

**NATIONAL CENTRE FOR SUSTAINABLE COASTAL MANAGEMENT
Ministry of Environment and Forests (MoEF)
KODAL BUILDING, ANNA UNIVERSITY CAMPUS
CHENNAI- 600025, TAMILNADU**

**INTEGRATED COASTAL ZONE MANAGEMENT (ICZM) PROJECT
Credit No. # 4765 – 0 IN**

**NATIONAL COMPETITIVE BIDDING FOR
SUPPLY OF SCIENTIFIC & TECHNICAL EQUIPMENTS & RELATED SERVICES**

BID REFERENCE	: IFB No. NPMU/G-35
PERIOD OF SALE OF BIDDING DOCUMENT	: FROM 22.11.2013 TO 23.12.2013
LAST DATE AND TIME FOR RECEIPT OF BIDS	: 24.12.2013 10.00 A.M.
DATE AND TIME OF OPENING OF BIDS	: 24.12.2013 10.30 A.M.
PLACE OF OPENING OF BIDS	: National Centre for Sustainable Coastal Management, Koodal Building, Anna University Campus, Chennai-600025 Tamilnadu, India Phone: 91 44 22330108, 22200159, 22203408 Fax: 91 44 2220 0158
OFFICER INVITING BIDS	: The Director, National Centre for Sustainable Coastal Management, Koodal Building, Anna University Campus Chennai-600025 Tamilnadu, India Phone: 914422330108, 22200159, 22203408 Fax: 91 44 2220 0158

INVITATION FOR BIDS (IFB)

**NATIONAL CENTRE FOR SUSTAINABLE COASTAL MANAGEMENT
KODAL BUILDING, ANNA UNIVERSITY CAMPUS
CHENNAI- 600025**

**INTEGRATED COASTAL ZONE MANAGEMENT (ICZM) PROJECT
Credit No. # 4765 – 0 IN**

Invitation for Bids (IFB)

IFB No.NPMU/G-35

Date: 21-11-2013

1. This Invitation for Bids follows the General Procurement Notice for this Project that appeared in Development Business, Issue # 774 of April 30, 2010.
2. The Government of India has received a credit from the International Development Association towards the cost of Integrated Coastal Zone Management Project and it intends to apply part of the proceeds of this credit to payments under the Contract for Purchase of Scientific & Technical Equipments for National Centre for Sustainable Coastal Management, Chennai.
3. The Director, National Centre for Sustainable Coastal Management, Chennai (Purchaser) now invites sealed bids for supply of the following items as specified below:

Package No.	Description of the Instrument	Unit	Quantity	Bid Security in Rs.
1.	CHNS Analyzer with Accessories	Set	1	40,000.00
2.	HPLC with Accessories	Set	1	60,000.00
3.	Gas Chromatograph with FID + Methanizer + Columns + Other Accessories	Set	1	60,000.00
4.	Total Station with Accessories	Set	3	75,000.00
5.	XRF-Spectrometer (Hand held) with Accessories	Set	1	30,000.00
6.	Magnetic Barrier Laboratory Separator	Set	1	20,000.00
7.	Underwater PAM Fluorometer with Accessories	Set	1	25,000.00
8.	Atomic Absorption Spectrophotometer	Set	1	50,000.00
9.	Air Sampler with Accessories	Set	3	10,000.00
10.	Gas Chromatograph with FID+ ECD +Column + Accessories	Set	1	40,000.00
11.	Gas Chromatograph with NPD+ PFPD+ ECD + Column + Accessories	Set	1	40,000.00

12.	Gas Chromatograph with ECD + FID with Head Space + Column + Accessories	Set	1	40,000.00
13.	Total Organic Carbon Analyzer with Accessories	Set	1	40,000.00
14.	Spectrofluorometer/ Fluorescence spectrophotometer with accessories	Set	2	25,000.00
15.	Microprocessor based pH Meter	Set	6	25,000.00

4. Bidding will be conducted through the National Competitive Bidding (NCB) procedures specified in the World Bank's *Guidelines: Procurement under IBRD Loans and IDA Credits*, January 2011, and is open to all bidders from Eligible Source Countries as defined in the Guidelines.

5. Interested eligible bidders may obtain further information from the office of The Director, National Centre for Sustainable Coastal Management, Koodal Building, Anna University Campus, Chennai-600025, Tamilnadu and inspect the Bidding Documents at the address given above from 10.00AM to 5.00 PM on any working day during the period of sale of bid documents.

6. A complete set of bidding documents may be purchased from the office of The Director, National Centre for Sustainable Coastal Management, Koodal Building, Anna University, Chennai-600025, Tamilnadu from 22.11.2013 to 23.12.2013 for a non-refundable fee as indicated, in the form of cash or Demand Draft on any Scheduled Bank, payable at Chennai in favour of National Centre for Sustainable Coastal Management. Interested bidders may obtain further information at the same address. Bidding documents requested by mail will be dispatched by registered/speed post on payment of an extra amount of Rs.500. The National Project Director will not be held responsible for the postal delay if any, in the delivery of the documents or non-receipt of the same.

The Schedules of Requirements for all the Packages are contained in a single bidding document. Bidders need not purchase more than one bid document even if they want to bid for more than one Package.

7. The notice and the bid document for the Goods can also be seen with option to download from NCSCM website www.ncscm.org. The downloaded bid document can be submitted along with non refundable fee of Rs. 2,100/- (Rupees Two Thousand One Hundred) only towards the cost of the bid document. The Director, National Centre for Sustainable Coastal Management, Chennai will not accept the same if any portion of the downloaded document differs from the approved bid document available in the above mentioned office. The download facility will be available from Dt. 22.11.2013 to 23.12.2013 up to 1700 Hrs. The Bidder should regularly access the same website for clarifications, amendments and pre-bid meeting minutes, if any, issued in respect of this tender:

- | | | |
|-----|--|--|
| (a) | Price of bidding document | : Rs. 2,100.00 (including VAT)
(non-refundable) |
| (b) | Postal charges, inland | : Rs. 500.00 |
| (c) | Postal charges, overseas | : Rs. 2000.00 |
| (d) | Date of commencement of sale of bidding document | : 22.11.2013 |

- (e) Last date for sale of Bidding document : 23.12.2013
- (f) Last date and time for receipt of bids : 24.12.2013 (10 A.M.)
- (g) Date and Time of opening of bids : 24.12.2013 (10.30 A.M.)
- (h) Place of opening of bids : National Centre for Sustainable Coastal Management, Koodal Building, Anna University Campus, Chennai-600025 Tamilnadu, India
Phone: +914422330108, 22200159, 22203408
Fax: 91 44 2220 0158
- (i) Address for Communication : The Director
National Centre for Sustainable Coastal Management, Koodal Building, Anna University Campus, Chennai-600025 Tamilnadu, India
Phone: +91 44 22330108, 22200159, 22203408
Fax: 91 44 2220 0158
Web-Site: www.ncscm.org
e-mail: procurement@ncscm.org

All bids must be accompanied by a bid security as specified in the bid document and must be delivered to the above office at the date and time indicated above. The Bid Security should be valid for at least 45 days beyond the bid validity period i.e. 08.05.2014. Electronic bidding will not be permitted. Late bids will be rejected.

8. A clarification meeting will be held on **06.12.2013** at **11.30 Hrs** in the Office of The Director, National Centre for Sustainable Coastal Management, Koodal Building, Anna University Campus, Chennai-600025, Tamilnadu to clarify the issues and to answer questions on any matter that may be raised at that stage.

9. Bids will be opened in the presence of Bidders' representatives, who choose to attend on the specified date and time.

10. In the event of the dates specified for bid receipt and opening being declared as closed holidays for Purchaser's Office, the due dates for submission of bids and opening of bids will be the following working days at the appointed times.

The Director
National Centre for Sustainable Coastal Management,
Koodal Building, Anna University Campus, Chennai-600025 Tamilnadu, India
Phone: +914422330108, 22200159, 22203408, Fax: 91 44 2220 0158

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1. PART 1 – BIDDING PROCEDURES

SECTION I - INSTRUCTIONS TO BIDDERS [ITB]

Section I. Instructions to Bidders

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Section I. Instructions to Bidders

A. General

- 1. Scope of Bid**
- 1.1 The Purchaser **indicated in the Bidding Data Sheet (BDS)**, issues these Bidding Documents for the supply of Goods and Related Services incidental thereto as specified in Section VI, Schedule of Requirements. The name and identification number of this National Competitive Bidding (NCB) procurement are **specified in the BDS**. The name, identification, and number of lots of are **provided in the BDS**.
- 1.2 Throughout these Bidding Documents:
- (a) the term “in writing” means communicated in written form (e.g. by mail, e-mail, fax, telex) with proof of receipt;
 - (b) if the context so requires, “singular” means “plural” and vice versa; and
 - (c) “day” means calendar day.
- 2. Source of Funds**
- 2.1 The Government of India (hereinafter called “Borrower”) **specified in the BDS** has applied for or received financing (hereinafter called “funds”) from the International Bank for Reconstruction and Development or the International Development Association (hereinafter called “the Bank”) toward the cost of the project **named in the BDS**. The Borrower intends to apply a portion of the funds to eligible payments under the contract for which these Bidding Documents are issued.
- 2.2 Payments by the Bank will be made only at the request of the Borrower and upon approval by the Bank in accordance with the terms and conditions of the financing agreement between the Borrower and the Bank (hereinafter called the Loan Agreement), and will be subject in all respects to the terms and conditions of that Loan Agreement. The Loan Agreement prohibits a withdrawal from the loan account for the purpose of any payment to persons or entities, or for any import of goods, if such payment or import, to the knowledge of the Bank, is prohibited by decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the Loan Agreement or have any claim to the funds.
- 3. Fraud and Corruption**
- 3.1 It is the Bank’s policy to require that Borrowers (including beneficiaries of Bank loans), as well as bidders, suppliers, and contractors and their agents (whether declared or not), personnel,

subcontractors, sub-consultants, service providers and suppliers under Bank-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts.¹ In pursuance of this policy, the Bank:

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
 - (i) “corrupt practice” is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party²;
 - (ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation³;
 - (iii) “collusive practice” is an arrangement between two or more parties⁴ designed to achieve an improper purpose, including to influence improperly the actions of another party;
 - (iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party⁵;
 - (v) “obstructive practice” is
 - (aa) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a

¹*In this context, any action taken by a bidder, supplier, contractor, or any of its personnel, agents, subcontractors, sub-consultants, service providers, suppliers and/or their employees to influence the procurement process or contract execution for undue advantage is improper.*

²*“Another party” refers to a public official acting in relation to the procurement process or contract execution. In this context, “public official” includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.*

³*“Party” refers to a public official; the terms “benefit” and “obligation” relate to the procurement process or contract execution; and the “act or omission” is intended to influence the procurement process or contract execution.*

⁴*“Parties” refers to participants in the procurement process (including public officials) attempting to establish bid prices at artificial, non- competitive levels.*

⁵*“Party” refers to a participant in the procurement process or contract execution.*

Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or

(bb) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under sub-clause 3.1 (e) below.

