Country of Origin

3.4.1 All goods and services to be supplied and provided under the contract shall have the origin in India or in the countries with which the Government of India has trade relations.

3.4.2 The word "origin" incorporated in this clause means the place from where the goods are mined, cultivated, grown, manufactured, produced or processed or from where the services are arranged.

3.5 Performance Security

3.5.1 Within twenty one days after the issue of notification of award by the Purchaser, the Bidder, shall furnish performance security to the Purchaser for an amount equal to ten per cent of the total value of the contract. This Security shall remain valid up to 90 days after the date of completion of all contractual obligations by the Supplier.

3.5.2 The Performance security shall be in the form of Bank Guarantee issued by a Scheduled bank in India, in the prescribed form as provided in Form-4 of Section VII of this document.

3.5.3 If Bidder fails to fulfil its obligations in terms of the contract, the amount of the performance security shall be payable to the Purchaser as compensation and the Purchaser can invoke the said Performance Bank Guarantee.

3.6 Technical Specifications and Standards

3.6.1 The Scientific Instruments/Equipments to be provided by the Supplier under this contract shall conform to the technical specifications and quality control parameters mentioned in 'Technical Specification' under Annexure-II of this document.

3.7 Packing and Marking

3.7.1 The Bidder should pack the goods in strong and durable packing which can withstand, without limitation, the entire journey during transit including transshipment (if any), rough handling, open storage etc. without any damage, deterioration etc. As and if necessary, the size, weights and volumes of the packing cases shall also take into consideration, the remoteness of the final destination of the

goods and availability or otherwise of transport and handling facilities at all points during transit up to final destination as per the contract.

3.8 Enquiry, Inspection and Quality Control

3.8.1 The Purchaser and/ or its nominated representative(s), in order to satisfy itself, may enquire, inspect and/or test the ordered goods and the related services to confirm their conformity to the tender qualification criteria, specifications and other quality control details incorporated in the tender/contract at the cost of the purchaser.

3.8.2 The equipment must fulfil all legal regulations on safety and health requirements (radiation, electrical, electro-magnetic, mechanical, etc.) and shall comply with the Electricity Acts, Rules, Codes & Standards as existing in India.

3.9 Terms of Delivery

3.9.1 The foreign bidder/his authorized representative in India to quote the prices on DDP basis. The Indian agent/authorized representative will arrange the custom clearance from the customs and arrange delivery to the respective labs of CPCB. The Board will provide the concessional custom duty exemption certificate and other required documents.

3.9.2 The Indian bidder to quote the prices on FOR Destination (CPCB, Delhi) Basis. Central Pollution Control Board is registered with DST/DSIR for concessional GST. The Board will provide the concessional exemption certificate/essentiality certificate and other required documents.

3.9.3 The incidental expenses towards sending the instruments to the designated locations mentioned in Annexure-IV such as arranging transport, insurance, labour, including charges to the custom clearing agent etc. to be borne by the supplier/their authorized Indian representative. The Indian agent/ their representatives should be responsible for the safety of the instruments during the transit from airports to the designated locations.

3.9.4 The agency commission, if any, will be paid in Indian Rupees. The charges on account of agency commission should be mentioned clearly in the bid.

3.10 Insurance

3.10.1 The Supplier shall, in his own interest, insure the goods against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery. The Supplier shall be responsible till the entire stores contracted for arrive in good condition at destination. The transit risk in this respect shall be covered by the Supplier by getting the stores duly insured. The insurance cover shall be obtained by the Supplier in its own name and not in the name of the Purchaser or its Consignee.

3.11 Clearance / Receipt of Goods

3.11.1 The Supplier shall make his own arrangements for clearance of goods through customs and their receipt and onward dispatch for the site of installation after obtaining the necessary custom exemption certificate from the purchaser.

3.12 Warranty

3.12.1 Bidders must give the comprehensive on-site warranty of at least three years (36 months) 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”.

3.12.2 In case of any claim arising out of this warranty, the Purchaser shall promptly notify the same in writing to the Supplier. Upon receipt of such notice, the Supplier shall, with all reasonable speed and within the time period prescribed in clause 4.9 of Section IV, repair / replace the defective goods or parts thereof, free of cost, at the ultimate destination. The Supplier shall take over the replaced parts/goods after

providing their replacements and no claim, whatsoever shall lie on the Purchaser for such replaced parts/goods thereafter.

3.12.3 If the Supplier, having been notified, fails to rectify/replace the defect(s) within a reasonable period the Purchaser may proceed to take such remedial action(s) as deemed fit by the Purchaser, at the risk and expense of the Supplier and without prejudice to other contractual rights and remedies, which the Purchaser may have against the Supplier.

3.13 Assignment

3.13.1 The Supplier shall not assign to anyone, either in whole or in part, its contractual duties, responsibilities and obligations to perform the contract, except with the Purchaser's prior written permission.

3.14 Sub-contracts

3.14.1 The Supplier shall notify the Purchaser in writing of all sub-contracts awarded under the contract. Such notification, in its original tender or later, shall not relieve the Supplier from any of its liability or obligation under the terms and conditions of the contract.

3.14.2 Sub-contract shall be only for bought out items, sub-assemblies & maintenance of goods and for the goods as a whole.

3.14.3 Sub-contracts shall also comply with the provisions of Clause 3.4 ("Country of Origin").

3.15 Delay in the Supplier's performance

3.15.1 The Supplier shall deliver the goods and perform the services under the contract within the time schedule specified by the Purchaser in the Schedule of Requirements and as incorporated in the contract.

3.15.2 Subject to the Force Majeure provision under clause 3.18 of this section, any unexcused delay by the Supplier in maintaining its contractual obligations towards delivery of goods and performance of services shall render the Supplier liable to any or all of the following sanctions:

- i) imposition of liquidated damages,
- ii) forfeiture of its performance security and
- iii) termination of the contract for default.

3.15.3 If at any time during the currency of the contract, the Supplier encounters conditions hindering timely delivery of the goods and performance of services, the Supplier shall promptly inform the Purchaser in writing about the same and its likely duration and make a request to the Purchaser for extension of the delivery schedule accordingly. On receiving the Supplier's communication, the Purchaser shall examine the situation as soon as possible and, at its discretion, may agree to extend the delivery schedule, with or without liquidated damages for completion of Supplier's contractual obligations by issuing an amendment to the contract.

3.16 Liquidated damages

3.16.1 Subject to Clause 3.18 of this Section (Force Majeure), if the Supplier fails to complete the installation and commissioning of the equipment within the time fixed under the contract, the Purchaser shall without prejudice to any other rights and / or remedy as may be available to the Purchaser under the Contract, shall deduct from the Contract price as an agreed Liquidated damages amount @ 1% of value of undelivered goods per week or part thereof until actual delivery or performance, subject to a maximum of 10% of the contract price.

3.16.2 If the delay exceeds two months from the scheduled date of supply, the Purchaser shall have the right to terminate the contract at the risk and cost of the Supplier.

3.16.3 The amount of Liquidated damages may be adjusted or set-off against any sum payable to the Supplier under this or any other contract with the Purchaser.

3.17 Termination for default and insolvency

3.17.1 The Purchaser may, without prejudice to any other contractual rights and remedies available to it (the Purchaser), by written notice of default sent to the Supplier, terminate the contract in whole or in part,

if the Supplier fails to deliver any or all of the goods or fails to perform any other contractual obligation(s) within the time period specified in the contract, or within any extension thereof granted by the Purchaser.

3.17.2 If the Supplier becomes bankrupt or otherwise insolvent, the Purchaser reserves the right to terminate the contract at any time, by serving written notice to the Supplier without any compensation, whatsoever, to the Supplier, subject to further condition that such termination will not prejudice or affect the rights and remedies which have accrued and / or will accrue thereafter to the Purchaser.

3.18 Force Majeure

3.18.1 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 a 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.

3.19 Resolution of disputes

3.19.1 In the event of any dispute or difference(s) between the parties hereto, such disputes or differences should be resolved amicably by mutual consultation. If such resolution is not possible, then the unresolved dispute or differences shall be replaced to arbitration of sole arbitrator, to be appointed by the Secretary, Deptt of Revenue; on the recommendations of Secretary, Department of Legal Affairs ("Law Secretary"), Govt. of India. The provisions of Arbitration & Conciliation Act, 1996 or any statutory modification or re-enactment thereof and the rules made thereunder and for the time being in force shall be applicable to arbitration. The venue of such arbitration shall be at Delhi. The Language of arbitration proceedings shall be in English. The arbitrator shall make a written & reasoned award (the "Award") which shall be final & binding on the parties. The cost of arbitration shall be shared equally by the parties to the agreement. However, expenses incurred by each party in connection with the preparation presentation shall be borne by the party itself. It will not be an objection to any such appointment that the arbitrator are the government servant and had any interest in the board or the contract entered into directly or indirectly.

3.20 Applicable Law and Jurisdiction

3.20.1 The contract shall be governed by the laws of India for the time being in force.

3.21 Injury and Damage

3.21.1 Injury or Death of Persons - 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.

3.21.2 Damage to Property - The Supplier shall be liable for and indemnify the Board against and insure and cause any Manufacturers and subcontractors to insure against any expense, liability, loss claim or proceedings in respect of any damage whatsoever to any real or personal property for any one occurrence in so far as such damage arises out of or in the course of or by reason of the carrying out of the Works and is due to any negligence, omission or default of the Supplier or any person for whom the supplier is responsible or any Manufacturers and subcontractors or person whom the Manufacturers and subcontractors are responsible.

SECTION - IV
SCHEDULE OF REQUIREMENTS

4.1 Scope of Work

- i) Supply of Equipment/ Instrument (with essential accessories, spares, consumables, etc.), including site works (related to installation, as required), and installation & commissioning;
- ii) Obtaining regulatory/statutory clearances, as necessary, and Training of staff of User Commissionerate;
- iii) Maintenance during Comprehensive warranty period of 3 (three) years including supply of spare parts and consumables;
- iv) Product Support for ten years after expiry of warranty period, undertake AMC if required by the user and provide upgrades from time to time.

4.2 Delivery Schedule

4.2.1 Equipment/ Instrument should be supplied, installed and commissioned within 6 (six) months from the date of award of order.

4.3 Terms of Delivery

4.3.1 Any loss or damage to the equipment due to mishandling, transportation, till such time the equipment is delivered at the site shall be to Bidder's account. The Bidder shall be responsible for preferring of all claims and make good for the damage of loss by way of repairs and/or replacement of the portion of equipment damaged or lost.

4.3.2 Upkeep of the Equipment/ Instrument till the time of their commissioning and delivery shall be the responsibility of the Bidder. No extra cost for upkeep of machine shall be payable to the supplier if the installation & commissioning of the machine at particular destination(s) is delayed for reasons not attributable to the Govt.

4.3.3 The successful Bidder shall be responsible to ensure the following: -

- i) Sound packing of the items.
- ii) Shipment of the items
- iii) Insurance
- iv) Custom clearance and handling of items at port of entry in India or in the place of Installation, if any.
- v) Forwarding and transshipment of items up to the destination.
- vi) Insurance for inland transportation and payment of duties.
- vii) Receipt of equipment at the site.
- viii) Installation & commissioning of equipment at the site. (This includes all requisite site works.)
- ix) Comprehensive Maintenance of the equipment during the warranty period.
- x) Software up-gradation

4.4 Locations for Commissioning

4.4.1 Locations for installation of Equipment/ Instrument shall be as per the table given hereunder:

Locations of Delivery and Installation of the Instruments / Equipments

S. No.	Item Code	Instrument / Equipment	Quantity Required	Locations
1.	ICB-06	Gas Chromatograph (GC-ECD-FPD)	1	CPCB Head Office, Delhi
2.	ICB-07	High Pressure Liquid Chromatograph (HPLC)	1	CPCB Head Office, Delhi
3.	ICB-08	Stack Sampling Kit	1	CPCB Head Office, Delhi
4.	ICB-09	Atomic Absorption Spectrophotometer (AAS)	1	CPCB Head Office, Delhi
5.	ICB-10	Mercury Analyzer	1	CPCB Head Office, Delhi
6.	ICB-11	Water Purification System (WPS)	1	CPCB Head Office, Delhi

4.5 Facilities by the Purchaser

4.5.1 Purchaser will provide air-conditioned room with instrument platform/ table. Electrical and water connections may also be available, wherever, required. All other provisions for the installation, commissioning and operation of the equipment/ instruments shall be made by the Supplier.

4.6 Site Restrictions

4.6.1 Supplier and his employees shall not trespass beyond the boundary limits of the site on to any adjoining area and the Supplier shall take necessary action to prevent trespassing and shall follow all security regulations and access control as enforced at site by the concern Laboratory, concerned government authorities or their representatives in regard to men & material movement.

4.6.2 It is likely that equipment / instruments being supplied by the Supplier need to be installed in a room / area where already other equipment / instruments are under operation. The Supplier and his employees shall ensure that the operation of existing equipment / instruments is not affected during the installation and commissioning of equipment / instruments under supply. Instructions and guidelines provided by the Laboratory-in-charge/Purchaser's representative shall be adhered to at the site of installation.

4.7 Product Support / Long Term availability of Spares

4.7.1 The Bidder must submit an undertaking to give product support for at least 10 years. Contract with condition to provide product support for the period of 10 years from the date of expiry of warranty period will be submitted by the bidder, before release of bank guarantee for 10% balance payment.

4.7.2 The Bidder shall provide a part catalogue covering complete range of spares/components / consumables for the Equipment / Instruments and support structure.

4.7.3 Comprehensive list of spares shall be indicated in the Technical bid. Bidder shall also provide recommended list of critical spares and test equipment for at least 10 years of trouble free operation and maintenance.

4.8 Software and Software Upgrades

4.8.1 The Supplier shall agree to provide copies of as -built software in executable code that are installed in the system at all levels. It shall also state the Hardware that needs to be in place for implementation ensuring that the Equipment/ Instrument un-availability is minimal. The Supplier shall also comply and guarantee software upgrades for the service life of the Equipment/ Instrument.

4.8.2 Taking into account the operational requirements of the Purchaser, there may be a need to customize some portion of the software. Supplier should agree for such customization, which is expected to be limited, at no extra cost.

4.8.3 Any software upgrades developed by the Supplier during the warranty and the post warranty period should be made available to the Purchaser at no extra cost and should be delivered and installed in a prompt and efficient manner. The Supplier should install and train the operator with software upgrades.

4.9 Warranty Maintenance

4.9.1 Warranty maintenance should include complete equipment/ instrument and accessories.

4.9.2 During warranty period, the Supplier shall set right the machine immediately on receipt of complaint within maximum time limit of 48 hours in India.

4.9.3 Preventive Maintenance shall be carried out at least once in six months during warranty period.

4.10 Training of Staff

4.10.1 Training is to be provided in the operation & general upkeep of the equipment/ instrument after installation & commissioning at the site. Training should also be imparted on sample analysis. Standard operating procedure (SOP) for the equipment/ instrument should be prepared and provided to the Purchaser's staff at site.

4.10.2 Bidder shall train 2 to 4 persons during warranty. The cost for providing such training shall be deemed to have been included within the cost quoted.

4.11 Post Warranty Maintenance

4.11.1 The bidder shall provide Post Warranty Services and post contractual support i.e. AMC, repair, maintenance, etc. and assure supply of consumables and spare parts for 10 years from the date of installation. The bidder will take up the post warranty AMC when asked to do so.

SECTION - V
PRE QUALIFICATION CRITERIA

Bidders who can Bid

5.1 Only those bidders who fulfill the following eligibility as well as the qualifications criteria can submit tenders.

ELIGIBILITY

5.2 To be eligible, the Bidder should have not been banned or suspended from Government transactions due to any reason including corrupt and fraudulent practices.

QUALIFICATION

5.3 Original Equipment Manufacturers (OEM) may bid directly. OEM should be internationally/nationally reputed manufacturer/branded company.

OR

5.4 An authorised agency/representative nominated by the OEM, who have minimum two years continuous agreement with OEM, may also bid. Relevant documents along-with tender specified Authorization Form indicating the Bidder is an authorised agency/representative of the OEM for bid submission shall be enclosed with tender bid. The OEM shall give an undertaking to supply components / parts/ consumables during warranty & post-warranty periods as well as continued supply of components/ spare parts for the period of product support. OEM shall also assure full technical back-up and support in the matter of providing maintenance including software up-gradations. Copy of agreement between OEM and the agency/representative confirming the above requirements and nomination from the OEM for supplying stores shall be enclosed with the tender. Only one nomination from the OEM shall be accepted. *[NB: In the event of the bid submitted by authorised agency/representative nominated by the OEM becoming successful, the contract shall be placed on the OEM, on whose behalf the bid has been made].*

5.5 Average annual turnover of the Bidder should be at least 3 times the cost of item quoted, during last three financial years i.e. April 2015 to March 2018 and should have made profit (profit after tax) in each of these years. Certified and published annual audit reports of the past three years are to be submitted along with the tender.

5.6 The Bidder should have supplied the quoted/similar Equipment/Instrument in the last three years to Govt Ministries/Department/Public Sector Undertaking/Scientific Institute of National Repute. The details of such institutions and the cost with name of equipment may also be supplied with the bids. Purchase Orders and minimum 03 Performance Certificates from the users of such supplies must be given in the Technical Bid by the bidder. The Purchaser and/ or its nominated representative(s), in order to satisfy itself, may enquire the performance of similarly supplied goods from other Govt or Private users. The user may also inspect and/or test the quoted/ordered goods and the related services to confirm their conformity to the tender qualification criteria, specifications and other quality control details incorporated in the tender/contract at the cost of the purchaser.

5.7 Only one bid will be accepted from OEM or through authorised agency/representative nominated by OEM for any type of equipment/ instrument. In case if more than one bid for any type of equipment/ instrument is received from OEM or through authorised agency/representative nominated by OEM, all such bids shall be summarily rejected.

5.8 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.

5.9 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.

SECTION – VII

PART - I : PRICE SCHEDULE

e-Tender No. C-47011/ICB/06-11/2018-19/Mat.

Item code Number of instruments as per the tender Document	Name /Brand/O EM and Model No. of Instrume nt	Unit Price	Cost of Carriage, Freight, Insurance, Custom Clearance, Charges, Inland Transport upto installation site and insurance, Installation & Training etc (in INR or any other freely convertible currency)	Total cost per unit (Col.3 + Col. 4)	Qty	Total Amount DDP/ FOR Basis (Col. 6x Col. 7)
1	2	3	4	6	7	8

Agency Commission (if any) :

NOTE:- Please give all terms and conditions like payment, delivery, warranty, AMC, Agency Commission, Country of Origin etc clearly. If this sheet is not sufficient to accommodate the bid the additional sheets containing the same proforma but all such sheets including this one must be signed by the Bidder along with the seal. Separate Bid form should be attached against each item, quoted for.

Signature with date & stamp of the bidder

SECTION - VI

Form - 1

TENDER ACCEPTANCE FORM

(To be submitted on Letter Head)

(e-Tender No. C-47011/ICB/06-11/2018-19/Mat.)

Having carefully gone through the whole Tender Document, we, M/s. _____, the Bidder, agree to all the terms and conditions mentioned in them and hereby, make the following offer to supply the Instruments/Equipments as per the Schedule requirements, delivery schedule and in conformity with all other conditions in the Tender Documents and amendments. We will arrange for demonstration of models of the Equipment/ Instrument being offered, within India as per the convenience of the Purchaser.

Bidder

1. Name of the Bidder _____
2. Address _____
3. Email _____
4. Phone _____ Fax _____
5. Income Tax Permanent Account Number (PAN): _____
6. Name and complete address of the Bidder's bankers _____
 - a) _____
 - b) _____
7. Name and designation of the person digitally signing and submitting the tender _____
8. Is the person digitally signing and submitting the tender authorised by the Bidder? (Yes/No) *(Please enclose scanned copy of the Board's resolution authorising the person to submit the bids without which the tender will be rejected)*
9. Whether business dealings with the Bidder currently stand suspended/ banned by any Ministry/ Department of Govt. of India or any State Govt. (Yes/No)

Qualification

10. Is the Bidder an OEM of the goods being offered? Yes/No
11. Is the Bidder an authorized agency / representative duly nominated by the OEM? (Yes/No)
(If yes, please enclose required documents as mentioned in qualification criteria)
12. Turnover of the Bidder during the past three years (in Rs. Crores)

2015-2016	_____
2016-2017	_____
2017-2018	_____
Average	_____

(Please enclose certified published annual reports. If the accounts are maintained in some other currency, please give the figures in that currency as well as its conversion at the exchange rate on the date of filling up this form. If the accounts are managed calendar year wise, please provide figures for 2015, 2016 and 2017.)

13. How many Equipment/ Instrument, being offered, has the Bidder supplied during the past three years in India or abroad? _____ *(Please enclose documentary proof –Purchase orders and minimum three performance reports)*

Offer

14. Make & Model Number of the Equipment/ Instrument offered _____

Technical documents to be enclosed

15. Technical Literature/brochure of the item quoted and Clause-wise response/compliance to requirements specified in *Annexure-II* of Tender Document. You may furnish additional information/ clarifications, documents, etc., in support of your offer.

Warranty maintenance

16. Do you have your own set up in India to provide the maintenance during warranty period?
(Yes/No)
17. If yes, please provide details (**in 100 words**) including experienced manpower & resources details and enclose relevant documents
-
-
18. If answer to question at 16 above is no, do you have any agreement with any other manufacturer or reputed agency to act as Maintenance contractor to provide maintenance during warranty and post warranty period? (Yes/No)
19. If answer to question 18 above is yes, please provide details (in 100 words) and enclose a copy of the agreement, including previous experience and manpower details of the proposed agency in maintenance of similar type of equipment/ instruments.

Availability of Spares and Consumables for 10 years of trouble-free operation and maintenance

20. Does the OEM/Its Authorised representative agree to provide Spares and Consumable for 10 years of trouble-free operation and maintenance? (Yes/No)

After Sales Services/Post Contractual Support

21. Does the OEM/Its Authorized representative agree to provide After Sales Services/ post contractual support i.e. repair, maintenance, supply of spares parts etc and will take up the post warranty AMC when asked to do so? (Yes/No)

Documents to be enclosed

22. Have you submitted the EMD as prescribed in Tender Document (Table-I) or EMD Exemption Certificate? (Yes/No)
23. Have you enclosed the following documents? (Yes/No)
- Scanned copy of the EMD/EMD Exemption Certificate ? (Yes/No)
 - Tender Acceptance Form as specified in the Tender ? (Yes/No)
 - Documents and relevant details to establish that the goods offered conform to the requirement of the tender documents and Technical Literature/Brochure etc. (Yes/No)
 - Power of Attorney of firm / resolution of Board of Directors of company for person or persons authorized to sign the Tender ;(Yes/No)
 - Authorization letter by the OEM (Manufacturer) or self declaration letter by OEM (if OEM is bidding) ; (Yes/No)
 - Copies of documents defining constitution and legal status of the Bidder;(Yes/No)
 - GST Registration Certificate and latest GST Deposit receipt (in case of Indian Bidder) (Yes/No)?
 - An undertaking to the effect that the Price bid does not contain any conditions/options whatsoever of the price demanded for sale. (Yes/No)
 - Certificate for non-blacklisting of firm and non-registration of criminal case? (Yes/No)
 - Certified published annual reports showing the turnover and financial results. (Yes/No)
 - Purchase Order and Performance certificates (min. three) for the offered equipment/ instruments from Govt Ministries/Department/Public Sector Undertaking/Scientific Institute of National Repute. (Yes/No)
 - Warranty Certificate for 03 years of Comprehensive Warranty. (Yes/No)
 - List of Spare and Consumables required for 10 years trouble free operation and maintenance alongwith a certificate that Spares & Consumables will be provided for at least 10 years. (Yes/No)
 - Duly Signed and stamped Integrity Pact (Yes/No)
 - Any other documents that you consider necessary to strengthen your bid. (Yes/No/None required)

.....

(Signature with date)

.....

(Name and designation)

Duly authorised to sign tender for and on behalf of

Form - 2

MANUFACTURER'S AUTHORISATION FORM

To

.....

.....

(Name and address of the Purchaser)

Dear Sirs,

Ref. Your Tender Document No....., dated

We, who are proven and reputable manufacturers of (name and description of the goods offered in the tender) having factories at, hereby authorise Messrs (name and address of the agent) to submit a tender, process the same further and enter into a contract with you against your requirement as contained in the above referred Tender Documents for the above goods manufactured by us. Messrs (name and address of the agent) is having years' agreement/association with us since

We further confirm that no Supplier or firm or individual other than Messrs (name and address of the above agent) is authorised to submit a tender, process the same further and enter into a contract with you against your requirement as contained in the above referred Tender Documents for the above goods manufactured by us.

We also hereby extend our full comprehensive warranty, as applicable as per the General Conditions of Contract, for the Scientific Instruments/Equipments offered for supply by the above firm against this Tender Document.

Yours faithfully,

.....

.....

[Signature with date, name and designation]

for and on behalf of Messrs

[Name & address of the manufacturers]

Note : This letter of authorisation should be on the letter head of the manufacturing firm and should be signed by a person competent and having the power of attorney to legally bind the manufacturer.

Form - 3

BANK GUARANTEE FORM FOR EMD

Whereas (hereinafter called the “Bidder”) has submitted its quotation dated..... for the supply of (hereinafter called the “tender”) against the Purchaser’s tender enquiry No. Know all persons by these presents that we of (hereinafter called the “Bank”) having our registered office at are bound unto (hereinafter called the “Purchaser) in the sum of for which payment will and truly to be made to the said Purchaser, the Bank binds itself, its successors and assigns by these presents.

Sealed with the Common Seal of the said Bank this..... day of 20.....

The conditions of this obligation are —

- (1) If the Bidder withdraws or amends, impairs or derogates from the tender in any respect within the period of validity of this tender.
- (2) If the Bidder having been notified of the acceptance of his tender by the Purchaser during the period of its validity:-
 - a) fails or refuses to furnish the performance security for the due performance of the contract or
 - b) fails or refuses to accept or execute the contract.

We hereby irrevocably and absolutely undertake to pay immediately the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition(s).

This guarantee will remain in force for a period of forty five days after the period of tender validity and any demand in respect thereof should reach the Bank not later than the above date.

This guarantee will not be discharged due to change in the constitution of the bank or the Bidder.

.....
(Signature of the authorised officer of the Bank)

.....
Name and designation of the officer
.....

Seal, name & address of the Bank and address of the Branch

Form - 4

BANK GUARANTEE FORM FOR PERFORMANCE SECURITY

The Member Secretary
Central Pollution Control Board
Parivesh Bhawan, East Arjun Nagar, Delhi-110032

WHEREAS (name and address of the Supplier) (hereinafter called "the Supplier") has undertaken, in pursuance of contract no..... dated to supply (description of goods and services) (herein after called "the contract").

AND WHEREAS it has been stipulated by you in the said contract that the Supplier shall furnish you with a bank guarantee by a scheduled commercial bank recognised by you for the sum specified therein as security for compliance with its obligations in accordance with and due performance of the contract;

AND WHEREAS we have agreed to give the Supplier such a bank guarantee;

NOW THEREFORE we hereby affirm that we are guarantors and responsible to you, on behalf of the Supplier, up to a total of (amount of the guarantee in words and figures), and we hereby irrevocably and absolutely undertake to pay you immediately, upon your first written demand declaring the Supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Supplier before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the contract to be performed thereunder or of any of the contract documents which may be made between you and the Supplier shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition or modification.