- (b) will reject a proposal for award if it determines that the bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for the contract in question;
- (c) will cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a beneficiary of the loan engaged in corrupt, fraudulent, collusive, or coercive practices during the procurement or the execution of that contract, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur; and
- (d) will sanction a firm or an individual, at any time, in accordance with prevailing Bank's sanctions procedures^a, including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time:(i) to be awarded a Bank-financed contract; and (ii) to be a nominated^b subcontractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm

^aA firm or an individual may be declared ineligible to be awarded a Bank-financed contract upon completion of the Bank's sanctions proceedings as per its sanctions procedures, including inter alia: (i) temporary suspension in connection with an ongoing sanctions proceeding; (ii) cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks; and (iii) the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption.

^bA nominated sub-contractor, consultant, manufacturer or supplier, or service provider (different names are used depending on the particular bidding document) is one whichever has been:(i) included by the bidder

being awarded a Bank-financed contract.

3.2 In further pursuance of this policy, Bidders shall permit the Bank to inspect any accounts and records and other documents relating to the Bid submission and contract performance, and to have them audited by auditors appointed by the Bank.

3.3 Furthermore, Bidders shall be aware of the provision stated in Sub-Clause 35.1 (a) (iii) of the General Conditions of Contract.

4. Eligible Bidders

4.1 A Bidder, and all parties constituting the Bidder, may have the nationality of any country, subject to the restrictions specified in Section V, Eligible Countries. A Bidder shall be deemed to have the nationality of a country if the Bidder is a citizen or is constituted, incorporated, or registered and operates in conformity with the provisions of the laws of that country. This criterion shall also apply to the determination of the nationality of proposed subcontractors or suppliers for any part of the Contract including Related Services.

4.2 A Bidder shall not have a conflict of interest. All bidders found to have conflict of interest shall be disqualified. Bidders may be considered to have a conflict of interest with one or more parties in this bidding process, if they:

- (a) are or have been associated in the past, with a firm or any of its affiliates which have been engaged by the Purchaser to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods to be purchased under these Bidding Documents ; or
- (b) submit more than one bid in this bidding process, except for alternative offers permitted under ITB Clause 13. However, this does not limit the participation of subcontractors in more than one bid;

4.3-4.4 A firm that has been sanctioned by the Bank in accordance with the above ITB Clause 3.1 (d), or in accordance with the Bank's Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants, shall be ineligible to be awarded a Bank-financed contract, or benefit from a Bank-financed contract, financially or otherwise, during such period of time as the Bank shall determine. The list of debarred firms is available at the electronic address specified in

in its pre-qualification application or bid because it brings specific and critical experience and know-how that are accounted for in the evaluation of the bidder's pre-qualification application or the bid; or (ii) appointed by the Borrower.

the **BDS**.

- 4.5 Government-owned enterprises in the Borrower's Country shall be eligible only if they can establish that they (i) are legally and financially autonomous, (ii) operate under commercial law, and (iii) are not a dependent agency of the Purchaser.
- 4.6 Bidders shall provide such evidence of their continued eligibility satisfactory to the Purchaser, as the Purchaser shall reasonably request.
- 5. Eligible Goods and Related Services**
- 5.1 All the Goods and Related Services to be supplied under the Contract and financed by the Bank may have their origin in any country in accordance with Section V, Eligible Countries.
- 5.2 For purposes of this Clause, the term "goods" includes commodities, raw material, machinery, equipment, and industrial plants; and "related services" includes services such as insurance, installation, training, and initial maintenance.
- 5.3 The term "origin" means the country where the goods have been mined, grown, cultivated, produced, manufactured or processed; or, through manufacture, processing, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its components.

B. Contents of Bidding Documents

- 6. Sections of Bidding Documents**
- 6.1 The Bidding Documents consist of Parts 1, 2, and 3, which include all the Sections indicated below, and should be read in conjunction with any Addendum issued in accordance with ITB Clause 8.

PART 1 Bidding Procedures

- Section I. Instructions to Bidders (ITB)
- Section II. Bidding Data Sheet (BDS)
- Section III. Evaluation and Qualification Criteria
- Section IV. Bidding Forms
- Section V. Eligible Countries

PART 2 Supply Requirements

- Section VI. Schedule of Requirements

PART 3 Contract

- Section VII. General Conditions of Contract (GCC)
- Section VIII. Special Conditions of Contract (SCC)
- Section IX. Contract Forms

6.2 The Invitation for Bids issued by the Purchaser is not part of the Bidding Documents.

6.3 The Purchaser is not responsible for the completeness of the Bidding Documents and their addendum, if they were not obtained directly from the Purchaser.

6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Documents. Failure to furnish all information or documentation required by the Bidding Documents may result in the rejection of the bid.

7. Clarification of Bidding Documents

7.1 A prospective Bidder requiring any clarification of the Bidding Documents shall contact the Purchaser in writing at the Purchaser's address **specified in the BDS**. The Purchaser will respond in writing to any request for clarification, provided that such request is received no later than fifteen (15) days prior to the deadline for submission of bids. The Purchaser shall forward copies of its response to all those who have acquired the Bidding Documents directly from it, including a description of the inquiry but without identifying its source. Should the Purchaser deem it necessary to amend the Bidding Documents as a result of a clarification, it shall do so following the procedure under ITB Clause 8 and ITB Sub-Clause 24.2.

8. Amendment of Bidding Documents

8.1 At any time prior to the deadline for submission of bids, the Purchaser may amend the Bidding Documents by issuing addendum.

8.2 Any addendum issued shall be part of the Bidding Documents and shall be communicated in writing to all who have obtained the Bidding Documents directly from the Purchaser.

8.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their bids, the Purchaser may, at its discretion, extend the deadline for the submission of bids, pursuant to ITB Sub-Clause 24.2

C. Preparation of Bids

- 9. Cost of Bidding** 9.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Purchaser shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
- 10. Language of Bid** 10.1 The Bid, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser, shall be written in English language. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages into English language, in which case, for purposes of interpretation of the Bid, such translation shall govern.
- 11. Documents Comprising the Bid** 11.1 The Bid shall comprise the following:
- (a) Bid Submission Form and the applicable Price Schedules, in accordance with ITB Clauses 12, 14, and 15;
 - (b) Bid Security, in accordance with ITB Clause 21, if required;
 - (c) written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB Clause 22;
 - (d) documentary evidence in accordance with ITB Clause 16 establishing the Bidder's eligibility to bid;
 - (e) documentary evidence in accordance with ITB Clause 17, that the Goods and Related Services to be supplied by the Bidder are of eligible origin;
 - (f) documentary evidence in accordance with ITB Clauses 18 and 30, that the Goods and Related Services conform to the Bidding Documents;
 - (g) documentary evidence in accordance with ITB Clause 19 establishing the Bidder's qualifications to perform the contract if its bid is accepted; and
 - (h) Manufacturers' authorization form.
 - (i) any other document **required in theBDS**.
- 12. Bid Submission Form and Price Schedules** 12.1 The Bidder shall submit the Bid Submission Form using the form furnished in Section IV, Bidding Forms. This form must be completed without any alterations to its format, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested.
- 13. Alternative Bids** 13.1 Unless otherwise **specified in theBDS**, alternative bids shall not be considered.
- 14. Bid Prices and Discounts** 14.1 The prices and discounts quoted by the Bidder in the Bid Submission Form and in the Price Schedules shall conform to the requirements specified below.

- 14.2 All lots and items must be listed and priced separately in the Price Schedules.
- 14.3 The price to be quoted in the Bid Submission Form shall be the total price of the bid, excluding any discounts offered.
- 14.4 The Bidder shall quote any unconditional discounts and indicate the method for their application in the Bid Submission Form.
- 14.5 The terms EXW and other similar terms shall be governed by the rules prescribed in the current edition of Incoterms, published by The International Chamber of Commerce, as specified in the **BDS**.
- 14.6 Prices shall be quoted as specified in the Price Schedule included in Section IV, Bidding Forms. The dis-aggregation of price components is required solely for the purpose of facilitating the comparison of bids by the Purchaser. This shall not in any way limit the Purchaser's right to contract on any of the terms offered. In quoting prices, the Bidder shall be free to use transportation through carriers registered in any eligible country, in accordance with Section V Eligible Countries. Similarly, the Bidder may obtain insurance services from any eligible country in accordance with Section V Eligible Countries. Prices shall be entered in the following manner:
- (a) **For Goods:**
 - (i) the price of the Goods quoted EXW (ex works, ex factory, ex warehouse, ex showroom, or off-the-shelf, as applicable), including all duties (customs, excise etc.) and sales and other taxes already paid or payable on the components and raw material used in the manufacture or assembly of the Goods;
 - (ii) any vat, sales tax and other taxes which will be payable on the Goods if the contract is awarded to the Bidder; and
 - (iii) the price for inland transportation, insurance, and other local services required to convey the Goods to their final destination (Project Site) specified in the **BDS**.
 - (c) **for the Related Services**, other than inland transportation and other services required to convey the Goods to their final destination, whenever such Related Services are specified in the Schedule of Requirements:
 - (i) the price of each item comprising the Related Services (inclusive of any applicable taxes).
 - (d) bidders may like to ascertain availability of excise duty exemption benefits, available for contracts financed under World Bank Credits/ Loans. They are solely responsible for obtaining such benefits, which they have considered in their bid and in case of failure to receive such benefits for reasons

whatsoever, the Purchaser will not compensate the bidder.

Where the bidder has quoted taking into account such benefits, he must give all information required for issue of necessary Certificates in terms of the Central Excise Notification -108/95 along with his bid in form at S. No. 8 of Section VI. Where the Purchaser issues such Certificates, Excise Duty will not be reimbursed separately.

- 14.7 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to variation on any account, unless otherwise specified in the **BDS**. A Bid submitted with an adjustable price quotation shall be treated as non responsive and shall be rejected, pursuant to ITB Clause 30. However, if in accordance with the **BDS**, prices quoted by the Bidder shall be subject to adjustment during the performance of the Contract, a bid submitted with a fixed price quotation shall not be rejected, but the price adjustment shall be treated as zero.
- 14.8 If so indicated in ITB Sub-Clause 1.1, bids are being invited for individual contracts (lots) or for any combination of contracts (packages). Prices quoted shall correspond to 100 % of the items specified for each lot and to 100% of the quantities specified for each item of a lot. Bidders wishing to offer any price reduction (discount) for the award of more than one Contract shall specify the applicable price reduction in accordance with ITB Sub-Clause 14.4 provided the bids for all lots are submitted and opened at the same time.
- 15. Currencies of Bid** 15.1 The Bidder shall quote in Indian Rupees only.
- 16. Documents Establishing the Eligibility of the Bidder** 16.1 To establish their eligibility in accordance with ITB Clause 4, Bidders shall complete the Bid Submission Form, included in Section IV, Bidding Forms.
- 17. Documents Establishing the Eligibility of the Goods and Related Services** 17.1 To establish the eligibility of the Goods and Related Services in accordance with ITB Clause 5, Bidders shall complete the country of origin declarations in the Price Schedule Forms, included in Section IV, Bidding Forms.
- 18. Documents Establishing the Conformity of the Goods and Related Services** 18.1 To establish the conformity of the Goods and Related Services to the Bidding Documents, the Bidder shall furnish as part of its Bid the documentary evidence that the Goods conform to the technical specifications and standards specified in Section VI, Schedule of Requirements.
- 18.2 The documentary evidence may be in the form of literature, drawings or data, and shall consist of a detailed item by item description of the

essential technical and performance characteristics of the Goods and Related Services, demonstrating substantial responsiveness of the Goods and Related Services to the technical specification, and if applicable, a statement of deviations and exceptions to the provisions of the Schedule of Requirements.