The Bank guarantee shall be interpreted in accordance with the laws of India.

The Guarantor Bank represents that this Bank Guarantee has been established in such form and with such content that is fully enforceable in accordance with its terms as against the Guarantor Bank in the manner provided herein.

The Bank Guarantee shall not be affected in any manner by reason of merger, amalgamation, restructuring or any other change in the constitution of the Guarantor Bank or the Supplier.

The Bank further undertakes not to revoke this Guarantee during its currency except with the previous express consent of the Purchaser in writing.

The Bank declares that it has power to issue this Guarantee and discharge the obligations contemplated herein, the undersigned is duly authorized and has full power to execute this Guarantee for an on behalf of the Bank.

This guarantee shall be valid upto and including the day of, 20.....

.....
(Signature with date of the authorised officer of the Bank)

.....
Name and designation of the officer

.....
Seal, name & address of the Bank and address of the Branch

Form - 5
CONTRACT FORM

CONTRACT FOR SUPPLY, INSTALLATION AND COMMISSIONING OF
EQUIPMENT/INSTRUMENTS TO CPCB

Contract No. _____ dated _____

This contract for _____ is made on this ___ day of ___20__ between _____ [hereinafter referred to as "Supplier"] on the one part and the Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi-110032 (hereafter referred to as the "Purchaser" which shall include his successors in the office and assigns) on the other part.

2. Whereas the Purchaser had floated a Tender No.C-47011/ICB/06-11/2018-19/Mat.dated _____ and the Supplier had submitted a tender in response and has been awarded the contract vide Notification of award/Purchase Order No. _____ dated _____, it is hereby, agreed that the Supplier will supply, install, commission ___ Equipment / Instruments as per Tender No.C-47011/ICB/06-11/2018-19/Mat.dated _____ and will provide 03 years' comprehensive warranty and also provide product support for at least 10 years from the date of expiry of the warranty period on the terms and conditions mentioned hereunder and for a price indicated in para 5 of this contract which the Purchaser will pay as per the terms of payment indicated in para 17 of this contract.

3. The following documents shall be deemed to form and be read and construed as part of this contract:

- (i) Purchaser's Tender No.C-47011/ICB/06-11/2018-19/Mat.dated _____
- (ii) Bidder's Technical bid dated _____
- (iii) Price bid of the Bidder
- (iv) General Instructions of the Contract, General Conditions of Contract, Schedule of Requirements, Technical Specifications, Quality Control Requirements, Qualification Criteria as mentioned in Tender No.C-47011/ICB/06-11/2018-19/Mat.dated _____
- (v) Manufacturers' Authorisation Form furnished by the Bidder in its tender
- (vi) Purchaser's Notification of Award F.No. _____ dated _____.
- (vii) Clarification issued by the Purchaser and replies/queries submitted by the Bidder during pre-bid or during evaluation of bids.

Note: The words and expressions used in this contract shall have the same meanings as are respectively assigned to them in the conditions of contract referred to above. Further, the definitions and abbreviations incorporated under Section II - 'Instructions to Bidders' of the Purchaser's Tender Document shall also apply to this contract.

4. In addition to above documents, following shall also be deemed to form and be read and construed as part of this contract:

- a) Supplier's letter No. _____ dated _____
- b) Purchaser's letter F.No. _____ dated _____
- c) -----

(Reference of all correspondence made with the Supplier with respect to this procurement)

5. Brief particulars of the goods and services

Brief particulars of the goods and services which shall be supplied by the Supplier are as under:

Brief description of goods / services	Quantity to be supplied	Unit Price	Total price	Terms of delivery

However during the period of contract for delivery of ___ Equipment/Instruments, in case the Supplier delivers the Equipment/Instruments of identical specifications at a less price to any other party (price being the sole consideration in the supply), the contract price will be deemed to have been reduced by the difference between the price offered to the Purchaser and to the other party. Any difference in the terms of supply shall be duly accounted in the process.

6. Product Support

The Supplier shall provide product support for atleast 10 years from the date of expiry of warranty period and would be governed by the clause 4.7 of Section-IV of Tender No.C-47011/ICB/06-11/2018-19/Mat.dated _____

7. Delivery schedule

Commissioning / handing over of ___ Equipment/Instruments shall be completed within ___ months from the date of Letter of award of the Contract and would be governed as per clause 4.2 of Section-IV of Tender No.C-47011/ICB/06-11/2018-19/Mat.dated _____ and pre-bid clarification issued thereafter on ___ (if any).

8. Performance Security

The Supplier will furnish Performance Security within 21 days after the issue of Notification of award by the Purchaser as per clause 3.5 of Section-III of Tender No.C-47011/ICB/06-11/2018-19/Mat.dated _____.

9. Technical Specification

Technical specification of the ___ Equipment/Instruments shall be as per Annexure-II of the Tender No.C-47011/ICB/06-11/2018-19/Mat.dated _____ and pre-bid clarifications issued thereafter on _____ (if any).

10. Transportation and Insurance

Transportation and Insurance of the Equipment/Instruments shall be as per clause 3.9 & 3.10 of Section-III of Tender No.C-47011/ICB/06-11/2018-19/Mat.dated _____

11. Quality Control

The quality control, inspection, tests and trials shall be carried out as per terms & conditions mentioned in Tender No.C-47011/ICB/06-11/2018-19/Mat.dated _____

12. AERB Approval

NOC/Type approval certificate from AERB, wherever applicable, shall be submitted by the Supplier for the model offered of Equipment/ Instruments.

13. Installation & Commissioning

Installation & Commissioning of the Equipment/Instruments will be carried out as per Tender No.C-47011/ICB/06-11/2018-19/Mat.dated _____.

14. Warranty

The 3 years Comprehensive Warranty of Equipment/Instruments shall be as per clause 3.12 of Section-III and clause 4.9 of Section-IV of Tender No.C-47011/ICB/06-11/2018-19/Mat.dated _____

15. After Sales/Post Contractual Support

There should be an extensive services network spread over geographical locations including major cities near the site of installation to attend to any performance related complaint on Equipment/ Instruments. For trouble free operation and maintenance of the instrument, spares and consumables will be made available for at-least 10 years. The bidder shall provide post contractual support i.e. repair, maintenance, supply of spares

parts etc and assure supply of consumables and spare parts for 10 years from the date of installation. The bidder shall take up the post warranty AMC when asked to do so.

16. Payment Terms

The term and mode of payment, as provided in clause 2.13 of Section II of Tender No.C-47011/ICB/06-11/2018-19/Mat.dated _____ shall be as under:

Payment will generally be made only after delivery and satisfactory installation, testing, commissioning etc depending upon the availability/release of funds by the Govt. and the agencies/contractors shall have no claim in case of delayed payment and no interest will be paid for the delayed payment.

- (i) In case of imported supplies, payment (excluding Indian agency commission, if any) will be made through irrecoverable Letter of Credit in two installments. 80 % of the money will be released on submission of shipping of documents and Remaining 20 % will be released after successful installation and commissioning of the instrument and submission of a performance bank guarantee for 10% of the order value from a scheduled bank, valid for 2 months beyond the period of expiry of the warranty. All the bank charges within India will be borne by the Board and outside India will be borne by the Supplier.
- (ii) In case of required item quoted in INR, 100% payment will be released on satisfactory supply, installation and commissioning of the item and submission of performance guarantee.

The Supplier shall send its claim for payment in writing, when contractually due, along with relevant documents etc., duly signed with date, as specified. While claiming payment, the Supplier shall certify on the bill that the payment being claimed is strictly in terms of the contract and all the obligations on the part of the Supplier for claiming that payment have been fulfilled as required under the contract. In case the machine is not attended to in respect to any defect developing during the warranty period and made functional, 10% Performance security deposit shall be forfeited.

17. Liquidated Damages

If the Supplier fails to complete the installation and commissioning of the equipment within the time fixed under the contract, the Purchaser shall deduct Liquidated Damages as per clause 3.16 of Section III of Tender No.C-47011/ICB/06-11/2018-19/Mat.dated _____

18. Termination of Contract

The Contract can be terminated in accordance with clause 3.17 of Section III of Tender No.C-47011/ICB/06-11/2018-19/Mat.dated _____

19. Resolution of Disputes

In the event of any dispute or difference arise between the Purchaser and Supplier in connection with or relating to the contract, the parties shall resolve their disputes or differences as per clause 3.19 & 3.20 of Section III of Tender No.C-47011/ICB/06-11/2018-19/Mat.dated _____ Indemnity

20. Training

The training of the staff shall be carried out as laid down in clause 4.10 of Section IV of Tender No.C-47011/ICB/06-11/2018-19/Mat.dated _____

21. Modification of Contract

If necessary, the Purchaser may, by a written order given to the Supplier at any time during the currency of the contract, amend this contract.

22. Performance Guarantee

The supplier will be required to furnish a Performance Guarantee by way of Bank Guarantee within 30 days of signing of contract through a public sector bank for a sum of Rs. i.e. equal to 10% of the Purchase Order value. Performance Bank Guarantee should be valid upto 60 days beyond the end date of contract.

23. Miscellaneous

Other issues, not mentioned in the contract, shall be governed as per the Tender No.C-47011/ICB/06-11/2018-19/Mat.dated _____ and documents mentioned in paragraph 3 & 4 above.

Received and accepted this contract.

(_____

M/s _____

(Sign & Stamp of Supplier)

Date: _____

Place: _____

WITNESSES:

(_____

For Central Pollution Control Board

Form-6

CERTIFICATE OF SUPPLY, INSTALLATION & COMMISSIONING

F.No. _____

Dated _____

1. Reference P.O. No. _____ date
2. It is certified that
 - (a) M/s _____ have completed the Supply, Installation and Commissioning of the EQUIPMENT / INSTRUMENTS Model _____ Serial No. _____ on _____ (date) at designated site
_____ (name of the site).
 - b) The process of handing / taking over of the aforesaid system, accessories and services specified in the Contract to the satisfaction of the Purchaser, has been completed on _____ (date).
 - c) The aforementioned EQUIPMENT / INSTRUMENTS worked satisfactorily during the trial period of 15 days starting w.e.f. _____ (date) to _____ (date).

For Contractor

For Purchaser

Witness:

Witness:

Signature
Name
Designation
Address
Date

Signature
Name
Designation
Address
Date

INTEGRITY PACT

General

This Contract Agreement (hereinafter called the Integrity Pact) is made onday of the month of2018, between, CPCB, An autonomous body acting through Shri A. Sudhakar, Member Secretary, CPCB 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 CPCB 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:

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.

Commitments of BIDDERS

2. 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.

3. 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 6.1 (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 Section 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. However, the BIDDER can approach the Independent Monitor (s) appointed for the purposes of this Pact.

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. **Independent Monitors**

- 6.1 The BUYER has appointed Independent Monitors (hereinafter referred to as Monitors) for this Pact in consultation with the Central Vigilance Commission (Sh Sunil Krishna, C/o Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi-110032, Phone-+91-120-4286713, Mobile No. 98682111020, email : iem.cpcb@gmail.com, sunilkrishna@nic.in).
- 6.2 The task of the Monitors shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact.
- 6.3 The Monitors shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.
- 6.4 Both the parties accept that the Monitors have the right to access all the documents relating to the project/procurement, including minutes of meetings.
- 6.5 As soon as the Monitor notices, or has reason to believe, a violation of this Pact, he will so inform the Authority designated by the BUYER.
- 6.6 The BIDDER(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the BUYER including that provided by the BIDDER. The BIDDER will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors. The Monitor shall be under contractual obligation to treat the information and documents of the BIDDER/Subcontractor(s) with confidentiality.
- 6.7 The BUYER will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the Monitor the option to participate in such meetings.
- 6.8 The Monitor will submit a written report to the designated Authority of BUYER/Secretary in the Department/ within 8 to 10 weeks from the date of reference or intimation to him by the BUYER / BIDDER and, should the occasion arise, submit proposals for correcting problematic situations.

7. **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.

8. **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.

9. **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.

10. **Validity**

10.1 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.

10.2 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.

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

BUYER

BIDDER

Name of the Officer.

CHIEF EXECUTIVE OFFICER

Designation

Deptt./MINISTRY/PSU

Witness

Witness

1.....

1.....

2.....

2.....

INSTRUCTIONS FOR ONLINE BID SUBMISSION

As per the directives of Department of Expenditure, this tender document has been published on the Central Public Procurement Portal (URL: <http://eprocure.gov.in>). The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained at:
<https://eprocure.gov.in/eprocure/app>.

REGISTRATION

- 1) Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <https://eprocure.gov.in/eprocure/app>) by clicking on the link “Click here to Enroll” on the CPP Portal is free of charge.
- 2) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- 3) Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
- 4) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / TCS / nCode / eMudhra etc.), with their profile.
- 5) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC’s to others which may lead to misuse.
- 6) Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.

SEARCHING FOR TENDER DOCUMENTS

- 1) There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, organization name, location, date, value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as organization name, form of contract, location, date, other keywords etc. to search for a tender published on the CPP Portal.
- 2) Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective ‘My Tenders’ folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.
- 3) The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

PREPARATION OF BIDS

- 1) Bidder should take into account any corrigendum published on the tender document before submitting their bids.
- 2) Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid. Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF formats. Bid documents may be scanned with 100 dpi with black and white option.

- 3) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders.
Bidders can use “My Space” area available to them to upload such documents. These documents may be directly submitted from the “My Space” area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

SUBMISSION OF BIDS

- 1) Bidder should log into the site well in advance for bid submission so that he/she upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
- 2) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- 3) Bidder has to select the payment option as “offline” to pay the tender fee / EMD as applicable and enter details of the instrument.
- 4) Bidder should prepare the EMD as per the instructions specified in the tender document. The original EMD should be submitted at Directorate of Logistics, New Delhi by at 13:00 hrs. The details of the EMD physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected.
- 5) A standard price bid schedule format has been provided with the tender document to be filled by all the bidders. If the price bid file is found to be modified by the bidder, the bid will be rejected.
- 6) The serve time (which is displayed on the bidders’ dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
- 7) All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done.
- 8) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 9) Upon the successful and timely submission of bids, the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
- 10) The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

ASSISTANCE TO BIDDERS

- 1) Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.
- 2) Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk. The contact number for the helpdesk is 1800 233 7315.

REVISED TECHNICAL SPECIFICATIONS

1 General

1.1 These specifications shall be read in conjunction with the General Conditions of Contract. If these are at variance with general conditions of contract, these will prevail. The technical specifications in this Section are indicative and not exhaustive. Bidder should offer the advanced and efficient model of Equipment/Instrument.

2 Supply Details

2.1 Supply of Equipment/Instruments complete with accessories, spares, consumables, etc., as specified in this Section.

3 General Requirements

3.1 The work herein specified shall be performed by fully competent workmen in a thorough professional manner. All materials furnished by the Bidder shall be new, and shall conform to applicable Indian standards or any international standard.

3.2 The manufacturer shall provide one set of Software of the equipment in USB media, for each Equipment/Instrument. The same shall be handed over to the user Laboratory at the time of conducting Site Acceptance Test.

3.3 No-objection certificate (NOC) or Type approval from Atomic Energy Regulatory Board (AERB) of India should be submitted for the Equipment / Instruments deploying **radiation** source or as applicable, along with the Technical Bid. Alternately, the NOC or Type approval certificates must be submitted within 30 days from the date of opening of the technical bids of the tender.

4 Specifications of Equipment/Instruments

4.1 Specifications of the equipment/instruments required for CPCB are given in succeeding pages as per following details :-

Ser No.	Item Code	Instrument	Specification given at Page No.
1.	ICB-06	Gas Chromatograph (GC-ECD-FPD)	43-53
2.	ICB-07	High Pressure Liquid Chromatograph (HPLC)	55-60
3.	ICB-08	Stack Sampling Kit	61-65
3.	ICB-10	Atomic Absorption Spectrophotometer (AAS)	66-74
4.	ICB-11	Mercury Analyzer	75-80
5.	ICB-12	Water Purification System (WPS)	81-85

4.2 Equipment/ Instrument having better specifications may be accepted, however, without any price preference.

5 Equipment/ Instrument Acceptance & Calibration

5.1 To check the performance of the equipment/ instrument, after installation and commissioning at site, the Bidder is required to conduct analysis. In addition, laboratory samples will be also analysed before acceptance.

5.2 Bidder should have its Application Laboratory in India to provide primary service support, including periodic calibration, as required. Details of the Application Laboratory may be submitted.

6 Software

6.1 The software offered by the Bidder for Equipment / Instrument must be licensed for life time and should not need any renewal.

7 Responsibility for completeness

7.1 Any component or part of it or accessories not mentioned in the specification but which are usual or necessary are to be provided by the Bidder without extra charge as to make the equipment complete in all respects to meet the specifications.

8 Instruction/Technical Manual

8.1 The Bidder shall hand over to the user Laboratory the Instruction /Technical Manuals and one set of spare parts catalogue for all the equipment at the time of conducting Site Acceptance Test. It shall contain full details and drawings of all the equipment, testing, operation, installation and maintenance procedures of the equipment.

8.2 After commissioning and initial operation of the equipment, if the instruction manual requires any modification / additions / changes, the modified sheet shall be submitted by the Bidder to the Purchaser.

8.3 All manuals and documents shall be in English language and in such a way that a qualified engineer / technician is able to fully understand and do the preventive as well as breakdown maintenance with the help of these manuals.

REVISED TECHNICAL SPECIFICATIONS OF GAS CHROMATOGRAPH

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs)			
Code Number: ICB-06			
Equipment Name: Gas Chromatograph			
Quantity: 1 (One) No.			
S. No.	Specifications	Requirement	BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. Technical Literature / published document should be submitted to prove compliance)
1.0	INSTRUMENT COMPOSITION		
	Gas Chromatograph	One set	
	Capillary Column with accessories	One set each of specified columns	
	ECD Detector	One set	
	FPD Detector	One set	
	GC Data Station	One set	
	Auto Sampler	One set	
2.0	TECHNICAL SPECIFICATION		
2.1	GC System	Computer controlled Data Workstation based Gas Chromatograph (GC). Built in Diagnostics and Comprehensive Self-Testing	
2.2	Oven temperature programming ramps	At least 6 ramps and seven plateau	
2.3	Heated zones	At least six including Oven, Two Injectors, Two Detectors and One Auxiliary	
2.4	Display	Functional keyboard with four line alphanumeric display	

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs)

Code Number: ICB-06

Equipment Name: Gas Chromatograph

Quantity: 1 (One) No.

S. No.	Specifications	Requirement	BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. Technical Literature / published document should be submitted to prove compliance)
		Display include temperature and pressure / flow parameters, type of carrier gas, carrier gas column pressure, flow rates, split flow, detector gas flow rates and all detector parameters including method and Auto sampler information.	
2.5	Memory protection	Power fail memory protection,	
2.6	Storage facility	Unlimited methods and automated sequences.	
2.7	Networking and data communication	LAN interface	
2.8	Method editing facility	Non-active methods should have editing facility	
2.9	System leak check	Unattended and automated system leak simultaneous check	
2.10	Injector / Detector mounting	2 Injectors and 2 detectors simultaneous mounting and capable to hold 100 µm to 530 µm different diameter capillary column	
2.11	Purge system	Effective Gas Saver and Septum Purge System	
2.12	Injection facility	Automatic and Manual Injection both	
3.0	COLUMN OVEN	High performance, large capacity oven accommodating at least two capillary column	
3.1	Volume	More than 10 Litres	
3.2	Operating temperature	4 °C above ambient to 450 °C	
3.3	Temperature set point	± 0.1 °C	

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs)

Code Number: ICB-06

Equipment Name: Gas Chromatograph

Quantity: 1 (One) No.

S. No.	Specifications	Requirement	BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. Technical Literature / published document should be submitted to prove compliance)
3.4	Temperature Stability	± 0.01 °C for 1 °C ambient change	
3.5	Ramp rate	Up to 120 °C / minute	
3.6	Heating time	Maximum 5 mins (50 to 400 °C)	
3.7	Cooling time	Maximum 5 mins (400 to 50 °C)	
3.8	Facility for	Column bleed compensation	
3.9	Vent temperature control	Microprocessor control in automatic sequence and fast	
4.0	FLOW / PRESSURE CONTROLLER		
4.1	Electronic Pneumatics Control (EPC) channels	Inlets, detectors, or auxiliary gases through Data Processor with Screen display of pressure / flow	
4.2	Pressure adjustment	0.1 psi increment or better	
4.3	Compensation (pressure/temp.)	Atmospheric pressure compensation for altitude and ambient temperature variations	
4.4	Pressure / flow programming ramps	Two or more	
4.5	EPC setting facility	Computer work station system	
4.6	EPC sensor	Inlets and detectors for all gases (carrier gas, make up gas and support gas in detectors, and carrier and split vent gas in inlets)	
4.7	Flow / pressure set points	On each inlet on detector parameter screen	

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs)

Code Number: ICB-06

Equipment Name: Gas Chromatograph

Quantity: 1 (One) No.

S. No.	Specifications	Requirement	BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. Technical Literature / published document should be submitted to prove compliance
4.8	Flow sensor for control and storage of	Split ratio in split / splitless and PTV injector	
5.0	INJECTOR	Two injectors mounting, one split / splitless injector one PTV (Programmable Temperature Vaporizer)	
5.1	Maximum temperature	400 °C	
5.2	Protection	Heater, Temperature Sensor and protection from overheating	
5.3	Capacity	To hold all types and all sizes of capillary columns	
5.4	Purge adjustment	Efficient Septum Purge system, purge time adjustable	
6.0	SPLIT / SPLITLESS INJECTOR	Forward inlet pressure programming with an optimized modular, uniform thermal profile for split / splitless injections	
6.1	Flow control	Electronic pressure / flow control	
6.2	Temperature control	Up to 400 °C for split / splitless injector with 1 °C increment	
7.0	PTV INJECTOR		
7.1	Injection volume	Large volume splitless injections	
7.2	Pressure / flow control	Electronic pressure / flow control	
7.3	Operating temperature	Up to 400 °C	
7.4	Programme ramps	At least 3 temperature programme ramps	
7.5	Solvent Back flush facility	Solvent rejection and back flush	
8.0	DETECTORS (COMPULSORY)	Detector combination would be ECD-FPD	

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs)

Code Number: ICB-06

Equipment Name: Gas Chromatograph

Quantity: 1 (One) No.

S. No.	Specifications	Requirement	BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. Technical Literature / published document should be submitted to prove compliance)
	Temperature range	Up to 400 °C	
	Detector mounting	Two detectors should be mounted	
	Pressure control	EPC and electronic on/off facility for all detector gases	
	Auto zero & protection	Detector with makeup gas and automatic zeroing facility and overheat protection	
8.1	ECD (Electron Capture Detector)	Coaxial design based on Ni ⁶³ Source	
	Linear Dynamic Range	>10 ⁴ with Lindane	
	Operating temperature (maximum)	400 °C	
	Pressure / Flow control	Electronic pressure/flow control	
	Minimum Detection Limit (MDL)	< 10 fg / sec (Lindane)	
	Makeup Gas	Nitrogen or 95% argon / 5% methane	
8.2	FPD (Flame Photo Detector)	Electronic pressure control, Wavelength version with detector of phosphorous & sulfur with filter change.	
	Temperature operating limit	Up to 400 °C	
	Linear dynamic range	10 ⁴ (P), >10 ³ (S)	
	Minimum Detection Limit (MDL)	Should be < 100 fg P/s and < 5 pg S/s with methyl parathion or tributyl phosphate (P) & Dodecane Thiol (S)	
9.0	AUTOSAMPLER		

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs)

Code Number: ICB-06

Equipment Name: Gas Chromatograph

Quantity: 1 (One) No.

S. No.	Specifications	Requirement	BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. Technical Literature / published document should be submitted to prove compliance)
	No. of sample vial	Capable of accommodating minimum 100 nos. vials.	
	Syringe capacity	Up to 3 different syringe capacity	
	Washing solvent	Up to four different washing solvents in 4 ml vials	
	Injection port access	Auto Sampler injection port access should be 2 injection port without require an additional tower. Both injector ports should work on shifting of position of tower.	
	Programming	Completely programmable from Workstation software	
10.0	COLUMNS		
		HP-5MS 30 m x 0.25 mm ID with 0.25 µm film thickness (5% di-phenyl and 95% dimethyl polysiloxane copolymer) ultra-low bleed column or equivalent - 2 Nos.	
		Ultra-1 : 25 m x 0.20 mm ID having 0.33 µm film thickness (100% dimethyl polysiloxane) or equivalent – 2 Nos.	
		HP-1701 30 m x 0.25 mm ID with 0.25 µm film thickness ((14%-Cyanopropyl-phenyl)-methylpolysiloxane) column or equivalent – 2 Nos.	
11.0	DATA STATION		
11.1	Licensed Application Software	Software for Method editing, storage with provision for chromatography parameters including peak area integration, re-integration, multilevel calibration, baseline correction, background subtraction, chromatograph overlaying and report format customization including.	

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs)

Code Number: ICB-06

Equipment Name: Gas Chromatograph

Quantity: 1 (One) No.

S. No.	Specifications	Requirement	BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. Technical Literature / published document should be submitted to prove compliance)
	Data Acquisition	The Chromatography Software should be capable of data acquisition from two detectors simultaneously (ECD-FPD or ECD-ECD or FPD-FPD) without requiring any addition of hardware component. In-built provision should be available for at least two simultaneous data & chromatograms acquisitions.	
	Memory Protection	Battery backup for memory protection	
	Data export / import	Provision of Data Export / Transformation to spreadsheet software i.e., MS Excel should be available in the chromatography software.	
	Quality Control	Provision for QA-QC parameters (repeatability/precision, multi-level calibration linearity / standard deviation of calibration levels, deviation of continuing calibration, S/N Ratio calculation & reporting, detection limit calculation and reporting, sample extract information (injection volume, dilution/concentration factor, sample volume/weight, unit of reporting etc.) for report preparation. Any other QA-QC parameters calculation and reporting as per environmental methods of reputed international sources e.g. USEPA.	
	Data display / handling	Software for display, handling, export / import and reporting of data	
11.2	Computer System		
	Make	Reputed brand such as HP / Dell / Lenovo etc.	
	Processor	Intel Core i7 (3 rd Generation) processor	

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs)

Code Number: ICB-06

Equipment Name: Gas Chromatograph

Quantity: 1 (One) No.

S. No.	Specifications	Requirement	BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. Technical Literature / published document should be submitted to prove compliance)
	RAM	8 GB DDR RAM (upgradeable to 16 GB DDR RAM)	
	HDD	500 GB SATA or More	
	Monitor	21" LED Flat Color (Digital)	
	CD & DVD Writer	CD & DVD Read and Write	
	Ports	2 Serial, 1 parallel and 2 USB front 3 Rear USB 2 Port, 1VGA 4 bays (2 external & internal) with LAN 1PS, 2 mouse port	
	Key board	Latest multimedia (HP / Microsoft)	
	Mouse	Optical mouse with pad	
	Ethernet	32 bit auto selectable 10/100 MBPS	
	Graphics	Internet ready with integrated Graphics	
	Sound	Integrated sound card and inbuilt stereo speakers	
	Printer	HP LaserJet Printer 1200 x 1200 dpi 12 PPM with duplex printing	
11.3	Software	Pre-loaded Windows 10 or latest operating system with Licensed CD	
		MS Office 2016 Professional with media, manual and Licensed CD	
		Preloaded Norton Antivirus with latest version of 3 years lifetime along with Licensed CD	
12.0	ACCESSORIES		
	Operation / maintenance manual	Operation and maintenance manual	

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs)

Code Number: ICB-06

Equipment Name: Gas Chromatograph

Quantity: 1 (One) No.