- 18.3 The Bidder shall also furnish a list giving full particulars, including available sources and current prices of spare parts, special tools, etc., necessary for the proper and continuing functioning of the Goods during the period **specified in the BDS** following commencement of the use of the goods by the Purchaser.
- 18.4 Standards for workmanship, process, material, and equipment, as well as references to brand names or catalogue numbers specified by the Purchaser in the Schedule of Requirements, are intended to be descriptive only and not restrictive. The Bidder may offer other standards of quality, brand names, and/or catalogue numbers, provided that it demonstrates, to the Purchaser's satisfaction, that the substitutions ensure substantial equivalence or are superior to those specified in the Schedule of Requirements.

**19. Documents
Establishing the
Qualifications
of the Bidder**

- 19.1 The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted shall establish to the Purchaser's satisfaction:
- (a) (i) that, if **required in the BDS**, a Bidder that does not manufacture or produce the Goods it offers to supply shall submit the Manufacturer's Authorization using the form included in Section IV, Bidding Forms to demonstrate that it has been duly authorized by the manufacturer or producer of the Goods to supply these Goods in the Purchaser's Country;
 - (ii) Supplies for any particular item in each schedule of the bid should be from one manufacturer only. Bids from agents offering supplies from different manufacturer's for the same item of the schedule in the bid will be treated as non-responsive.
 - (b) that the Bidder meets each of the qualification criterion specified in Section III, Evaluation and Qualification Criteria.
 - (c) Bids from Joint Ventures are not acceptable

**20. Period of
Validity of Bids**

- 20.1 Bids shall remain valid for the period **specified in the BDS** after the bid submission deadline date prescribed by the Purchaser. A bid valid for a shorter period shall be rejected by the Purchaser as non responsive.
- 20.2 In exceptional circumstances, prior to the expiration of the bid

validity period, the Purchaser may request bidders to extend the period of validity of their bids. The request and the responses shall be made in writing. If a Bid Security is requested in accordance with ITB Clause 21, it shall also be extended for a corresponding period. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request shall not be required or permitted to modify its bid, except as provided in ITB Sub-Clause 20.3.

20.3 In the case of fixed price contracts, if the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial bid validity, the Contract price shall be adjusted as by the factor [*value of factor stated in BDS*] for each week or part of week that has elapsed from the expiration of the initial bid validity to the date of notification of award to the successful bidder. Bid evaluation shall be based on the Bid Price without taking into consideration the above correction.

21. Bid Security

21.1 The Bidder shall furnish as part of its bid, a Bid Security, if required, as **specified in the BDS**.

21.2 The Bid Security shall be in the amount specified in the BDS and denominated in the currency of the Purchaser's Country or a freely convertible currency, and shall:

- (a) at the bidder's option, be in the form of either a certified check, demand draft, letter of credit, or a bank guarantee from a Nationalized/Scheduled Bank in India.
- (b) be substantially in accordance with one of the forms of Bid Security included in Section IV, Bidding Forms, or other form approved by the Purchaser prior to bid submission;
- (c) be payable promptly upon written demand by the Purchaser in case the conditions listed in ITB Clause 21.5 are invoked;
- (d) be submitted in its original form; copies will not be accepted;
- (e) remain valid for a period of 45 days beyond the validity period of the bids, as extended, if applicable, in accordance with ITB Clause 20.2;

21.3 If a Bid Security is required in accordance with ITB Sub-Clause 21.1, any bid not accompanied by a substantially responsive Bid Security in accordance with ITB Sub-Clause 21.1, shall be rejected by the Purchaser as non-responsive.

21.4 The Bid Security of unsuccessful Bidders shall be returned as

promptly as possible upon the successful Bidder's furnishing of the Performance Security pursuant to ITB Clause 44.

21.5 The Bid Security may be forfeited or the Bid Securing Declaration executed:

(a) If a Bidder:

(i) withdraws its bid during the period of bid validity specified by the Bidder on the Bid Submission Form, except as provided in ITB Sub-Clause 20.2; or

(ii) does not accept the correction of errors in procurement of ITB 31,

or,

(b) if the successful Bidder fails to:

(i) sign the Contract in accordance with ITB Clause 43;

(ii) furnish a Performance Security in accordance with ITB Clause 44.

21.6 Not used

21.7 If a bid security is **not required in the BDS**, and

(a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letter of Bid Form, except as provided in ITB 20.2, or

(b) if the successful Bidder fails to: sign the Contract in accordance with ITB 43; or furnish a performance security in accordance with ITB 44;

the Borrower may, **if provided for in the BDS**, declare the Bidder disqualified to be awarded a contract by the Purchaser for a period of time **as stated in the BDS**.

22. Format and Signing of Bid

22.1 The Bidder shall prepare one original of the documents comprising the bid as described in ITB Clause 11 and clearly mark it "ORIGINAL." In addition, the Bidder shall submit copies of the bid, in the number specified in the **BDS** and clearly mark them "COPY." In the event of any discrepancy between the original and the copies, the original shall prevail.

22.2 The original and all copies of the bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder. The authorization shall be

indicated by written Power of Attorney accompanying the bid.

- 22.3 Any interlineation, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Bid.

D. Submission and Opening of Bids

23. Submission, Sealing and Marking of Bids

- 23.1 Bidders may always submit their bids by mail or by hand. When so specified in the **BDS**, bidders shall have the option of submitting their bids electronically.

- (a) Bidders submitting bids by mail or by hand, shall enclose the original and each copy of the Bid, including alternative bids, if permitted in accordance with ITB Clause 13, in separate sealed envelopes, duly marking the envelopes as "ORIGINAL" and "COPY." These envelopes containing the original and the copies shall then be enclosed in one single envelope. The rest of the procedure shall be in accordance with ITB sub-Clauses 23.2 and 23.3.
- (b) Bidders submitting bids electronically shall follow the electronic bid submission procedures specified in the **BDS**.

- 23.2 The inner and outer envelopes shall:

- (a) Bear the name and address of the Bidder;
- (b) be addressed to the Purchaser in accordance with ITB Sub-Clause 24.1;
- (c) bear the specific identification of this bidding process indicated in ITB 1.1 and any additional identification marks as **specified in the BDS**; and
- (d) bear a warning not to open before the time and date for bid opening, in accordance with ITB Sub-Clause 27.1.

- 23.3 If all envelopes are not sealed and marked as required, the Purchaser will assume no responsibility for the misplacement or premature opening of the bid.

- 23.4 Telex, Cable or Facsimile bids will be rejected as non-responsive.

24. Deadline for Submission of Bids

- 24.1 Bids must be received by the Purchaser at the address and no later than the date and time **specified in the BDS**. In the event of the specified date for the submission of Bids being declared a holiday for the Purchaser, the Bids will be received up to the appointed time on the next working day.

- 24.2 The Purchaser may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Documents in accordance with ITB Clause 8, in which case all rights and

obligations of the Purchaser and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.

- 25. Late Bids** 25.1 The Purchaser shall not consider any bid that arrives after the deadline for submission of bids, in accordance with ITB Clause 24. Any bid received by the Purchaser after the deadline for submission of bids shall be declared late, rejected, and returned unopened to the Bidder.
- 26. Withdrawal, Substitution, and Modification of Bids** 26.1 A Bidder may withdraw, substitute, or modify its Bid after it has been submitted by sending a written notice in accordance with ITB Clause 23, duly signed by an authorized representative, and shall include a copy of the authorization (the power of attorney) in accordance with ITB Sub-Clause 22.2, (except that no copies of the withdrawal notice are required). The corresponding substitution or modification of the bid must accompany the respective written notice. All notices must be:
- (a) submitted in accordance with ITB Clauses 22 and 23 (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked "WITHDRAWAL," "SUBSTITUTION," or "MODIFICATION;" and
 - (b) received by the Purchaser prior to the deadline prescribed for submission of bids, in accordance with ITB Clause 24.
- 26.2 Bids requested to be withdrawn in accordance with ITB Sub-Clause 26.1 shall be returned unopened to the Bidders.
- 26.3 No bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Bid Submission Form or any extension thereof.
- 27. Bid Opening** 27.1 The Purchaser shall conduct the bid opening in public at the address, date and time **specified in the BDS**. Any specific electronic bid opening procedures required if electronic bidding is permitted in accordance with ITB Sub-Clause 23.1, shall be as **specified in the BDS**. In the event of the specified date of bid opening being declared a holiday for the Purchaser, the bids will be opened at the appointed time and location on the next working day.
- 27.2 First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelope with the corresponding bid shall not be opened, but returned to the Bidder. If the withdrawal envelope does not contain a copy of the "power of attorney" confirming the signature as a person duly authorized to sign on behalf of the Bidder, the corresponding bid will not be opened. No bid

withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at bid opening. Next, envelopes marked "SUBSTITUTION" shall be opened and read out and exchanged with the corresponding Bid being substituted, and the substituted Bid shall not be opened, but returned to the Bidder. No Bid substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at bid opening. Envelopes marked "MODIFICATION" shall be opened and read out with the corresponding Bid. No Bid modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Bid opening. Only envelopes that are opened and read out at Bid opening shall be considered further.

- 27.3 All other envelopes shall be opened one at a time, reading out: the name of the Bidder and whether there is a modification; the Bid Prices, including any discounts and alternative offers; the presence of a Bid Security, if required; and any other details as the Purchaser may consider appropriate. Only discounts and alternative offers read out at Bid opening shall be considered for evaluation. No Bid shall be rejected at Bid opening except for late bids, in accordance with ITB Sub-Clause 25.1.
- 27.4 The Purchaser shall prepare a record of the Bid opening that shall include, as a minimum: the name of the Bidder and whether there is a withdrawal, substitution, or modification; the Bid Price, per lot if applicable, including any discounts, and alternative offers if they were permitted; and the presence or absence of a Bid Security, if one was required. The Bidders' representatives who are present shall be requested to sign the attendance sheet. A copy of the record shall be distributed to all Bidders who submitted bids in time, and posted online when electronic bidding is permitted.

E. Evaluation and Comparison of Bids

- 28. Confidentiality**
- 28.1 Information relating to the examination, evaluation, comparison, and postqualification of bids, and recommendation of contract award, shall not be disclosed to bidders or any other persons not officially concerned with such process until publication of the Contract Award.
- 28.2 Any effort by a Bidder to influence the Purchaser in the examination, evaluation, comparison, and postqualification of the bids or contract award decisions may result in the rejection of its Bid.