S. No.	Specifications	Requirement	BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. Technical Literature / published document should be submitted to prove compliance)
	Application Notes	Application notes in (CD) for organic compounds in environmental samples	
	Service manual	Service manual	
	N ₂ Gas Regulator	N ₂ gas compatible stainless steel regulator (2 stage) with necessary tubing and connectors (1 No.)	
	Hydrogen Gas regulator	H ₂ gas compatible stainless steel regulator with (2 stage) with necessary tubing and connectors (1 No.)	
	Zero air regulator	Zero air compatible stainless steel regulator (2 stage) with necessary tubing and connectors (1 No.)	
	Tool kit	One set of required tools	
	Gas purifier traps	H ₂ , N ₂ and Zero Air Gas purifier traps and moisture trap with panel & fittings	
13.0	SPARES & CONSUMABLES	Spares and consumables sufficient for three years trouble free operation should be included in the offer and supplied with the system	
	Column nut	2 Nos.	
	Washer	2 Nos.	
	Graphite / vespel ferrules different sizes	20 Nos. each	
	Inlet Septa (self sealing for injectors)	200 Nos.	
	Micro syringes for manual injection (10 µl)	4 Nos.	

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs)			
Code Number: ICB-06			
Equipment Name: Gas Chromatograph			
Quantity: 1 (One) No.			
S. No.	Specifications	Requirement	BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. Technical Literature / published document should be submitted to prove compliance)
	Auto sampler vials (2 ml)	5000 Nos. (pre-assembled with cap & Septa)	
	Auto sampler vial septa	10000 Nos.	
	Auto sampler vial caps	5000 Nos.	
	Auto sampler spare syringes	1 - 10.0 µl – 5 Nos.	
14.0	WARRANTY	Comprehensive warranty with spares for three years from the date of installation of the instrument. AMC amount for next two years after warranty also to be quoted.	
15.0	OPERATION AND MAINTENANCE TRAINING	The supplier has to impart on-site operation training at the time of installation followed by complimentary (all expenditure inclusive) two week training to two scientists on application, Routine maintenance and software training at their application laboratory.	
16.0	GENERAL CONDITIONS OF SUPPLY	<ol style="list-style-type: none"> 1. The instrument and all its sub units should operate on 230 ± 10 volts 50 Hz power supply. 2. All the operation and maintenance manuals, circuit diagrams, application notes and application software to be supplied should be in English language. 3. The supplier / manufacturer should have Indian agent to provide after sales service. 4. The main unit and all the sub units of the instrument should be serviced by the Indian representative of supplier. 5. The Bidder should be a manufacturer / authorized representative of a manufacturer, who must have designed, manufactured, tested and supplied two numbers of such equipment similar to 	

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs)

Code Number: ICB-06

Equipment Name: Gas Chromatograph

Quantity: 1 (One) No.

S. No.	Specifications	Requirement	BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. Technical Literature / published document should be submitted to prove compliance)
		<p>the type specified in the past five years, which shall be in successful operation for at least 2 years as on the date of bid opening.</p> <p>6. The bidder should furnish the information on past supplies and their satisfactory performance.</p> <p>7. Bidders shall invariably furnish documentary evidence (client's certificate – at least two) in support of the satisfactory operation of the equipment as specified above.</p> <p>8. Notwithstanding anything stated above the purchaser reserves the right to assess the capability and capacity of the bidder to perform the contract, should the circumstances warrant such an assessment in the overall interest of the purchaser.</p>	

REVISED TECHNICAL SPECIFICATIONS OF HIGH PERFORMANCE LIQUID CHROMATOGRAPH (HPLC)

Procurement of instruments for Central Pollution Control Board Laboratories (HQs)			
Code Number: ICB-07			
Equipment Name: High Performance Liquid Chromatograph			
Quantity: 1 (One) No.			
S. No.	Specifications	Requirement	BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. Technical Literature / published document should be submitted to prove compliance)
A.	TECHNICAL SPECIFICATIONS		
1.0	Liquid Chromatography System	One Set	
1.1	Pump	High Pressure Quaternary Pump System	
1.2	Flow range	0.01 to 5.00 ml / min or better	
1.3	Pressure Range	400 bar or more	
1.4	Flow Accuracy	± 1 % or 10 µL/min whichever is better	
1.5	Flow rate precision	≤ 0.075 % or lower	
1.6	Degasser	Inbuilt on-line vacuum degasser	
1.7	Auto Sampler	Standard Sample Capacity: Having a capacity of 100 positions or more for 1.5 to 2.0 ml vials or better with programmable needle wash facility.	
		Injection volume range: 1-50 µL	
		Peltier Temperature Control: 4 – 40 °C	
	Injection Repeatability	RSD < 0.3 % (for 10 µL injections)	
	Carry Over	0.01 %	

Procurement of instruments for Central Pollution Control Board Laboratories (HQs)

Code Number: ICB-07

Equipment Name: High Performance Liquid Chromatograph

Quantity: 1 (One) No.

S. No.	Specifications	Requirement	BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. Technical Literature / published document should be submitted to prove compliance)
	Injection volume accuracy	< 2 %	
	Syringe pump combination	Should have built in high accuracy digital syringe pump or metering pump of variable volume.	
1.8	Oven	Block heating / cooling type	
	Column oven Temperature	Column oven Temperature Range: 5 °C above room temperature to 55 °C with Peltier cooling	
	Temperature control precision	± 0.1 °C	
1.9	Columns		
	Guard Column	C-18 reversed-phase guard column, 10 mm x 2.6 mm ID, 0.5 µm particle size - 4 Nos	
	Analytical Column	C-18 reversed-phase, 250 mm x 4.6 mm ID, 5 µm particle size – 1 Nos	
		C-18 reversed-phase, 100 mm x 2.0 mm ID, 5 µm particle size - 1 Nos	
		C-18 reversed-phase, 150 mm x 0.5 mm ID, 5 µm particle size - 1 Nos	
		C-18 reversed-phase, 150 mm x 2.0 mm ID, 3 µm particle size - 1 Nos	
	Software	Automatic calibration, calibration verification & Analysis with provision for inputs of sample extract volume, dilution & injection volume etc.	
		Report Formats customization (Laboratory Information, Sample Information, Chromatogram, Peak Table including RT, compound name, peak area, quantity/concentration, unit etc.)	
		QA-QC parameters	

Procurement of instruments for Central Pollution Control Board Laboratories (HQs)

Code Number: ICB-07

Equipment Name: High Performance Liquid Chromatograph

Quantity: 1 (One) No.

S. No.	Specifications	Requirement	BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. Technical Literature / published document should be submitted to prove compliance)	
1.10	Detector			
	DAD / PDA Detector	Light Source	Deuterium and Tungsten	
		Wavelength Range	190-800 nm or more	
		Slit Width	Programmable, 1, 2, 4, 8, 16 nm	
		Wavelength accuracy	± 1 nm	
		Wavelength precision	± 0.1 nm	
		Drift	< 0.9 x 10 ⁻³ AU/hr at 254 nm	
		Noise level	± 0.3 x 10 ⁻⁵ AU (for response of 1 s, 250 nm, air cell)	
		Cell path length, cell volume	STD flow cell	
		Maximum Sampling Rate	80 Hz	
		Time Programmable	Wavelength, wavelength range, Polarity, Peak width, Lamp bandwidth, auto-balance	
		Communication	LAN, Controller-area network (CAN), RS-232C	
		GLP Features	Data Recovery Card to prevent data losses, RF-ID for electronics records of flow cell and UV lamp condition	
		Safety and Maintenance	Extensive diagnostics, error detection and display through instant graph, leak detection. Electronic temperature control (ETC) for the complete optical unit	
	Fluorescence	Light Source	Xenon Flash Lamp	

Procurement of instruments for Central Pollution Control Board Laboratories (HQs)

Code Number: ICB-07

Equipment Name: High Performance Liquid Chromatograph

Quantity: 1 (One) No.

S. No.	Specifications	Requirement	BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. Technical Literature / published document should be submitted to prove compliance)																								
	Detector	<table border="1"> <tr> <td data-bbox="575 568 920 619">Detection type</td> <td data-bbox="920 568 1807 619">Programmable single wave length (excitation and emission)</td> </tr> <tr> <td data-bbox="575 619 920 662">Frequency</td> <td data-bbox="920 619 1807 662">296 Hz to 74 Hz</td> </tr> <tr> <td data-bbox="575 662 920 705">Wavelength accuracy</td> <td data-bbox="920 662 1807 705">± 3 nm</td> </tr> <tr> <td data-bbox="575 705 920 750">Wavelength repeatability</td> <td data-bbox="920 705 1807 750">± 0.2 nm</td> </tr> <tr> <td data-bbox="575 750 920 799">Excitation monochromator</td> <td data-bbox="920 750 1807 799">230-800 nm or above, bandwidth 20 nm or better</td> </tr> <tr> <td data-bbox="575 799 920 868">Emissions monochromator</td> <td data-bbox="920 799 1807 868">230-900 nm or above, bandwidth 20 nm or better</td> </tr> <tr> <td data-bbox="575 868 920 936">Cell path length, cell volume</td> <td data-bbox="920 868 1807 936">STD flow cell</td> </tr> <tr> <td data-bbox="575 936 920 981">Maximum Sampling Rate</td> <td data-bbox="920 936 1807 981">74 Hz</td> </tr> <tr> <td data-bbox="575 981 920 1050">Time Programmable</td> <td data-bbox="920 981 1807 1050">For Wavelength, Polarity, Peak width, Lamp bandwidth, auto-balance wavelength range</td> </tr> <tr> <td data-bbox="575 1050 920 1094">Communication</td> <td data-bbox="920 1050 1807 1094">LAN, Controller-area network (CAN), RS-232C</td> </tr> <tr> <td data-bbox="575 1094 920 1163">GLP Features</td> <td data-bbox="920 1094 1807 1163">Data Recovery Card to prevent data losses, RF-ID for electronics records of flow cell and Xenon lamp condition</td> </tr> <tr> <td data-bbox="575 1163 920 1267">Safety and Maintenance</td> <td data-bbox="920 1163 1807 1267">Extensive diagnostics, error detection and display through instant graph, leak detection. Electronic temperature control (ETC) for the complete optical unit</td> </tr> </table>	Detection type	Programmable single wave length (excitation and emission)	Frequency	296 Hz to 74 Hz	Wavelength accuracy	± 3 nm	Wavelength repeatability	± 0.2 nm	Excitation monochromator	230-800 nm or above, bandwidth 20 nm or better	Emissions monochromator	230-900 nm or above, bandwidth 20 nm or better	Cell path length, cell volume	STD flow cell	Maximum Sampling Rate	74 Hz	Time Programmable	For Wavelength, Polarity, Peak width, Lamp bandwidth, auto-balance wavelength range	Communication	LAN, Controller-area network (CAN), RS-232C	GLP Features	Data Recovery Card to prevent data losses, RF-ID for electronics records of flow cell and Xenon lamp condition	Safety and Maintenance	Extensive diagnostics, error detection and display through instant graph, leak detection. Electronic temperature control (ETC) for the complete optical unit	
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2.0	COMPUTER SYSTEM																										
	Make	Reputed brand such as HP / Dell / Lenovo																									
	Processor	Intel Core i7 (3 rd Generation) processor																									

Procurement of instruments for Central Pollution Control Board Laboratories (HQs)

Code Number: ICB-07

Equipment Name: High Performance Liquid Chromatograph

Quantity: 1 (One) No.

S. No.	Specifications	Requirement	BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. Technical Literature / published document should be submitted to prove compliance)
	RAM	8 GB DDR RAM (upgradeable to 16 GB DDR RAM)	
	HDD	500 GB SATA or More	
	Monitor	21" LED Flat Color (Digital)	
	DVD Writer	DVD- Multi-drive	
	Ports	2 Serial, 1 parallel and 2 USB front 3 Rear USB 2 Port, 1VGA 4 bays (2 external & internal) with LAN 1PS, 2 mouse port	
	Key board	Latest multimedia (HP / Microsoft)	
	Mouse	Optical mouse with pad	
	Ethernet	32 bit auto selectable 10/100 MBPS	
	Graphics	Internet ready with integrated Graphics	
	Sound	Integrated sound card and inbuilt stereo speakers	
	Printer	HP LaserJet Printer 1200 x 1200 dpi 12 PPM with duplex printing	
	Software	Pre-loaded Windows 10 or latest operating system with Licensed CD	
		MS Office 2016 Professional with media, manual and Licensed CD	
		Preloaded Norton Antivirus with latest version of 3 years lifetime along with Licensed CD	
3.0	All the required accessories	Inline filter / frit : 100 Nos.	
		Solvent filter : 25 Nos	
		Pump Seal : 50 Nos.	
		Auto sampler needles: 10 Nos	
		Auto sampler vials – 5000 Nos.	

Procurement of instruments for Central Pollution Control Board Laboratories (HQs)

Code Number: ICB-07

Equipment Name: High Performance Liquid Chromatograph

Quantity: 1 (One) No.

S. No.	Specifications	Requirement	BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. Technical Literature / published document should be submitted to prove compliance
4.0	Manuals	Operation and service manuals in CD format & 2 Nos Print copies for each sub-system should be supplied.	
5.0	OPERATION & MAINTENANCE TRAINING COMPONENT	Two weeks training to two scientists on operation, maintenance and troubleshooting aspect of the instrument at manufacturer's facility/application laboratory.	
6.0	GENERAL CONDITIONS OF SUPPLY	<ol style="list-style-type: none"> 1. The instrument and all its sub units should operate on 230 ± 10 volts 50 Hz power supply. 2. All the operation and maintenance manuals, circuit diagrams, application notes and application softwares to be supplied should be in English language. 3. The supplier / manufacturer should have Indian agent to provide after sales service. 4. The main unit and all the sub units of the instrument should be serviced by the Indian representative of supplier. 5. The Bidder should be a manufacturer/authorized representative of a manufacturer, who must have designed, manufactured, tested and supplied two numbers of such equipment similar to the type specified in the past five years, which shall be in successful operation for atleast 2 years as on the date of bid opening. 6. The bidder should furnish the information on past supplies and their satisfactory performance. 7. Bidders shall invariably furnish documentary evidence (client's certificate – atleast two) in support of the satisfactory operation of the equipment as specified above. 8. Notwithstanding anything stated above the purchaser reserves the right 	

Procurement of instruments for Central Pollution Control Board Laboratories (HQs)

Code Number: ICB-07

Equipment Name: High Performance Liquid Chromatograph

Quantity: 1 (One) No.

S. No.	Specifications	Requirement	BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. Technical Literature / published document should be submitted to prove compliance)
		to assess the capability and capacity of the bidder to perform the contract, should the circumstances warrant such an assessment in the overall interest of the purchaser. 9. Comprehensive warranty with spares for 3 years on complete system from the date of installation of the instrument should be covered.	

REVISED TECHNICAL SPECIFICATIONS OF SOURCE SAMPLING KIT (ICB-08)

FOR DIOXINS & FURANS

Procurement of instruments for Central Pollution Control Board Laboratories (HQs)			
Code Number: ICB-08			
Equipment Name: Source Sampling Kit for Dioxin & Furan			
Quantity: 1 (one) set			
S. No.	Specifications	Requirement	BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. Technical Literature / published document should be submitted to prove compliance
A.	TECHNICAL SPECIFICATIONS		
1.1	The source sampling kit	Should be fully compliance with USEPA Method 23	
1.2	Metering System – (Console of the sampling system)	One set compact & light weight portable Stack sampling kit with lockable carrying boxes of PUF lined and aluminium beadings for rough & tough use in the field. Individual programmable digital solid state temperature controllers for Sampling Probe and Filter Holder Box (Hot Box). Switch controls for Power, Pump, Null Solenoids. 4-Pin military style Amphenol power distribution connector. Resettable digital elapsed timer. Modular Electrical and Plumbing Panels. Fully removable front and rear access doors. Power supply requirement 220 VAC & 50 Hz. Stainless steel leak free valves and quick connects for gas, pressure and vacuum lines.	
1.3	Dry Gas Meter	Calibrated direct reading Metric Unit Dry Gas Meter, 2 % Accuracy	
1.4	Vacuum Pump	Fully enclosed thermally insulated Rotary Vane Vacuum pump, 150 Litre per Minute (LPM) air drawing capacity, Equipped with 2 meter Vacuum Hoses and non-reversible stainless steel quick connects to eliminate the possibility of cross connection, 220V, Single Phase Lockable transport case.	
1.5	Vacuum Gauge	Pressure Range 0 – 30 psi	
1.6	Differential Pressure Gauge (inclined manometer)	The Differential Pressure Gauge should be an Inclined Manometer or the Equivalent, two Gauges are required: One Gauge to Monitor the Stack Velocity Pressure, and the other to measure the Orifice Pressure (Differential).	

Procurement of instruments for Central Pollution Control Board Laboratories (HQs)			
Code Number: ICB-08			
Equipment Name: Source Sampling Kit for Dioxin & Furan			
Quantity: 1 (one) set			
S. No.	Specifications	Requirement	BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. Technical Literature / published document should be submitted to prove compliance
1.7	Sample Probe, S-Type Pitot Tube, Thermocouple Assemble - Two Sets (1 m & 2 m)	<p>Sample Probe Pyrex Glass lined stainless steel probe with leak proof spherical ball joint on glass liner with 'O' ring with heater in a carrying case, Removable probe liner heater compatible with 220VAC/50 Hz power, Heated probe shall be able to attain temperature of 120 °C or above.</p> <p>Pitot Tube Stainless Steel S type Pitot Tube coupled with Probe manufactured according to the design specifications and dimensional requirements stated in USEPA Method 2,</p> <p>Thermocouple K- Type of Stainless Steel thermocouple assembly coupled with Probe, Capable of measuring temperature accurately ± 1 °C,</p>	
1.8	Temperature Sensors	<p>Temperature Sensors should be used to monitor the temperature with LED Temperature Readout for K- Type Thermocouple with selector switch for the following:</p> <ol style="list-style-type: none"> 1. Stack Gas 2. Heated Probe 3. Filter Holder 4. Adsorbent Trap Entrance 5. Silica Gel Impinger Exit 6. Dry Gas Meter Inlet and 7. Dry Gas Meter Outlet. 	
2.0	Heated Box for Filter Holder (Two Sets)	<p>Modular heated, thermally insulated heated box to hold filter paper assembly outside the stack, Heated Box shall be able to attain temperature of 120 °C or above,</p>	

Procurement of instruments for Central Pollution Control Board Laboratories (HQs)			
Code Number: ICB-08			
Equipment Name: Source Sampling Kit for Dioxin & Furan			
Quantity: 1 (one) set			
S. No.	Specifications	Requirement	BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. Technical Literature / published document should be submitted to prove compliance
		Provision to connect with Cold Box with Lock, Provision to hang on Mono Rail and smooth movement as per sampling Traverse Points, Stout handle with centering loop and mounting locations for the aluminum slide block on opposite sides for the impinge inlet strain relief and impinge outlet adapter.	
3.0	Cold Box (Two Sets)	Thermally Insulated and water proof with capacity of Holding 08 Impingers.	
4.0	Submersible water circulation pump	220V Single Phase – 02 Nos.	
5.0	Horizontal Water condenser	With #28 Socket On Both Ends. – 04 Nos.	
6.0	Gas Impingers (glass)	Set of 10 Gas Impingers with Leak Proof Spherical Joints with dump proof carrying Case.	
7.0	XAD Trap (4 Nos.)	With Unground Socket & Round Wall with Water Jacket Hose Barbs.	
8.0	Set of 7 glass Nozzles of different diameter	02 Sets comprising of following, Glass Nozzles set of 7 sizes from #4 (1/8") to #16 (1/2") with Teflon ferrules packed in foam lined case,	
9.0	30 feet Standard Umbilical Cable	Flexible construction with expandable abrasion resistant low friction over braid jacket, One high vacuum sample line (300 psi) with appropriate Quick Connect Joints, Three pressure lines, two for pitot with appropriate quick connect joints, 5 Type K thermocouple lines, One 5 conductor electrical cable with 4 pin Amphenol connector, One full length stranded nylon strain relief cable, Carrying Case.	
10.0	90 feet Standard Umbilical Cable	Flexible construction with expandable abrasion resistant low friction over braid jacket, One high vacuum sample line (300 psi) with appropriate Quick Connect Joints, Three pressure lines, two for pitot with appropriate quick connect joints, 5 Type K thermocouple lines, One 5 conductor electrical cable with 4 pin Amphenol connector, One full length stranded nylon strain relief cable, Carrying Case.	
11.0	Calculator	Calculator with Method 5 Calculations	

Procurement of instruments for Central Pollution Control Board Laboratories (HQs)			
Code Number: ICB-08			
Equipment Name: Source Sampling Kit for Dioxin & Furan			
Quantity: 1 (one) set			
S. No.	Specifications	Requirement	BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. Technical Literature / published document should be submitted to prove compliance
12.0	Glass-Fibre Filter Paper Box	82 mm Glass Fibre (GF) Filters - exhibiting at least 99.95% Efficiency (< 0.05% Penetration) on 0.3 µm Dioctyl Phthalate Smoke Particles. - 10 pkts.	
13.0	Filter paper Holder for 82mm GF, Filter-03nos	For 82mm GF, Filter - 03 Nos.	
14.0	Method 5 Set (Cleanup and Recovery Kit)	Glass Funnel, Polypropylene Funnel Two 1 Liter Polypropylene Wash Bottles, Teflon coated tweezers Pure Soft Rubber Tubing - 7/16" OD 5/16" ID - 5 meter Length Brush for Probe - Teflon, 5/8 Inch OD In Carrying Case Nozzle Brush Set - (Sizes 3, 5, & 8) Extension with 3/8" coupler – 4 meter length in Carrying Case. Balance (small-portable-Single Pan), Battery operated - Weighing Range 0.0 To 2000.0 gm. The Balance should be accurate to within 0.5 g, with ASTM Class 1 (Class S) Certified Weights.	
15.0	Two-Manometer filling fluids packs	Fixed Known Density.	
16.0	Barometer	A digital calibrated Aneroid Barometer capable of Measuring Atmospheric Pressure to Within ± 2.5 Mm Hg	
17.0	Suspension Rail System (Mono Rail with Chain)	Suspension Rail system constructed of 16 gauge galvanised steel and 3 meters in length to support the modular sampler case and other trains with adjustable hangers to allow safe alignment and manoeuvring of the probe into the sampling port, Includes dual roller trolley for each rail, snap hooks for quick set up and dismantling	
B	WARRANTY	Comprehensive warranty with spares for three years should be covered from the date of supply of the instrument.	
C	OPERATION AND MAINTENANCE TRAINING	The supplier has to impart on-site operation training on equipment, routine maintenance and calculator at the time of supply to laboratory officials.	
D	GENERAL CONDITIONS OF SUPPLY	1. The equipment and all its sub units should operate on 230 ± 10 volts 50 Hz power supply. 2. All the operation and maintenance manuals, diagrams to be supplied should be in	

Procurement of instruments for Central Pollution Control Board Laboratories (HQs)

Code Number: ICB-08

Equipment Name: Source Sampling Kit for Dioxin & Furan

Quantity: 1 (one) set

S. No.	Specifications	Requirement	BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. Technical Literature / published document should be submitted to prove compliance
		English language. 3. The supplier / manufacturer should have Indian agent to provide after sales service. 4. The main unit and all the sub units of the instrument should be serviced by the Indian representative of supplier. 5. The Bidder should be a manufacturer/authorized representative of a manufacturer, who must have designed, manufactured, tested and supplied two numbers of such equipment similar to the type specified in the past five years, which shall be in successful operation for at least 2 years as on the date of bid opening. 6. The bidder should furnish the information on past supplies and their satisfactory performance. 7. Bidders shall invariably furnish documentary evidence (client's certificate – at least two) in support of the satisfactory operation of the equipment as specified above. 8. Notwithstanding anything stated above the purchaser reserves the right to assess the capability and capacity of the bidder to perform the contract, should the circumstances warrant such an assessment in the overall interest of the purchaser.	

REVISED TECHNICAL SPECIFICATIONS OF ATOMIC ABSORPTION SPECTROPHOTOMETER (AAS) – GTA / VGA			
Procurement of instruments / equipment for Central Pollution Control Board Laboratories (Instrumentation Laboratory)			
Equipment Name: Atomic Absorption Spectrophotometer (AAS) – FLAME/ GTA / VGA			
Quantity: 1 (One) No.			
S. No.	Specifications	Requirement	Remarks
1.0	INSTRUMENT COMPOSITION		
	Atomic Absorption Spectrophotometer (GTA/FLAME/VGA)	One set (Integrated system for Flame & Furnace is preferable)	
	Unit of Burner for Flame (Air-acetylene and nitrous oxide-acetylene)	One set each	
	Vapour generation assembly	One set	
	Graphite tube atomizer (GTA)	One set	
	Chiller/Water circulating unit	One set	
	Auto samplers for GTA and flame (Provision for 40 or more samples in case of auto sampler for GTA and 60 or more samples in case of auto sampler for Flame.)	One set each	
2.0	TECHNICAL SPECIFICATIONS		
	Atomic Absorption Spectrophotometer	Computer controlled with built-in flame emission mode	
	Wave length range	185-900 nm wavelength	
	Sensitivity	Sensitivity at least 0.9 abs for 5 µg/ml aqueous copper standard solution with < 0.5 RSD or better.	
	Detection Limit	1. Easily cover the drinking water standard as specified in IS 10500:2012 with respect to trace elements.	
		2. Minimum detection limit for Arsenic & Mercury should 1.0 µg/L & 0.1 µg/L respectively.	

REVISED TECHNICAL SPECIFICATIONS OF ATOMIC ABSORPTION SPECTROPHOTOMETER (AAS) – GTA / VGA

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (Instrumentation Laboratory)

Equipment Name: Atomic Absorption Spectrophotometer (AAS) – FLAME/ GTA / VGA

Quantity: 1 (One) No.