- 28.3 Notwithstanding ITB Sub-Clause 28.2, from the time of bid opening to the time of Contract Award, if any Bidder wishes to contact the Purchaser on any matter related to the bidding process, it should do so in writing.
- 29. Clarification of Bids**
- 29.1 To assist in the examination, evaluation, comparison and post-qualification of the bids, the Purchaser may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder in respect to its Bid and that changes the substance of the Bidder price of the bid shall not be considered. The Purchaser's request for clarification and the response shall be in writing. No change in the prices or substance of the Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Purchaser in the Evaluation of the bids, in accordance with ITB Clause 31.
- 30. Responsiveness of Bids**
- 30.1 The Purchaser's determination of a bid's responsiveness is to be based on the contents of the bid itself.
- 30.2 A substantially responsive Bid is one that conforms to all the terms, conditions, and specifications of the Bidding Documents without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that:
- (a) affects in any substantial way the scope, quality, or performance of the Goods and Related Services specified in the Contract; or
 - (b) limits in any substantial way, inconsistent with the Bidding Documents, the Purchaser's rights or the Bidder's obligations under the Contract; or
 - (c) if rectified would unfairly affect the competitive position of other bidders presenting substantially responsive bids.
- 30.3 Bids from Agents, without proper authorization from the manufacturer as per Section XII, shall be treated as non-responsive.
- 30.4 If a bid is not substantially responsive to the Bidding Documents, it shall be rejected by the Purchaser and may not subsequently be made responsive by the Bidder by correction of the material deviation, reservation, or omission.
- 31. Nonconformities, Errors, and Omissions**
- 31.1 Provided that a Bid is substantially responsive, the Purchaser may waive any non-conformities or omissions in the Bid that do not constitute a material deviation.
- 31.2 Provided that a bid is substantially responsive, the Purchaser may

request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the bid related to documentation requirements. Such omission shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.

31.3 Provided that the Bid is substantially responsive, the Purchaser shall correct arithmetical errors on the following basis:

- (a) if there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of the Purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the line item total as quoted shall govern and the unit price shall be corrected;
- (b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
- (c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.

31.4 If the Bidder that submitted the lowest evaluated Bid does not accept the correction of errors, its Bid shall be rejected and the Bid security may be forfeited

32. Preliminary Examination of Bids

32.1 The Purchaser shall examine the bids to confirm that all documents and technical documentation requested in ITB Clause 11 have been provided, and to determine the completeness of each document submitted.

32.2 The Purchaser shall confirm that the following documents and information have been provided in the Bid. If any of these documents or information is missing, the offer shall be rejected and the bid security may be forfeited.

- (a) Bid Submission Form, in accordance with ITB Sub-Clause 12.1;
- (b) Price Schedules, in accordance with ITB Sub-Clause 12.2;
- (c) Bid Security in accordance with ITB Clause 21, if applicable.

33. Examination of Terms and

33.1 The Purchaser shall examine the bid to confirm that the Bidder has accepted all terms and conditions specified in GCC and the SCC. without

**Conditions;
Technical
Evaluation**

material deviations or reservation. Deviations from or objections or reservations to critical provisions such as those concerning Performance Security (GCC Clause 18). Warranty (GCC Clause 28), Force Majeure (Clause 32), Limitation of liability (GCC Clause 30), Governing law (GCC Clause 9) and Taxes & Duties (GCC Clause 17) will be deemed to be a material deviation. The Purchaser's determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.

33.2 The Purchaser shall evaluate the technical aspects of the Bid submitted in accordance with ITB Clause 18, to confirm that all requirements specified in Section VI, Schedule of Requirements of the Bidding Documents have been met without any material deviation or reservation.

33.3 If, after the examination of the terms and conditions and the technical evaluation, the Purchaser determines that the Bid is not substantially responsive in accordance with ITB Clause 30, it shall reject the Bid.

**34. Conversion to
Single Currency**

Not used

**35. Domestic
Preference**

Not used

**36. Evaluation of
Bids**

36.1 The Purchaser shall evaluate each bid that has been determined, up to this stage of the evaluation, to be substantially responsive.

36.2 To evaluate a Bid, the Purchaser shall only use all the factors, methodologies and criteria defined in ITB Clause 36. No other criteria or methodology shall be permitted.

36.3 To evaluate a Bid, the Purchaser shall consider the following:

- (a) evaluation will be done for Items or Lots, as **specified in the BDS**; and the Bid Price as quoted in accordance with clause 14;
- (b) price adjustment for correction of arithmetic errors in accordance with ITB Sub-Clause 31.3;
- (c) price adjustment due to discounts offered in accordance with ITB Sub-Clause 14.4;
- (d) adjustments due to the application of the evaluation criteria **specified in the BDS** from amongst those set out in Section III, Evaluation and Qualification Criteria;

36.4 The Purchaser's evaluation of a bid will exclude and not take into account:

- (a) In the case of Goods manufactured in India or goods of foreign origin already located in India, vat, sales and other similar taxes, which will be payable on the goods if a contract is awarded to the Bidder;
- (b) any allowance for price adjustment during the period of execution of the contract, if provided in the bid.

36.5 The Purchaser's evaluation of a bid may require the consideration of other factors, in addition to the Bid Price quoted in accordance with ITB Clause 14. These factors may be related to the characteristics, performance, and terms and conditions of purchase of the Goods and Related Services. The effect of the factors selected, if any, shall be expressed in monetary terms to facilitate comparison of bids, unless otherwise specified in Section III, Evaluation and Qualification Criteria. The factors, methodologies and criteria to be used shall be as specified in ITB 36.3 (d).

36.6 If so **specified in the BDS**, these Bidding Documents shall allow Bidders to quote separate prices for one or more lots, and shall allow the Purchaser to award one or multiple lots to more than one Bidder. The methodology of evaluation to determine the lowest-evaluated lot combinations, is specified in Section III, Evaluation and Qualification Criteria.

37. Comparison of Bids

37.1 The Purchaser shall compare all substantially responsive bids to determine the lowest-evaluated bid, in accordance with ITB Clause 36.

38. Postqualification of the Bidder

38.1 The Purchaser shall determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated and substantially responsive bid is qualified to perform the Contract satisfactorily.

38.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB Clause 19.

38.3 An affirmative determination shall be a prerequisite for award of the Contract to the Bidder. A negative determination shall result in disqualification of the bid, in which event the Purchaser shall proceed to the next lowest evaluated bid to make a similar determination of that Bidder's capabilities to perform

satisfactorily.

**39. Purchaser's
Right to Accept
Any Bid, and to
Reject Any or
All Bids**

39.1 The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders.

F. Award of Contract

40. Award Criteria

40.1 The Purchaser shall award the Contract to the Bidder whose offer has been determined to be the lowest evaluated bid and is substantially responsive to the Bidding Documents, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.

**41. Purchaser's
Right to Vary
Quantities at
Time of Award**

41.1 At the time the Contract is awarded, the Purchaser reserves the right to increase or decrease the quantity of Goods and Related Services originally specified in Section VI, Schedule of Requirements, provided this does not exceed the percentages **specified in the BDS**, and without any change in the unit prices or other terms and conditions of the bid and the Bidding Documents.

**42. Notification of
Award**

42.1 Prior to the expiration of the period of bid validity, the Purchaser shall notify the successful Bidder, in writing, that its Bid has been accepted.

42.2 Until a formal Contract is prepared and executed, the notification of award shall constitute a binding Contract.

**Publication of
Award**

42.3 The Purchaser shall publish in a National website[GOI web site- <http://tenders.gov.in>] the results identifying the bid and lot numbers and the following information: (i) name of each Bidder who submitted a Bid; (ii) bid prices as read out at bid opening; (iii) name and evaluated prices of each Bid that was evaluated; (iv) name of bidders whose bids were rejected and the reasons for their rejection; and (v) name of the winning Bidder, and the price it offered, as well as the duration and summary scope of the contract awarded. After publication of the award, unsuccessful bidders may request in writing to the Purchaser for a debriefing seeking explanations on the grounds on which their bids were not selected. The Purchaser shall promptly respond in writing to any unsuccessful Bidder who, after Publication of contract award, requests a debriefing.

**Recourse to
unsuccessful
Bidders**

42.4 Upon the successful Bidder's furnishing of the performance security and signing the Contract Form pursuant to ITB Clause 44,

the Purchaser will promptly notify each unsuccessful Bidder and will discharge its bid security, pursuant to ITB Clause 21.4.

43. Signing of Contract

- 43.1 Promptly after notification, the Purchaser shall send the successful Bidder the Agreement and the Special Conditions of Contract.
- 43.2 Within twenty-one (21) days of receipt of the Agreement, the successful Bidder shall sign, date, and return it to the Purchaser.

44. Performance Security

- 44.1 Within twenty one (21) days of the receipt of notification of award from the Purchaser, the successful Bidder, if required, shall furnish the Performance Security in accordance with the GCC, using for that purpose the Performance Security Form included in Section IX Contract forms, or another Form acceptable to the Purchaser. The Purchaser shall promptly notify the name of the winning Bidder to each unsuccessful Bidder and discharge the Bid Securities of the unsuccessful bidders pursuant to ITB Sub-Clause 21.4.
- 44.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security. In that event the Purchaser may award the Contract to the next lowest evaluated Bidder, whose offer is substantially responsive and is determined by the Purchaser to be qualified to perform the Contract satisfactorily.

SECTION II - BIDDING DATA SHEET

The following specific data for the goods to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

ITB Clause Reference	A. General			
ITB 1.1	The Purchaser is: The Director National Centre for Sustainable Coastal Management Koodal Building, AnnaUniversity Campus, Chennai-600025,Tamilnadu			
ITB 1.1	The number, identification and names of Packages comprising this NCB are : Supply of Scientific & Technical Equipments and Related Services BID REFERENCE: IFB No. NPMU/G-35			
	Package No.	Description of the Instrument	Unit	Quantity
	1.	CHNS Analyzer with Accessories	Set	1
	2.	HPLC with Accessories	Set	1
	3.	Gas Chromatograph with FID + Methanizer + Columns + Other Accessories	Set	1
	4.	Total Station with Accessories	Set	3
	5.	XRF-Spectrometer (Hand held) with Accessories	Set	1
	6.	Magnetic Barrier Laboratory Separator	Set	1
	7.	Underwater PAM Fluorometer with Accessories	Set	1
	8.	Atomic Absorption Spectrophotometer	Set	1
	9.	Air Sampler with Accessories	Set	3
	10.	Gas Chromatograph with FID+ ECD +Column + Accessories	Set	1
	11.	Gas Chromatograph with NPD+ PFPD+ ECD + Column + Accessories	Set	1
	12.	Gas Chromatograph with ECD + FID with Head Space + Column + Accessories	Set	1

	13.	Total Organic Carbon Analyzer with Accessories	Set	1
	14.	Spectrofluorometer/ Fluorescence spectrophotometer with accessories	Set	2
	15.	Microprocessor based pH Meter	Set	6
ITB 2.1	The Borrower is Government of India			
ITB 2.1	The name of the Project is: INTEGRATED COASTAL ZONE MANAGEMENT PROJECT			
ITB 4.3	A list of firms debarred from participating in World Bank projects is available at http://www.worldbank.org/debarr			
B. Contents of Bidding Documents				
ITB 7.1	For Clarification of bid purposes only, the Purchaser's address is: The Director National Centre for Sustainable Coastal Management Koodal Building, Anna University Campus, Chennai-6000025, Tamilnadu Email : procurement@ncscm.org Web: www.ncscm.org			
ITB 7.2	Add the following sub-para: A clarification meeting will be held at the following address and Date & Time at which prospective bidders may request clarification of the project requirements and the criteria for qualification – Date: 06.12.2013 at 11.30 A.M. Place: National Centre for Sustainable Coastal Management Koodal Building, Anna University Campus, Chennai-6000025, Tamilnadu			
C. Preparation of Bids				
ITB 11.1 (h)	The Bidder shall submit the following additional documents in its bid: (i) Manufacturer's Authorization Form/ Dealership Certificate (ii) Technical Brochures along with Data Sheets to verify technical compliance			
ITB 11.1(i)	The Bidder shall submit the following additional documents in its bid 1. The bidder should furnish the information on all past supplies of similar equipment and their satisfactory performance received from respective client. 2. All bids submitted shall also include the following information along with			