S. No.	Specifications	Requirement	Remarks
2.1	Optics	Double beam dual blazed/holographic Monochromator	
	Focal Length	At least 250 mm focal length	
	Resolution	Grating 1800 lines/mm	
	Width	Automatic bandwidth of 0.2 to 1.0 nm or more.	
2.2	Flame Atomizer	All titanium or equivalent burner with impact bead / Flow spoiler, Premix Design	
	Movement	Automatic movement into the sample compartment	
	Affect from Acids/Organic solvent	Resistant to acid solutions (i.e. 5% HF, HCL, H ₂ SO ₄ & HNO ₃) or organic solvents e.g. Methyl isobutyl Ketone (MIBK)	
	Flame Alignment in liquid beam	Fully automatic, optimized with motorized burner mount for vertical and horizontal burner adjustment	
	Spray Chamber	Corrosion resistant.	
2.3	Nebulizer	High precision able to provide manually adjustable uptake rates material of the nebulizer and related Venturi should be inert to acid solutions and organic solvents, such as MIBK.	
2.4	Flame Control	Computer controlled ignition	
2.5	Gas Control	Computer controlled with oxidant and fuel gases monitoring to monitor constant fuel/oxidant ratio ignition	
2.6	Safety Function	Interlocking system to prevent ignition	
2.7	Essential Interlock Monitors	Burner type as well as its presence in position, air selector, flame sensor, liquid trap level, gas supply pressures and air supply anywhere in the network of gas tubing in the system	
2.8	Automatic Lamp Selection Function	Computer controlled Hollow cathode lamp selection and alignment,	
	Lamp Holder	At least 8 lamp holder with built-in power supplies for hollow cathode lamps and electrode-less discharge lamps or equivalent	
	Operating Parameter setting	Automatic setting	

REVISED TECHNICAL SPECIFICATIONS OF ATOMIC ABSORPTION SPECTROPHOTOMETER (AAS) – GTA / VGA			
Procurement of instruments / equipment for Central Pollution Control Board Laboratories (Instrumentation Laboratory)			
Equipment Name: Atomic Absorption Spectrophotometer (AAS) – FLAME/ GTA / VGA			
Quantity: 1 (One) No.			
S. No.	Specifications	Requirement	Remarks
2.9	Read Out / Display	Display facility for absorbance as well as concentration, Display of errors or error codes, absorbance range at least up to 2.0 Abs	
	Scale expansion	Scale expansion at least up to 100x,	
	Integration time	Integration time should cover at least 0.2 to 50 seconds range	
	Measurement	Measurements of mean, RSD and CV, Background only mode, integration of peak height and peak areas	
2.10	Accessories/Spares with the Flame AA System		
2.10.1	Hollow Cathode Lamps	20 Hollow Cathode Lamps. One lamp for each of the elements – Aluminium, Arsenic, Antimony, Barium, Boron, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium and Zinc.	
2.10.2	Vapour generation assembly	Should be flow based hydride/mercury vapour generator with option of using with or without auto sampler, having facilities for fast determination of Hg, As, Se, Sb, Te, Bi & Sn at µg/L concentration.	
	Precision		
	Absorption Cell	The absorption cell's material should have no effect of the high heat of the flame, and the cell for the analysis of mercury should be of a closed cell design	
	Flame Arrestor	Flame arrestor should be provided in the tube which connects the assembly to the absorption cell	
	Cell design holder	The design of the cell holder should give a firm and easily adjustable (for alignment) mounting on the burner head.	
	System accessories	Complete with necessary reagent bottles, connectors etc.	
2.10.3	Graphite Furnace System		
	(a) Graphite Tube Atomizer	Should be computer controlled fully enclosed graphite tube system	

REVISED TECHNICAL SPECIFICATIONS OF ATOMIC ABSORPTION SPECTROPHOTOMETER (AAS) – GTA / VGA

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (Instrumentation Laboratory)

Equipment Name: Atomic Absorption Spectrophotometer (AAS) – FLAME/ GTA / VGA

Quantity: 1 (One) No.

S. No.	Specifications	Requirement	Remarks
		consisting of stabilized temperature/total pyrolytic graphite platform.	
	Gas supplies	Provision of two gas supplies (programme selectable) with independent control over the gas supply through the furnace	
	Heating Rate	Heating rate of at least 2000 °C per second	
	Cooling time	Cooling time < 40 seconds	
	Temperature range	Temperature range ambient to 2600 °C or more in 1 °C increments	
	Feedback system	Feedback system for furnace temperature control, interlocks for water, gas, temperature, furnace door, graphite tube damage and mains power	
	Temp. Programming	At least eight steps temperature programming facility with flexibility of programme selection, ramp time, gases, gas flow, and read trigger for each temperature step	
	Control	Computer controlled with appropriate provision for print out of the furnace and sample parameters,	
	Display	Calibration data/graphs, temperature profiles, signal graphics and the instrument status	
	(b) Chiller/Cooling Water Re- circulation Unit (Imported & durable, branded equipment is preferable.)	Refrigerating water circulation unit of appropriate capacity. No discharge of water from this water circulation unit.	
2.10.4	Air Compressor with Air Filter or equivalent Air Service Unit (Imported & durable, branded equipment is preferable.)	Complete with pressure regulator quite in operation, necessary tubing and connectors and should meet the air supply requirements of AAS operation.	
	Oil free pump	Oil-free, less noise pump with moisture trap or equivalent.	
	Corrosion resistant	Resistant to acidic vapour and the drain value (if any) should be made of stainless steel or equivalent corrosion resistant material.	
3.0	DATA WORK STATION		

REVISED TECHNICAL SPECIFICATIONS OF ATOMIC ABSORPTION SPECTROPHOTOMETER (AAS) – GTA / VGA			
Procurement of instruments / equipment for Central Pollution Control Board Laboratories (Instrumentation Laboratory)			
Equipment Name: Atomic Absorption Spectrophotometer (AAS) – FLAME/ GTA / VGA			
Quantity: 1 (One) No.			
S. No.	Specifications	Requirement	Remarks
3.1	Application Software	Programme facility with multitasking software.	
		Should provide complete control of instrument with instrument status display and its various accessories	
		Provide accurate and reproducible time averaged, integration, non-averaged integration, multi-level calibration	
		Software should handle instrument linear absorbance reading, concentration, or emission intensity, integration time, built in statistics, calibration equation control, slope of analytical curve using operator selective calibration standard	
		Built in interface for computer connection and use of optional accessories	
		Comprehensive quality control protocols facility including blank, multiple quality control standards, QA/QC audit trail and calibration failure.	
3.2	COMPUTER SYSTEM		
	Make	Reputed brand such as HP/Compaq/Dell etc. compatible with the instrument.	
	Processor	Intel Core i7 processor with 3.60 GHz	
	RAM	8 GB RAM	
	HDD	1 TB	
	Monitor	21" TFT-LCD Flat Colour (Digital)	
	Ports	2 Serial, 1 parallel and 4 USB front 4 Rear USB2 Port, 1VGA 4 bays (2 external & internal) with LAN 1PS	
	Key board	Cordless, latest multimedia (HP / Microsoft)	
	Mouse	Cordless, Optical mouse with pad	
	Ethernet	64 bit auto selectable 10/100 MBPS	
	Graphics	Internet ready with integrated Graphics	
	Sound	Integrated sound card and inbuilt stereo speakers	

REVISED TECHNICAL SPECIFICATIONS OF ATOMIC ABSORPTION SPECTROPHOTOMETER (AAS) – GTA / VGA			
Procurement of instruments / equipment for Central Pollution Control Board Laboratories (Instrumentation Laboratory)			
Equipment Name: Atomic Absorption Spectrophotometer (AAS) – FLAME/ GTA / VGA			
Quantity: 1 (One) No.			
S. No.	Specifications	Requirement	Remarks
	Printer	Branded multicolour LaserJet Printer	
3.3	Operation Software	Pre-loaded latest operating system with Licensed CD	
		Latest MS Office, Professional with media, manual and Licensed CD (Compatible with main Instrument)	
		Preloaded Antivirus with latest version of 5 years or more lifetime along with Licensed CD	
4.0	QUALITY CONTROL SUPPORT	Supplier should provide Certificate on Installation Qualification (IQ), Performance Qualification (PQ) & Operational Qualification (OQ) during the installation of the instrument. The activity should cover limit of detection and limit of quantification.	
5.0	ADDITIONAL ITEMS	Following items to be supplied:	
5.1	Gas Regulators		
	Nitrous-oxide gas regulator - Two numbers	Nitrous-oxide gas regulator (two stage) with heater, with necessary tubing and connectors. Necessary transformer should be provided to transform this supply to the requirements of the heater The heater should work on 230 ± 10 volts 50 Hz AC power supply.	
	Acetylene gas regulator - Two numbers	Acetylene gas regulator (two stage) with necessary tubing and connectors	
	Nitrogen gas regulator - Two numbers	Nitrogen regulator (two stage) with necessary tubing and connectors	
5.2	Gas Cylinders (Filled with relevant Gas)		
	Nitrous Oxide Gas Cylinder - Two numbers	High pressure seamless steel cylinder fitted with high purity Nitrous oxide gas. Should be ISI marked conforming to IS 7285 specifications. Flat bottom with valve as per complete neck ring and cap painted as specified under Gas Cylinder Rules along with Hydraulic test certificate and	

REVISED TECHNICAL SPECIFICATIONS OF ATOMIC ABSORPTION SPECTROPHOTOMETER (AAS) – GTA / VGA			
Procurement of instruments / equipment for Central Pollution Control Board Laboratories (Instrumentation Laboratory)			
Equipment Name: Atomic Absorption Spectrophotometer (AAS) – FLAME/ GTA / VGA			
Quantity: 1 (One) No.			
S. No.	Specifications	Requirement	Remarks
		explosive certificate from Chief Controller of Explosives, Nagpur as per BIS standards.	
	Acetylene Gas Cylinder - Two numbers	High pressure seamless steel cylinder fitted with high purity Acetylene gas having gas capacity 7 m ³ water capacity 47 liters. Cylinder should be ISI marked conforming to IS 7285 specifications. Flat bottom fitted with valve as per IS: 3224. Complete with neck ring and cap painted as specified under Gas Cylinder Rules, 1981 along with Hydraulic test certificate, ISI inspection / Test Certificate. Explosive Certificate from Chief Controller of Explosives, Nagpur as per BIS standards.	
	Nitrogen Gas Cylinder - Two numbers	High pressure seamless steel cylinder fitted with high purity Nitrogen gas having gas capacity 7 m ³ water capacity 47 liters. Cylinder should be ISI marked conforming to IS 7285 specifications. Flat bottom fitted with valve as per IS: 3224. Complete with neck ring and cap painted as specified under Gas Cylinder Rules, 1981 along with Hydraulic test certificate, ISI inspection / Test Certificate. Explosive Certificate from Chief Controller of Explosives, Nagpur as per BIS standards.	
5.3	VENT AND FUMING HOOD ASSESSMBLY	Stainless Steel Fuming Hood along with exhaust blower having efficiency to evacuate acid fumes of 6 – 7 m ³ / minute. Stainless steel duct of 12 ft. length.	
5.4	Operation kit	Manufacturers Standard Operation Kit including all required items, tubing, fittings for start-up /regular operation of instrument	
5.5	Operation / maintenance manual	Operation and Maintenance manual for each unit	
5.6	Analytical manual	Analytical Manual including applications for Flame, VGA and graphite system	
5.7	Service manual	Service Manual with one set of required tools for each system / unit	
5.8	Trouble shooting charts	Trouble shooting charts	

REVISED TECHNICAL SPECIFICATIONS OF ATOMIC ABSORPTION SPECTROPHOTOMETER (AAS) – GTA / VGA			
Procurement of instruments / equipment for Central Pollution Control Board Laboratories (Instrumentation Laboratory)			
Equipment Name: Atomic Absorption Spectrophotometer (AAS) – FLAME/ GTA / VGA			
Quantity: 1 (One) No.			
S. No.	Specifications	Requirement	Remarks
5.9	Spare parts catalogue	Spare parts catalogue	
5.10	Application notes	Application notes for trace metal analysis in environmental, biological, geological, metallurgical and industrial samples.	
5.11	Dust Cover	One for each unit.	
5.12	Consumables	For five years operation for each of the following units: 1. Flame AAS (basic unit, burner system) – one set each including o-rings etc. 2. Vapour generation assembly – tubes, glass items, Cell & Cell holder 3. Graphite Furnace Atomizer - 50 tubes 4. Auto sampler – 120 sample tubes	
6.0	Certified Reference Material	20 CRMs with traceable to NIST, Single element AAS standards, Volume - 100 ml each, Concentration - 1000 mg/l for following elements: Aluminium, Arsenic, Antimony, Barium, Boron, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium and Zinc.	
7.0	INSTALLATION IN INDIA	The company must have three or more successful installation in India.	
8.0	WARRANTY	Comprehensive 3 years' warranty with spares from the date of installation of the instrument should be covered. Warranty will start from the date of complete installation.	
9.0	OPERATION AND MAINTENANCE TRAINING	Two weeks (one week at manufacturer's application laboratory and another one week at installation site) training to be provided to two scientists on software training, operation, maintenance and troubleshooting aspects of instrument.	
10.0	GENERAL CONDITIONS OF SUPPLY		
10.1		The instrument and all its sub units should operate on 230 ± 10 volts 50	

REVISED TECHNICAL SPECIFICATIONS OF ATOMIC ABSORPTION SPECTROPHOTOMETER (AAS) – GTA / VGA			
Procurement of instruments / equipment for Central Pollution Control Board Laboratories (Instrumentation Laboratory)			
Equipment Name: Atomic Absorption Spectrophotometer (AAS) – FLAME/ GTA / VGA			
Quantity: 1 (One) No.			
S. No.	Specifications	Requirement	Remarks
		Hz power supply.	
10.2		All the operation and maintenance manuals, circuit diagrams, application notes and application software to be supplied should be in English language.	
10.3		The supplier / manufacturer should have Indian agent to provide after sales service.	
10.4		The main unit and all the sub units of the instrument should be serviced by the Indian representative of supplier.	
10.5		The Bidder should be a manufacturer/authorized representative of a manufacturer, who must have designed, manufactured, tested and supplied three numbers of such equipment similar to the type specified in the past five years, which shall be in successful operation for at least 2 years as on the date of bid opening.	
10.6		The bidder should furnish the information on past supplies and their satisfactory performance.	
10.7		Bidders shall invariably furnish documentary evidence (client's certificate – at least three) in support of the satisfactory operation of the equipment as specified above.	
10.8		Notwithstanding anything stated above the purchaser reserves the right to assess the capability and capacity of the bidder to perform the contract, should the circumstances warrant such an assessment in the overall interest of the purchaser.	
10.9		Pre installation requirement if any to be provided.	

**REVISED TECHNICAL SPECIFICATION OF ADVANCED MERCURY ANALYSER
FOR ENVIRONMENTAL SAMPLE ANALYSIS**

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (Instrumentation Laboratory)			
Equipment Name: Mercury Analyser			
Quantity: 1 (One) No.			
S. No.	Specifications	Requirement	Remarks
1.0	INSTRUMENT COMPOSITION		
	Mercury Analyser (Direct Mercury Measurement)	<p>Software controlled, dedicated Mercury Analyser for the direct analysis of total Mercury in environmental samples (i.e. Water, Wastewater, Soil, Sediment, Biota, Hazardous Waste, Air Filter Paper Samples etc.) using the principle of Thermal Decomposition and Atomic Absorption as per US EPA Method 7473.</p> <p>The instrument should have fully equipped with a decomposition furnace to release mercury vapour instead of the chemical reduction step used in traditional liquid-based analysers. Both solid and liquid matrices can be loaded directly into the instrument's auto sampler and analyse without acid digestion or sample preparation.</p>	
2.0	TECHNICAL REQUIREMENT		
2.1	Detection technique	Thermal Decomposition, followed Amalgamation and Atomic Absorption	
2.2	Wavelength	253 – 254 nm	
2.3	Light Source	Low pressure Mercury Lamp or equivalent	
2.4	Detection limit	0.01 ng Hg or better	

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (Instrumentation Laboratory)			
Equipment Name: Mercury Analyser			
Quantity: 1 (One) No.			
2.5	Working Range	0.05 to 600 ng of Hg or better wide range	
2.6	Reproducibility	< 1.5%	
2.7	Analysis time	Approx. 5 minutes per sample	
2.8	Intake sample size	Solid sample weight up to 1500 mg Liquid sample volume up to 1500 µl	
2.9	Mercury trap	Suitable Mercury trap should be provided to prevent analytical interference as well as mercury contamination in work place.	
3.0	AUTO SAMPLER		
	Capacity of Auto sampler	Provision for 30 or more sample vials	
4.0	OXYGEN GAS CYLINDERS or MERCURY FREE GAS GENERATOR (noise free) work as carrier gas		
	1. Oxygen Gas Cylinder - Two numbers filled oxygen gas. 2. Two numbers of Oxygen gas regulators with necessary tubing and connectors.	High pressure seamless steel cylinder fitted with high purity Oxygen gas having gas capacity 7 m ³ water capacity 47 liters. Cylinder should be ISI marked conforming to IS 7285 specifications. Flat bottom fitted with valve as per IS: 3224. Complete with neck ring and cap painted as specified under Gas Cylinder Rules, 1981 along with Hydraulic test certificate, ISI inspection / Test Certificate. Explosive Certificate from Chief Controller of Explosives, Nagpur as per BIS standards.	
5.0	DATA WORK STATION		
5.1	Application Software	Programme facility with multitasking software.	
		Should provide complete control of instrument with instrument status display and its various accessories.	

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (Instrumentation Laboratory)			
Equipment Name: Mercury Analyser			
Quantity: 1 (One) No.			
		Provide accurate and reproducible time averaged, integration, non-averaged integration, multi-level calibration.	
		Software should handle instrument linear absorbance reading, concentration, integration time, built in statistics, calibration equation control, slope of analytical curve using operator selective calibration standard.	
		Built in interface for computer connection and use of optional accessories.	
		Comprehensive quality control protocols facility including blank, multiple quality control standards, QA/QC audit trail and calibration failure.	
5.2	Computer System		
	Make	Reputed brand such as HP/Compaq/Dell etc. or compatible with the instrument.	
	Processor	Intel Core i7 processor with 3.60 GHz	
	RAM	8 GB RAM	
	HDD	1 TB	
	Monitor	21" TFT-LCD Flat Colour (Digital)	
	Ports	2 Serial, 1 parallel and 4 USB front 4 Rear USB2 Port, 1VGA 4 bays (2 external & internal) with LAN 1PS	
	Key board	Cordless, latest multimedia (HP / Microsoft)	
	Mouse	Cordless, Optical mouse with pad	

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (Instrumentation Laboratory)			
Equipment Name: Mercury Analyser			
Quantity: 1 (One) No.			
	Ethernet	64 bit auto selectable 10/100 MBPS	
	Graphics	Internet ready with integrated Graphics	
	Sound	Integrated sound card and inbuilt stereo speakers	
	Printer	Branded multicolour LaserJet Printer	
5.3	Operation Software	Pre-loaded latest operating system with Licensed CD or compatible with the main instrument	
		Latest MS Office, Professional with media, manual and Licensed CD	
		Preloaded Antivirus with latest version of 5 years or more lifetime along with Licensed CD	
6.0	QUALITY CONTROL SUPPORT	Supplier should provide Certificate on Installation Qualification (IQ), Performance Qualification (PQ) & Operational Qualification (OQ) during the installation of the instrument. The activity should cover limit of detection and limit of quantification.	
5.0	ADDITIONAL ITEMS	Following items to be supplied:	
	Operation kit	Manufacturers Standard Operation Kit including all required items, tubing, fittings for start-up /regular operation of instrument/ tool kit	
	Operation / maintenance manual	Operation and Maintenance manual for each unit	
	Analytical manual	Analytical Manual including application	
	Service manual	Service Manual with one set of required tools for each system / unit	
	Trouble shooting charts	Trouble shooting charts	

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (Instrumentation Laboratory)			
Equipment Name: Mercury Analyser			
Quantity: 1 (One) No.			
	Spare parts catalogue	Spare parts catalogue	
	Application notes	Application notes for various environmental, biological, geological, metallurgical and industrial samples.	
	Dust Cover	One for each unit.	
	Consumables	Consumables should provide for smooth operation of instrument for a period of one year.	
	Certified Reference Material	Mercury Standard (both Water & Soil) with NIST Certificate,	
6.0	INSTALLATION IN INDIA	The company must have five or more successful installation in India.	
7.0	WARRANTY	Comprehensive 3 years' warranty with spares from the date of installation of the instrument should be covered. Warranty will start from the date of complete installation.	
8.0	OPERATION AND MAINTENANCE TRAINING	Two weeks (one week at manufacturer's application laboratory and another one week at installation site) training to be provided to two Scientists on software training, operation, maintenance and troubleshooting aspects of instrument without any additional cost at manufacturer's facility/ application laboratory in abroad.	
9.0	GENERAL CONDITIONS OF SUPPLY		
9.1		The instrument and all its sub units should operate on 230 ± 10 volts 50 Hz power supply.	
9.2		The instrument should comfortable run within Temp 15-50°C & Humidity 0 - 100 %.	

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (Instrumentation Laboratory)		
Equipment Name: Mercury Analyser		
Quantity: 1 (One) No.		
9.3		All the operation and maintenance manuals, circuit diagrams, application notes and application software to be supplied should be in English language.
9.4		The supplier / manufacturer should have Indian agent to provide after sales service.
9.5		The main unit and all the sub units of the instrument should be serviced by the Indian representative of supplier.
9.6		The Bidder should be a manufacturer/authorized representative of a manufacturer, who must have designed, manufactured, tested and supplied three numbers of such equipment similar to the type specified in the past five years, which shall be in successful operation for at least 2 years as on the date of bid opening.
9.7		The bidder should furnish the information on past supplies and their satisfactory performance.
9.8		Bidders shall invariably furnish documentary evidence (client's certificate – at least three) in support of the satisfactory operation of the equipment as specified above.
9.9		Notwithstanding anything stated above the purchaser reserves the right to assess the capability and capacity of the bidder to perform the contract, should the circumstances warrant such an assessment in the overall interest of the purchaser.
9.10		Pre-installation requirement if any to be provided.

TECHNICAL SPECIFICATIONS OF WATER PURIFICATION SYSTEM			
Procurement of instruments / equipment for Central Pollution Control Board Laboratories (Instrumentation Laboratory)			
Equipment Name: Water Purification System (Type-I, Ultrapure & Type-II, Pure Water)			
Quantity: 1 (One) No.			
S. No.	Specifications	Requirement	Remarks
1.0	Water Purification System		
	Ultrapure water and Pure Water with separate dispense provision	Compact, wall mountable with storage tank of 50 Litres or more, capable dispensing separately both Ultrapure water, i.e. Type-I (18.2 MΩ resistivity) for providing reagent water to various advance instruments like ICP-OES, ICP-MS etc. and Pure water, i.e. Type-II (15.0 MΩ resistivity) for rinsing and washing purpose.	
2.0	Output Quality of Water	Ultra-pure (Type I) water	
		Flow Rate (L/min)	0.05 to 2 (Programmable flow rate is preferable)
		Ultra-pure water resistivity (MΩ.cm at 25°C)	18.2
		Conductivity (µS/cm)	< 0.055
		Microorganism (cfu/ml)	< 0.01
		Particulates>0.20 µm ³ (Particulates/ml)	< 1
		Pyrogen Levels (EU/ml)	< 0.001
		RNase Level (pg/ml)	< 1
		DNase Level (pg/ml)	< 5
		TOC (µg/L)	< 5

TECHNICAL SPECIFICATIONS OF WATER PURIFICATION SYSTEM			
Procurement of instruments / equipment for Central Pollution Control Board Laboratories (Instrumentation Laboratory)			
Equipment Name: Water Purification System (Type-I, Ultrapure & Type-II, Pure Water)			
Quantity: 1 (One) No.			
		SiO ₂ (mg/L)	< 0.01
		Pure (Type II) water	
		Production flow Rate (L/hr)	3
		Ultrapure water Resistivity (MΩ.cm at 25°C)	10 L/hr or more
		Microorganism (cfu/ml)	< 1
		Particulates > 0.20 μm ³ (Particulates/ml)	< 1
		TOC (μg/L)	< 30
3.0	Feed water Requirements:		
	Quality	Potable (Tap) Water	
	Conductivity	< 2000 μS/cm @ 25°C	
	pH	4 – 10	
	Maximum LSI	< 0.3	
	Calcium (as CaCO ₃)	< 300 ppm (when system water recovery more than 50 %)	
	Total Chlorine level	Should work favourably for Total Chlorine greater than 2 ppm.	
	Fouling index	Should work favourably for fouling index greater than 12.	
	Feed water pressure	2 bar minimum, 6 bar maximum (29 psi min, 86 psi max)	
	Flow rate	> 5 l/min at 2 bar (1.3 gal/min at 29 psi)	
	Feed Water Temperature	Within the 15°C to 35°C	
	Booster Pump (Portable)	To maintain the required flow rate of the feed water	
4.0	Pre-treatment unit	A. Pre-treatment unit should contain anti-scaling	

TECHNICAL SPECIFICATIONS OF WATER PURIFICATION SYSTEM			
Procurement of instruments / equipment for Central Pollution Control Board Laboratories (Instrumentation Laboratory)			
Equipment Name: Water Purification System (Type-I, Ultrapure & Type-II, Pure Water)			
Quantity: 1 (One) No.			
		compound and activated carbon. High flux thin film composite polyamide RO membrane with maximum ionic rejection.	
		B. Recirculation loop with capillary tube and diaphragm valve.	
5.0	Delivery Unit	System should have remote dispenser with arm for dispensing pure & ultra-pure water. The dispenser should have flexibility of dispensing water 2-3 m away from machine. Flow rate of pure and ultra-pure water through dispenser should be 2L/min. Locked dispense for glassware filling. Auto volume dispense from 50 ml to 60 liters.	
6.0	Online TOC monitor with display	System should have online TOC monitor. Digital displaying monitor (should provide Resistivity, Temperature, TOC, level of water in reservoir, volume dispense and alarm etc.)	
7.0	Consumables	Must Quote separately for consumables (cartridges, filters etc.) for THREE YEARS for trouble free working.	
8.0	Quality Control Support	Supplier should provide Certificate on Installation Qualification (IQ) & Operational Qualification (OQ) during the installation of the instrument.	
9.0	Installation in India	The company must have three or more successful installation in India.	
10.0	Warranty	Comprehensive 3 years' warranty with spares from the date of installation of the instrument should be covered. Warranty will start from the date of complete installation.	
11.0	Additional Requirement		
	Power Supply	230 ± 10V 50 Hz AC , Single Phase	

TECHNICAL SPECIFICATIONS OF WATER PURIFICATION SYSTEM			
Procurement of instruments / equipment for Central Pollution Control Board Laboratories (Instrumentation Laboratory)			
Equipment Name: Water Purification System (Type-I, Ultrapure & Type-II, Pure Water)			
Quantity: 1 (One) No.			
	Operation kit	Manufacturers Standard Operation Kit including all required items, tubing, fittings for start-up /regular operation of instrument	
	Operation / maintenance manual	Operation and Maintenance manual for each unit	
	Service manual	Service Manual with one set of required tools for each system / unit	
	Trouble shooting charts	Trouble shooting charts	
	Tool Kit	Tool box should hold all the required tools for change over the spare parts etc.	
	Spare parts catalogue	Spare parts catalogue	
	Dust Cover	One for each unit.	
12.0	OPERATION AND MAINTENANCE TRAINING	Four days training to be provided on software training, operation, maintenance and troubleshooting aspects of instrument at installation site.	
13.0	GENERAL CONDITIONS OF SUPPLY		
13.1		All the operation and maintenance manuals, circuit diagrams, application notes and application software to be supplied should be in English language.	
13.2		The supplier / manufacturer should have Indian agent to provide after sales service.	
13.3		The main unit and all the sub units of the instrument should be serviced by the Indian representative of supplier.	
13.4		The Bidder should be a manufacturer/authorized representative of a manufacturer, who must have designed, manufactured, tested and supplied three numbers of such	

TECHNICAL SPECIFICATIONS OF WATER PURIFICATION SYSTEM			
Procurement of instruments / equipment for Central Pollution Control Board Laboratories (Instrumentation Laboratory)			
Equipment Name: Water Purification System (Type-I, Ultrapure & Type-II, Pure Water)			
Quantity: 1 (One) No.			
		equipment similar to the type specified in the past five years, which shall be in successful operation for at least 2 years as on the date of bid opening.	
13.5		The bidder should furnish the information on past supplies and their satisfactory performance.	
13.6		Bidders shall invariably furnish documentary evidence (client's certificate – at least three) in support of the satisfactory operation of the equipment as specified above.	
13.7		Notwithstanding anything stated above the purchaser reserves the right to assess the capability and capacity of the bidder to perform the contract, should the circumstances warrant such an assessment in the overall interest of the purchaser.	
13.8		Pre-installation requirement if any to be provided.	