	<p>formats as under -</p> <ul style="list-style-type: none"> (i) Copies of original documents defining the constitution or legal status, place of registration and principal place of business of the company or firm or partnership, etc. (ii) The bidder should clearly confirm that all the facilities exist in his factory for inspection and testing and these will be made available to the Purchaser or his representative for inspection. (iii) Details of Service Centers and information on service support facilities that would be provided during/after the warranty period [in the Service Support Form given in Section IV]. (iv) Reports on financial standing of the Bidder such as Profit and Loss Statements, Balance Sheets and Auditor's Reports for the past five (5) years, Banker's Certificates, etc.
ITB 13.1	Alternative Bids shall not be considered.
ITB 14.5	The Incoterms edition is Latest Version of Incoterm 2010.
ITB 14.6 (a) (iii)	<p>“Final destination (Project Site)”:</p> <p>National Centre for Sustainable Coastal Management Koodal Building, Anna University Campus, Chennai-600025 Tamilnadu, India Phone: +914422330108,22200159,22203408 Fax: 91 44 2220 0158</p>
ITB 14.7	“The prices quoted by the Bidder shall be fixed and not adjustable.”
ITB 18.3	Period of time the Goods are expected to be functioning (for the purpose of spare parts): 10 years
ITB 19.1 (a)	<p>Manufacturer's Authorization is: Required.</p> <p>Provide Manufacturer's Authorization/ current and valid Dealership Certificate on date of Bid opening.</p>
ITB 20.1	The bid validity period shall be 90 days after the bid submission deadline date.
ITB 20.3	The factor will be 8.% per annum
ITB 21.1	Bid shall include a Bid Security (issued by Bank) included in Section IV Bidding

	Forms.																																																
ITB 21.2	<p>The amount of the Bid Security shall be:</p> <table border="1"> <thead> <tr> <th>Package No.</th> <th>Description of the Instrument</th> <th>Bid Security in Rs.</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>CHNS Analyzer with Accessories</td> <td>40,000.00</td> </tr> <tr> <td>2.</td> <td>HPLC with Accessories</td> <td>60,000.00</td> </tr> <tr> <td>3.</td> <td>Gas Chromatograph with FID+ Methanizer + Columns + Other Accessories</td> <td>60,000.00</td> </tr> <tr> <td>4.</td> <td>Total Station with Accessories</td> <td>75,000.00</td> </tr> <tr> <td>5.</td> <td>XRF-Spectrometer (Hand held) with Accessories</td> <td>30,000.00</td> </tr> <tr> <td>6.</td> <td>Magnetic Barrier Laboratory Separator</td> <td>20,000.00</td> </tr> <tr> <td>7.</td> <td>Underwater PAM Fluorometer with Accessories</td> <td>25,000.00</td> </tr> <tr> <td>8.</td> <td>Atomic Absorption Spectrophotometer</td> <td>50,000.00</td> </tr> <tr> <td>9.</td> <td>Air Sampler with Accessories</td> <td>10,000.00</td> </tr> <tr> <td>10.</td> <td>Gas Chromatograph with FID + ECD +Column + Accessories</td> <td>40,000.00</td> </tr> <tr> <td>11.</td> <td>Gas Chromatograph with NPD+ PFPD+ ECD + Column + Accessories</td> <td>40,000.00</td> </tr> <tr> <td>12.</td> <td>Gas Chromatograph with ECD + FID with Head Space + Column + Accessories</td> <td>40,000.00</td> </tr> <tr> <td>13.</td> <td>Total Organic Carbon Analyzer with Accessories</td> <td>40,000.00</td> </tr> <tr> <td>14.</td> <td>Spectrofluorometer/ Fluorescence spectrophotometer with accessories</td> <td>25,000.00</td> </tr> <tr> <td>15.</td> <td>Microprocessor based pH Meter</td> <td>25,000.00</td> </tr> </tbody> </table> <p>The Bid security shall be in Indian Rupees or an equivalent amount in a freely convertible currency.</p>	Package No.	Description of the Instrument	Bid Security in Rs.	1.	CHNS Analyzer with Accessories	40,000.00	2.	HPLC with Accessories	60,000.00	3.	Gas Chromatograph with FID+ Methanizer + Columns + Other Accessories	60,000.00	4.	Total Station with Accessories	75,000.00	5.	XRF-Spectrometer (Hand held) with Accessories	30,000.00	6.	Magnetic Barrier Laboratory Separator	20,000.00	7.	Underwater PAM Fluorometer with Accessories	25,000.00	8.	Atomic Absorption Spectrophotometer	50,000.00	9.	Air Sampler with Accessories	10,000.00	10.	Gas Chromatograph with FID + ECD +Column + Accessories	40,000.00	11.	Gas Chromatograph with NPD+ PFPD+ ECD + Column + Accessories	40,000.00	12.	Gas Chromatograph with ECD + FID with Head Space + Column + Accessories	40,000.00	13.	Total Organic Carbon Analyzer with Accessories	40,000.00	14.	Spectrofluorometer/ Fluorescence spectrophotometer with accessories	25,000.00	15.	Microprocessor based pH Meter	25,000.00
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15.	Microprocessor based pH Meter	25,000.00																																															
ITB 22.1	In addition to the original of the bid, the number of copies is: Two																																																
	D. Submission and Opening of Bids																																																
ITB 23.1	Bidders shall not have the option of submitting their bids electronically.																																																
ITB 23.1 (b)	Deleted																																																
ITB 23.2 (c)	<p>The inner and outer envelopes for each Package quoted, shall bear the following additional identification marks:</p> <p style="text-align: center;"><u>Supply of Scientific & Technical Equipments and Related Services</u></p> <p>IFBNo. NPMU/G-35</p>																																																

<p>ITB 24.1</p>	<p>For bid submission purposes, the address is:</p> <p>National Centre for Sustainable Coastal Management Koodal Building, Anna University Campus, Chennai-600025, Tamilnadu, India Phone: +914422330108,22200159,22203408 Fax: 91 44 2220 0158</p> <p>The deadline for the submission of bids is:</p> <p>Date: 24.12.2013 Time: 10:00 A.M.</p>
<p>ITB 27.1</p>	<p>The bid opening shall take place at:</p> <p>National Centre for Sustainable Coastal Management Koodal Building, Anna University Campus, Chennai-600025 Tamilnadu, India Phone: +914422330108,22200159,22203408 Fax: 91 44 2220 0158</p> <p>Date: 24.12.2013 Time: 10:30 A.M.</p>
<p>E. Evaluation and Comparison of Bids</p>	
<p>ITB33.1</p>	<p>Deviations from or objections or reservations to critical provisions, which will be treated as material deviations are:</p> <ul style="list-style-type: none"> - Bid Security [ITB Clause 21]; - Performance Security [GCC Clause 18]; - Governing Law (GCC Clause 9); - Deemed Export [Note under 14.6 (a)of ITB Bidding Data Sheet]; - Taxes and Duties [GCC/SCC Clause 17]; - Warranty [GCC/SCC Clause 28]; - Force Majeure [GCC Clause 32];and - Limitation of Liability [GCC Clause 30].
<p>ITB 36.3(a)</p>	<p>Evaluation will be done for each Package. There are 15 (Fifteen) Packages in this IFB.</p> <p>Bidder should quote for the complete requirement for goods and services specified in a Package as stated in ITB clause 14.8, failing which, such bids will be treated as non-responsive.</p>

ITB 36.3	<p>“The adjustments shall be determined using the following criteria, from amongst those set out in Section III, Evaluation and Qualification Criteria</p> <p>a) Deviation in Delivery schedule: <i>No</i>. No credit will be given to deliveries before the earliest date, and bids offering delivery after the final date shall be treated as non-responsive.</p> <p>b) Deviation in payment schedule: Yes. The adjustment factor is 10% Per Annum.</p> <p>c) the availability in India of spare parts and after-sales services for the equipment offered in the bid. An adjustment equal to the cost to the Purchaser of establishing the minimum service facilities and parts inventories, if quoted separately, shall be added to the bid price, for evaluation purposes only.</p> <p>d) The Prices quoted by the bidder for comprehensive maintenance of the equipment year-wise for two years following the end of the warranty period shall be reduced to net present value (NPV) at a discount rate of 10% per annum; the NPV shall then be added to the bid price of the equipment.</p>
ITB 36.6	<p>In this IFB, there are 15 (Fifteen) Packages. Bidders <i>shall</i> be allowed to quote separate prices for one or more lots.</p>
	<p>F. Award of Contract</p>
ITB 41.1	<p>The maximum percentage by which quantities may be increased is: 15% The maximum percentage by which quantities may be decreased is: 15%</p>

SECTION III. EVALUATION AND QUALIFICATION CRITERIA

This Section complements the Instructions to Bidders. It contains the criteria that the Purchaser may use to evaluate a bid and determine whether a Bidder has the required qualifications. No other criteria shall be used.

Contents

1. Evaluation Criteria (ITB 36.3)
2. Multiple Contracts (ITB 36.6)
3. Post-Qualification Requirements (ITB 38.2)

1. Evaluation Criteria (ITB36.3)

The Purchaser's evaluation of a bid may take into account, in addition to the Bid Price quoted in accordance with ITB Clause 14.6, one or more of the following factors as specified in ITB Sub-Clause 36.3 and in BDS referring to ITB 36.3, using the following criteria and methodologies.

(a) Delivery schedule (as per Incoterms specified in the BDS)

The Goods specified in the List of Goods are required to be delivered within the acceptable time range (after the earliest and before the final date, both dates inclusive) specified in Section VI, Delivery Schedule. No credit will be given to deliveries before the earliest date, and bids offering delivery after the final date shall be treated as non responsive. Within this acceptable period there will not be any adjustment.

(b) Deviation in payment schedule. :

The SCC stipulates the payment schedule specified by the Purchaser. If a bid deviates from the schedule and if such deviation is considered acceptable to the Purchaser, the bid will be evaluated by calculating interest earned for any earlier payments involved in the terms outlined in the bid as compared with those stipulated in the SCC, at the rate per annum specified in BDS Sub-Clause 36.3 (b).

(c) Availability in India of spare parts and after sales services for equipment offered in the bid.

An adjustment equal to the cost to the Purchaser of establishing the minimum service facilities and parts inventories, as outlined in BDS Sub-Clause 36.3(c), if quoted separately, shall be added to the bid price, for evaluation purposes only.

(d) Comprehensive Maintenance Costs

Maintenance Costs: An adjustment to take into account the maintenance costs of the equipments will be added to the bid price, for evaluation purposes only, if specified in BDS Sub-Clause 36.3(d). The adjustment will be evaluated in accordance with the methodology specified in the BDS Sub-Clause 36.3(d).

(e) Performance and productivity of the equipment—*Not Applicable*

(f) Specific additional criteria - None

2. Multiple Contracts (ITB 36.6)

The Purchaser shall award multiple contracts to the Bidder that offers the lowest evaluated combination of bids (one contract per Package) and meets the post-qualification criteria (this Section III, Sub-Section ITB 38.2 Post-Qualification Requirements)

The Purchaser shall:

- (a) Evaluate only Packages or contracts that include at least the percentages of items per Package and quantity per item as specified in ITB Sub Clause 14.8

(b) Take into account:

(i) The lowest-evaluated bid for each Package and

(ii) The price reduction per Package and the methodology for its application as offered by the Bidder in its bid.

3. Post-qualification Requirements (ITB 38.2)

After determining the lowest-evaluated bid in accordance with ITB Sub-Clause 37.1, the Purchaser shall carry out the post-qualification of the Bidder in accordance with ITB Clause 38, using only the requirements specified. Requirements not included in the text below shall not be used in the evaluation of the Bidder's qualifications.

a) **Financial Capability:** The Minimum required annual turnover in respect of successful bidder in any two of the last five (5) Financial Years i.e. 2008-09 to 2012-13 shall be of values as indicated below in INR or an equivalent amount in a freely convertible currency-

1. Package 1- 4.00Million INR
2. Package 2-6.00MillionINR
3. Package 3- 6.00Million INR
4. Package4- 7.50MillionINR
5. Package 5- 3.00Million INR
6. Package6- 2.00MillionINR
7. Package 7- 2.50Million INR
8. Package8- 5.00MillionINR
9. Package 9- 1.00Million INR
10. Package10- 4.00MillionINR
11. Package 11- 4.00Million INR
12. Package12- 4.00MillionINR
13. Package 13- 4.00Million INR
14. Package14- 2.50MillionINR
15. Package 15- 2.50Million INR

N.B.: To qualify for more than one Package, for which bids are invited in the IFB, the bidder must have the minimum required annual turnover sufficient to meet the aggregate of financial capability as the qualification for those Packages.

b) **Experience and Technical Capacity:**

The Bidder shall furnish documentary evidence to demonstrate that it meets the following experience requirement (s):

- (i) If the bidder is a Manufacturer, he must have manufactured, tested and supplied the instrument (s) similar to the type specified in the 'schedule of requirements' up to at least 200% of the quantities required during any one of the last 3 Financial Years i.e. 2010-11 to 2012-13. The equipments for supply must be of the most recent series models incorporating the latest improvements in design. The models should have been released on or after January 2012 and up to 100 % of the quantity put to bid as mentioned in Schedule of Requirements should be in satisfactory operation for 6 Months as on date of bid opening. Further, bidder should be in continuous business of manufacturing products similar to that specified in the schedule of requirements during the last three years prior to bid opening.
- (ii) If the bidder is an Authorized Dealer, he must have successfully supplied, installed and commissioned the instrument (s) similar to the type specified in the 'Schedule of Requirements' up to at least 100% of the quantities required during any one of the last 3 Financial Years i.e. 2010-11 to 2012-13, which must be in satisfactory operation for at least 6 months on the date of bid opening and must be providing annual maintenance services for the above installations in at least two centers in the country for over one year. However, the bid shall also include the information about the Manufacturer, as mentioned above at (i), whose goods have been offered.

The list of supplied & installed equipments in both the above (i) & (ii) shall include:

- Names and addresses of Purchasers with contact details as e-mail addresses/
Phone Nos.
 - Contract Nos. and Dates.
 - Equipments/items ordered/supplied & installed with their respective quantities.
 - Scheduled completion date and actual completion date.
 - Details of Complaint, if any, received from the purchaser about the performance of the Equipments/items.
- c) The bidder shall furnish the information on all past supplies and satisfactory performance for (b) (i)/and (b) (ii) above in the Performa under Section VI-Form Sr.No.7.
- d) All bids submitted shall also include the following information along with specified formats:
- (i) Copies of original documents defining the constitution or legal status, place of registration and principal place of business of the company or firm or partnership, etc.

- (ii) A brief write-up, backed with adequate data, explaining his available capacity and experience (both technical and commercial) for the manufacture and supply of the required systems and equipments within the specified time of completion after meeting all their current commitments.
- (iii) Details of Service Centers and information on service support facilities that would be provided after the warranty period.
- (iv) Reports on financial standing of the Bidder such as Profit and Loss Statements, Balance Sheets and Auditor's Reports for the past five (5) years, Banker's Certificates, etc.

SECTION IV – BIDDING FORMS

Table of Forms

1. Bidder Information Form.....	444
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4. Price and Completion Schedule - Related Services	492
5. Bid Security (Bank Guarantee).....	533
6. Manufacturer’s Authorization.....	544

BIDDER INFORMATION FORM

[The Bidder shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted.]

Date: *[insert date (as day, month and year) of Bid Submission]*

NCB No.: *[insert number of bidding process]*

Page _____ of _____ pages

1. Bidder's Legal Name <i>[insert Bidder's legal name]</i>
2. Bidder's actual or intended Country of Registration: <i>[insert actual or intended Country of Registration]</i>
3. Bidder's Year of Registration: <i>[insert Bidder's year of registration]</i>
4. Bidder's Legal Address in Country of Registration: <i>[insert Bidder's legal address in country of registration]</i>
<p>5. Bidder's Authorized Representative Information</p> <p style="margin-left: 20px;">Name: <i>[insert Authorized Representative's name]</i></p> <p style="margin-left: 20px;">Address: <i>[insert Authorized Representative's Address]</i></p> <p style="margin-left: 20px;">Telephone/Fax numbers: <i>[insert Authorized Representative's telephone/fax numbers]</i></p> <p style="margin-left: 20px;">Email Address: <i>[insert Authorized Representative's email address]</i></p>
<p>6. Attached are copies of original documents of: <i>[check the box(es) of the attached original documents]</i></p> <p><input type="checkbox"/> Articles of Incorporation or Registration of firm named in 1, above, in accordance with ITB Sub-Clauses 4.1 and 4.2.</p> <p><input type="checkbox"/> In case of government owned entity from the Purchaser's country, documents establishing legal and financial autonomy and compliance with commercial law and not dependent agency of borrower or sub-borrower or purchaser, in accordance with ITB Sub-Clause 4.5.</p>

BID SUBMISSION FORM

[The Bidder shall fill in this Form in accordance with the instructions indicated No alterations to its format shall be permitted and no substitutions shall be accepted.]

Date: *[insert date (as day, month and year) of Bid Submission]*

NCB No.: *[insert number of bidding process]*

Invitation for Bid No.: *[insert No of IFB]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

To: *[insert complete name of Purchaser]*

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda No.: *[insert the number and issuing date of each Addenda];*
- (b) We offer to supply in conformity with the Bidding Documents and in accordance with the Delivery Schedules specified in the Schedule of Requirements the following Goods and Related Services *[insert a brief description of the Goods and Related Services];*
- (c) The total price of our Bid, excluding any discounts offered in item (d) below, is: *[insert the total bid price in words and figures, indicating the various amounts and the respective currencies];*
- (d) The discounts offered and the methodology for their application are:

Discounts. If our bid is accepted, the following discounts shall apply. *[Specify in detail each discount offered and the specific item of the Schedule of Requirements to which it applies.]*

Methodology of Application of the Discounts. The discounts shall be applied using the following method: *[Specify in detail the method that shall be used to apply the discounts];*

- (e) Our bid shall be valid for the period of time specified in ITB Sub-Clause 20.1, from the date fixed for the bid submission deadline in accordance with ITB Sub-Clause 24.1, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

- (f) If our bid is accepted, we commit to obtain a performance security in accordance with ITB Clause 44 and GCC Clause 17 for the due performance of the Contract;
- (g) We, including any subcontractors or suppliers for any part of the contract, have nationality from eligible countries
- (h) We have no conflict of interest in accordance with ITB Sub-Clause 4.3;
- (i) Our firm, its affiliates or subsidiaries—including any subcontractors or suppliers for any part of the contract—has not been declared ineligible by the Bank, under the Purchaser’s country laws or official regulations, in accordance with ITB Sub-Clause 4.6;
- (j) The following commissions, gratuities, or fees have been paid or are to be paid with respect to the bidding process or execution of the Contract: *[insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity]*

Name of Recipient	Address	Reason	Amount
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

(If none has been paid or is to be paid, indicate “none.”)

- (k) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed.
- (l) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

- (m) We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.
- (n) We undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely, "Prevention of Corruption Act 1988."

Signed: *[insert signature of person whose name and capacity are shown]*

In the capacity of *[insert legal capacity of person signing the Bid Submission Form]*

Name: *[insert complete name of person signing the Bid Submission Form]*

Duly authorized to sign the bid for and on behalf of: *[insert complete name of Bidder]*

Dated on _____ day of _____, _____ *[insert date of signing]*

Price Schedule Forms

*[The Bidder shall fill in these Price Schedule Forms in accordance with the instructions indicated. The list of Packages in column 1 of the **Price Schedules** shall coincide with the List of Goods and Related Services specified by the Purchaser in the Schedule of Requirements.]*

PRICE SCHEDULE

Date: _____ NCB No: _____ Alternative No: _____ Page No. _____ of _____								
1	2	3	4	5	6	7	8	9
Package No.	Description of Goods	Delivery Date	Quantity and physical unit	Unit price EXW [including excise duty if any]	Total EXW price per line item [including Excise Duty if any] (Col. 4×5)	Price per line item for inland transportation, insurance and other services required to convey the Goods to their final destination	Sales, vat, and other taxes payable per item if Contract is awarded (in accordance with ITB 14.6(a)(ii))	Total Price per line item (Col. 6+7)
<i>[insert number of the item]</i>	<i>[insert name of Good]</i>	<i>[insert quoted Delivery Date]</i>	<i>[insert number of units to be supplied and name of the physical unit]</i>	<i>[insert EXW unit price]</i>	<i>[insert total EXW price per line item]</i>	<i>[insert the corresponding price per line item]</i>	<i>[insert sales tax and other taxes payable per line item if Contract is awarded]</i>	<i>[insert total price per item]</i>
1.	CHNS Analyzer with Accessories		1 Set					
2.	HPLC with Accessories		1 Set					

3.	Gas Chromatograph with FID+ Methanizer + Columns + Other Accessories		1 Set					
4.	Total Station with Accessories		3 Sets					
5.	XRF-Spectrometer (Hand held) with Accessories		1 Set					
6.	Magnetic Barrier Laboratory Separator		1 Set					
7.	Underwater PAM Fluorometer with Accessories		1 Set					
8.	Atomic Absorption Spectrophotometer		1 Set					
9.	Air Sampler with Accessories		3 Sets					
10.	Gas Chromatograph with FID + ECD +Column + Accessories		1 Set					
11.	Gas Chromatograph with NPD+ PFPD+ ECD + Column + Accessories		1 Set					
12.	Gas Chromatograph with ECD + FID with Head Space + Column + Accessories		1 Set					

13.	Total Organic Carbon Analyzer with Accessories		1 Set						
14.	Spectrofluorometer/ Fluorescence spectrophotometer with accessories		2 Sets						
15.	Microprocessor based pH Meter		6 Sets						
								Total Price	

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

Note: (a) *The bidder shall give list of spares for 2 years operation (or as required for the period specified in the evaluation criteria) separately indicating description, quantity, unit price and total price in the above format, for those items, whose scope of supply includes spare parts as per technical specification.*

Price and Completion Schedule - Related Services

Date: _____				Alternative No: _____		
NCB No.: _____				Page No. _____ of _____		
1	2	3	4	5	6	7
Service No.	Description of Services (excludes inland transportation and other services required in India to convey the goods to their final destination)	Country of Origin	Delivery Date at place of Final destination	Quantity and physical unit	Unit price	Total Price per Service (Col. 5*6)
<i>[insert number of the Service]</i>	<i>[insert name of Services]</i>	<i>[insert country of origin of the Services]</i>	<i>[insert delivery date at place of final destination per Service]</i>	<i>[insert number of units to be supplied and name of the physical unit]</i>	<i>[insert unit price per item]</i>	<i>[insert total price per item]</i>
1.	Cost of CMC(Maintenance, repair including supply of spare parts and updates of the supplied goods) for Year 1 after Warranty					
2.	Cost of CMC(Maintenance, repair including supply of spare parts and updates of the supplied goods) for Year 2 after Warranty					
Total Bid Price						

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

BID SECURITY (BANK GUARANTEE)

[The Bank shall fill in this Bank Guarantee Form in accordance with the instructions indicated.]

[insert Bank's Name, and Address of Issuing Branch or Office]

Beneficiary: *[insert name and address of Purchaser]*

Date: *[insert date]*

BID GUARANTEE No.: *[insert bid Guarantee number]*

We have been informed that *[insert name of the Bidder]* (hereinafter called "the Bidder") has submitted to you its bid dated *[insert date]* (hereinafter called "the Bid") for the execution of *[insert name of Contract]*.

Furthermore, we understand that, according to your conditions, bids must be supported by a Bid Guarantee.

At the request of the Bidder, we *[insert name of Bank]* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *[insert amount in figures expressed in the currency of the Purchaser's Country or the equivalent amount in an international freely convertible currency]*, *[insert amount in words]* upon receipt by us of your first demand in writing accompanied by a written statement stating that the Bidder is in breach of its obligation(s) under the bid conditions, because the Bidder:

- (a) has withdrawn its Bid during the period of bid validity specified by the Bidder in the Bid Submission Form; or
- (b) having been notified of the acceptance of its Bid by the Purchaser during the period of bid validity as stated in the Bid Submission Form or extended by the Employer at any time prior to expiration of this period, (i) fails or refuses to execute the Contract, if required, or (ii) fails or refuses to furnish the Performance Security, in accordance with the ITB, and (iii) does not accept the correction of Bid price pursuant to ITB Clause 31.

This Guarantee will expire: (a) if the Bidder is the successful Bidder, upon our receipt of copies of the Contract signed by the Bidder and the Performance Security issued to you upon the instruction of the Bidder; or (b) if the Bidder is not the successful Bidder, upon the earlier of (i) our receipt of a copy of your notification to the Bidder that the Bidder was unsuccessful; or (ii) forty-five days after the expiration of the Bidder's Bid.

Consequently, any demand for payment under this Guarantee must be received by us at the office on or before that date.

This Guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458.

[Signature(s) of authorized bank's representative(s)]

MANUFACTURER'S AUTHORIZATION

*[The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are legally binding on the Manufacturer. The Bidder shall include it in its bid, if so indicated in the **BDS.**]*

Date: *[insert date (as day, month and year) of Bid Submission]*

NCB No.: *[insert number of bidding process]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

To: *[insert complete name of Purchaser]*

WHEREAS

We *[insert complete name of Manufacturer]*, who are official manufacturers of *[insert type of goods manufactured]*, having factories at *[insert full address of Manufacturer's factories]*, do hereby authorize *[insert complete name of Bidder]* to submit a bid the purpose of which is to provide the following Goods, manufactured by us *[insert name and or brief description of the Goods]*, and to subsequently negotiate and sign the Contract against the above IFB.

We hereby extend our full guarantee and warranty in accordance with Clause 28 of the General Conditions of Contract, with respect to the Goods offered by the above firm against this IFB.

No company or firm or individual other than M/s. _____ are authorized to bid, and conclude the contract for the above goods manufactured by us against this specific IFB.

Signed: *[insert signature(s) of authorized representative(s) of the Manufacturer]*

Name: *[insert complete name(s) of authorized representative(s) of the Manufacturer]*

Title: *[insert title]*

Duly authorized to sign this Authorization on behalf of: *[insert complete name of Bidder]*

Dated on _____ day of _____, _____ *[insert date of signing]*

Note – Modify this format suitably in cases where manufacturer’s warranty and guarantee are not applicable for the items for which bids are invited. If the supply consists of number of items, indicate the specific item (s) for which alone the above authorization is required.

SECTION V. – ELIGIBLE COUNTRIES

Public Information Center

Eligibility for the Provision of Goods, Works and Services in Bank-Financed Procurement

1. In accordance with Para 1.8 of the Guidelines: Procurement under IBRD Loans and IDA Credits, dated May 2004, the Bank permits firms and individuals from all countries to offer goods, works and services for Bank-financed projects. As an exception, firms of a Country or goods manufactured in a Country may be excluded if:

Para 1.8 (a) (i): as a matter of law or official regulation, the Borrower's Country prohibits commercial relations with that Country, provided that the Bank is satisfied that such exclusion does not preclude effective competition for the supply of the Goods or Works required, or

Para 1.8 (a) (ii): by an Act of Compliance with a Decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's Country prohibits any import of goods from that Country or any payments to persons or entities in that Country.

2. For the information of borrowers and bidders, at the present time firms, goods and services from the following countries are excluded from this bidding:⁶

(a) With reference to paragraph 1.8 (a) (i) of the Guidelines:

(b) With reference to paragraph 1.8 (a) (ii) of the Guidelines:

⁶ Any questions regarding this list should be addressed to the Director, Procurement Policy and Services Group, Operational Core Services Network, The World Bank

PART 2 - SUPPLY REQUIREMENTS

Section VI. Schedule of Requirements

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1. List of Goods and Delivery Schedule

Package No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date		
					Earliest Delivery Date	Latest Delivery Date	Bidder's offered Delivery date [to be provided by the bidder]
<i>[insert item No]</i>	<i>[insert description of Goods]</i>	<i>[insert quantity of item to be supplied]</i>	<i>[insert physical unit for the quantity]</i>	<i>[insert place of Delivery]</i>	<i>[insert the number of days following the date of effectiveness of the Contract]</i>	<i>[insert the number of days following the date of effectiveness of the Contract]</i>	<i>[insert the number of days following the date of effectiveness of the Contract]</i>
1.	CHNS Analyzer with Accessories	Set	1	Please refer BDS Clause 14.6 (a) (iii)	60 Days	90 Days	
2.	HPLC with Accessories	Set	1		60 Days	90 Days	
3.	Gas Chromatograph with FID + Methanizer + Columns + Other Accessories	Set	1		60 Days	90 Days	
4.	Total Station with Accessories	Set	3		60 Days	90 Days	
5.	XRF-Spectrometer (Hand held) with Accessories	Set	1		60 Days	90 Days	
6.	Magnetic Barrier Laboratory Separator	Set	1		60 Days	90 Days	

7.	Underwater PAM Fluorometer with Accessories	Set	1		60 Days	90 Days	
8.	Atomic Absorption Spectrophotometer	Set	1		60 Days	90 Days	
9.	Air Sampler with Accessories	Set	3		60 Days	90 Days	
10.	Gas Chromatograph with FID + ECD +Column + Accessories	Set	1		60 Days	90 Days	
11.	Gas Chromatograph with NPD+ PFPD+ ECD + Column + Accessories	Set	1		60 Days	90 Days	
12.	Gas Chromatograph with ECD + FID with Head Space + Column + Accessories	Set	1		60 Days	90 Days	
13.	Total Organic Carbon Analyzer with Accessories	Set	1		60 Days	90 Days	
14.	Spectrofluorometer/ Fluorescence spectrophotometer with accessories	Set	2		60 Days	90 Days	
15.	Microprocessor based pH Meter	Set	6		60 Days	90 Days	

1. The Bidder should furnish a detailed operations and maintenance manual for each appropriate unit of the supplied goods and equipments.
2. The Supplier is responsible for Performance of on-site assembly and start-up of the supplied instrument units.
3. The Supplier is responsible for all unpacking, assemblies, wiring, installations, cabling between instrument units, connecting it

to the computer (wherever applicable) and connecting to power supplies. The Supplier will test all operations of the instruments, measurements and data production, storage & output and accomplish all adjustments necessary for successful and continuous operation of the instrument at all installation sites.

4. Warranty for 1 year
5. The equipment price shall cover all costs including installation, tests, trials and commissioning at Final (Project Site) Destinations as specified in BDS(Section II/ITB 14.6 (a) (iii)), Warranty Cost and Training to Scientific and Technical Staff for each of the Line Items in the List of Goods and Delivery Schedule as in the Table above.
6. Training is to be imparted to the Scientific and Technical Staff at each of the destinations as specified in the BDS(Section II/ITB 14.6 (a) (iii)) in one batch (Two Scientific & Two Technical Personnel) within 15 days of installation of the equipment with a repeat training after 15 days of initial training.

2. List of Related Services [ITB Clause 14.6(b)] and Completion Schedule

Service	Description of Service	Quantity ¹	Physical Unit	Place where Services shall be performed	Final Completion Date(s) of Services
<i>[insert Service No.]</i>	<i>[insert description of Related Services]</i> <i>[Insert after modifying as appropriate deleting inapplicable items from the following:]</i>	<i>[insert quantity of items to be supplied]</i>	<i>[insert physical unit for the items]</i>	<i>[insert name of the Place]</i>	<i>[insert required Completion Date(s)]</i>
1.	Cost of CMC (Maintenance, repair including supply of spare parts and software updates of the supplied goods) for Year 1 after Warranty			Please refer BDS Clause 14.6 (a) (iii)	Service required every quarter
2.	Cost of CMC (Maintenance, repair including supply of spare parts and software updates of the supplied goods) for Year 2 after Warranty				Service required every quarter

1. For each package separately, if the bidder is quoting for more than one Package.

3. Technical Specifications

The Bidder has to prepare a comparison sheet as below -

Package No.	Name of the Item	Required Specifications as per the Bid Document	Bidder's Offered Specifications	Remarks/ Deviations, if any
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

Package-wise Required Technical Specifications

Package 1 - CHNS Analyzer with Accessories

Fully automated PC controlled CHNS Elemental analyzer for:

- Soils and sediment with low to **very high salt content**
- Biological samples
- Carbonate (such as shells)

Particulars	Description								
Operating mode	CHNS, CHN, CNS, CN, N, S, Trace S (sub ppm level)								
Sample weight Range	0.1 – 100 mg (or more) according to the sample nature								
Detection Range	<ul style="list-style-type: none"> • Should be compulsorily able to perform analysis of sediments with high salt content, biological samples, and carbonate sample • 100 PPM (or lower) to 100% for all elements with the capacity of measuring following absolute weights C : 0 – 40 mg N : 0 – 15 mg H : 0 – 3 mg S : 0 - 6 mg • Minimum detection limit: < 100 PPM with TCD with standard deviation: $\leq 0.1\%$ of absolute. • Accuracy of CHNS determinations as below : <table style="margin-left: 20px; border: none;"> <tr> <td style="text-align: right;">Theoretical Value</td> <td style="text-align: left;">Observed Value or better</td> </tr> <tr> <td style="text-align: right;">10.00 %</td> <td style="text-align: left;">10.00 % \pm 0.1</td> </tr> <tr> <td style="text-align: right;">50.00 %</td> <td style="text-align: left;">50.00 % \pm 0.3</td> </tr> <tr> <td style="text-align: right;">90.00 %</td> <td style="text-align: left;">90.00 % \pm 0.3</td> </tr> </table> 	Theoretical Value	Observed Value or better	10.00 %	10.00 % \pm 0.1	50.00 %	50.00 % \pm 0.3	90.00 %	90.00 % \pm 0.3
Theoretical Value	Observed Value or better								
10.00 %	10.00 % \pm 0.1								
50.00 %	50.00 % \pm 0.3								
90.00 %	90.00 % \pm 0.3								
Leak detection	Leak detection check at startup and Automatic leak detection using the software								
Gases	<ul style="list-style-type: none"> • The flows of carrier (He) and combustion gases (O₂) should be controlled by temperature regulated electronic flow meter • Software controlled gas pulse for efficient and economical combustions. • Closed solenoid valves to prevent gas wastage during laboratory power cut • In standby condition, the Helium flow should decrease to 10 ml/min or less while the Oxygen flow should be cut off. • The possibility of using Argon gas as a carrier gas without any hardware change (software selectable) 								
Furnace	<ul style="list-style-type: none"> • The furnace should be capable of handling samples with high salt content (marine samples) • The furnace should be capable of effective separation of 								

	<p>complex matrix samples</p> <ul style="list-style-type: none"> • Elemental Analyzer should have with double reactor furnace (separate combustion and reduction tube configuration) with independent temperature control of both. • Should have provisions to allow removal of ash of composted samples without the need to change the combustion tube. Ash collector should be capable of preventing any adverse affect on catalyst and quartz combustion tube. • 5 years warranty on furnace system (To be backed by certificate from the manufacturer which must be submitted at the time of bid)
Detector	<ul style="list-style-type: none"> • Temperature stabilized TCD for measurement of CHNS, NDIR for trace S. • Detector range (for C; H, N, S) : 0.005 % to 100% • 5 years warranty on TCD detector (To be backed by certificate from manufacturer which must be submitted at the time of bid)
Autosampler	<ul style="list-style-type: none"> • Auto sampler integrated electromechanical autosampler with 60 positions or more
Analysis	<ul style="list-style-type: none"> • Automated and complete PC controlled operation • Advanced chromatographic separation of gases • Complete instrument control over elution process with provision of auto zero of baseline after each element elution • Simultaneous CHNS analyzer with one sample intake.
Traps	<ul style="list-style-type: none"> • Water (moisture) and carbon dioxide chemical trap • Should be switched in/out of line by software to avoid leaks on changing analytical mode • Software selectable
Software control	<ul style="list-style-type: none"> • Software compatible with latest version of the Operating System (preferably window 7 or higher) • Display of set and actual pressures, flow rates, temperatures, number of samples analyzed with the provision for setting maintenance interval with a warning when maintenance is needed • Software should be capable of full instrument control, data acquisition, processing, reprocessing, reporting • Software controlled oxygen injection to match sample requirements thereby preserving the life of the consumables. • Multipoint calibration, regression linear to the 4th order, stable over months • Suitable PC-Printer must be included.
Referencing	<ul style="list-style-type: none"> • References of known isotopic and elemental composition are placed in the auto sampler as for normal samples. • Option to use reference gas injection at mass spectrometer. • Reference standard to be included with the system

Microbalance	<ul style="list-style-type: none"> • Suitable microbalance with hands free operation (Metler/ Sartorius /Shimadzu or equivalent) • Option for interface to the analyzer for direct transmission of weighing data should be included • Readability 0.01 mg or better • Repeatability 0.05 mg or better • Fully automatic time- and temperature-controlled internal adjustment and linearization
Accessories	<ul style="list-style-type: none"> • Computer and printer should also be offered for running the equipment • Consumables for atleast 3,000 sample analyses should also be included in the quote. • Required spares kit for 2 year trouble free operation to be offered • The vendor should supply a set of standards (Cystine, Sulphanilamide, BBOT and Methionine) sufficient for the calibration and operation of the machine for one year. • The price of required consumables and spare kits has to be quoted additionally with the bid.
Others	<ul style="list-style-type: none"> • The vendor should indicate all the auxiliary requirements for successful installation of the system.
Optional feature	
Energy saving	Automatic power off after electric furnace cools down

Upgradable Modules

- Total organic carbon analysis kit and auto sampler for solid samples should be offered as an option.
- Optional FPD option for low level sulfur analysis should be quoted.

Package 2 - HPLC with Accessories

Sl. No.	Particulars	Specifications
1	General	Analysis of organic acids, flavanoids, phenolics, amino acids, large proteins, carbohydrate, anthocyanin, Phytopigments etc. Should offer smooth transition from standard HPLC to the Rapid Resolution Technology or equivalent. Must provide reliability and robustness for precision analysis. The system must be MS compatible & also should be able to do chromatography for variety of macro molecules.
2	System specifications	a) No. of Solvents: Up to four solvents. b) Gradient Formation: Low pressure mixing quaternary gradient c) Degasser: Five or more Channel Vacuum Degasser d) Gradient mixing accuracy $\pm 0.5\%$, Operating temperature 4-35°C, e) Flow rate range: 0.001 Up to 2.000 mL/min. or better f) Pump Seal Wash: Automatic
2a		Flow rate precision < 0.06 % RSD or 0.02 min SD whichever is greater
2b		Maximum operating pressure: 14000 psi or better , Gradient type High-pressure mixing
2c		Composition accuracy $\leq 0.5\%$ Composition, precision < 0.25% SD at 1.0 ml/ min, Composition range 0-100%, pH range 2-11
2d		Micro-volume double plunger, plunging capacity 10 μ L, Automated Plunger rinsing
2e		Mixing system: Electromagnetic valve open/close time control
2f		Automatic and continuous compressibility compensation without user intervention. On demand automatically achieve desired pH and ionic strengths gradients from pure solvents and concentrated stock buffers.
2g		Fraction collector (Optional) :Should have provision for collecting the detected compounds. Degasser Should be compatible with binary/quaternary pump
3	Auto sampler	Auto sampler with cooling system & manual option specifications, should withstand 14000 psi or more, volume of injection: 0.1 to 50 μ L Injection Type: The mobile Phase should flow through needle at all the time except the time of injection in order to reduce the carry over. Also there should be a facility to wash the outer sheath of the needle. No. of Sample Vials: 90 vials of ~2 mL or more
		a) Sample delivery precision: < 1.0% RSD or better b) Sample Temp Control: 4°C to 40°C in 0.1°C increments c) Sample Carryover: < 0.004% d) Advanced Features: Auto Dilution
		High performance auto sampler includes liquid leakage sensor, pH range 2-11 or more, needle rinsing.
4	Column Oven	a) Column Temp Control: ~20°C to ~90°C in 0.1°C increments. b) Connector to connect with column chip for tracking and archive column usage history automatically.
5	Columns	a) Columns with guard columns, rapid resolution high definition C-18 column 2nos. pH range 2-10, C18 column with less than 2micron particle size should be quoted. C-8 column 1 nos (acid and alkaline resistant) compatible with the HPLC
5a		Guard columns 6 nos., finger-tight, direct-connect units, capable of matrix removal and protect analytical columns.
5b		Column oven Peltier cooling and cooling for protein analysis, 10°C below ambient to at least 60 C. provision to upgrade with a column switching valve. Temp accuracy: $\pm 0.1^\circ$ C with calibration ± 0.5 C. Connector to connect with column chip for tracking and archive column usage history automatically.

6	Detectors	<p>PDA Detector The detector must have a dry noise specification of 10μAU, and a wet noise specification of 14μAU</p> <ol style="list-style-type: none"> 1) The detector must have a wavelength accuracy of \pm 1nm 2) The detector must have linearity of 5% at 2.0AU 3) The detector must have wavelength range from 190-600 nm or higher. <p>• Lamp</p> <ol style="list-style-type: none"> 1) The detector must have a high brightness lamp with a guaranteed life of 2000 Hours. 2) The detector must have only one/two lamp source/s and not require more than one Lamp for operation across the entire detector wavelength range. <p>Flow Cells</p> <ol style="list-style-type: none"> 1) The detector must have flow cells designed to optimize UHPLC fluidic Technology
6a		To be quoted separately with detailed specifications for wave length, slit width, diodes, software, path length etc
6b		<p>Fluorescence detector (optional) To be quoted separately with detailed specifications,</p> <ol style="list-style-type: none"> 1) FLR Detector is a multi-channel, multi-wavelength fluorescence detector suitable for fast HPLC. 2) FLR detector' should have low-volume flow cell design, low-noise electronics and support for data rates up to 80 Hz. 3) FLR detector includes Leak Sensor assembly. 4) Detector wavelength range is 200-900nm. 5) Signal-to-noise ratio should be >1000 (Water Raman band). 6) The detector incorporates four data channels, two wavelength pairs per channel, and supports both 2D and 3D scanning injection modes.
7	Software	<ol style="list-style-type: none"> a) Should have licensed software (window based) with 3D and peak purity. Compatible with all the detectors. Capacity to process signals and wavelengths. Compatible to import and export data. Flexible report publisher to make report in whatsoever format. The software should be quoted with a relational secured data base; it should support windows operating system or independent of operating system like SQL/Oracle and an interface for the software to the database for strong integrity and security of data. b) The raw data should be available for processing at any time after modification of 'n' number of times. c) All meta data are automatically managed, linked and versioned d) Apex integration & Gaussian skimming should be possible. e) Fast LC system software shall provide a calculator for scaling HPLC methods for transferring from HPLC to Fast LC.
8	Computer	Suitable latest branded computer with 4GB RAM, i5 series processor or higher, min 1TB hard disk, Antivirus licensed copy min 3 year validity, with 21 inch LCD monitor, DVD writer, external portable hard disk for data storage (min 1TB), laser printer with back to back printing option should be quoted separately with the system. Offline work station with high end specifications.
9	Accessories	Early maintenance feedback for continuous tracking of instrument usage in terms of seal wear and volume of pumped mobile phase. User settable limits. Electronic records of maintenance of errors. UPS \geq 5KVA UPS with 5 hours battery backup with latest model.

Package 3 - Gas Chromatograph with FID+ Methanizer + Columns + Other Accessories

Item No:	Specifications	
1	Column	Capable of housing at least two columns (one capillary; min 30m length and one packed column) Oven with operating temperature range: + 4°C to 450°C Heat up time: 50°C to 450°C in 3 mins or less. Temperature stability: ± 0.1 °C Ramp: 15 ramp or better, Plateau: 16 or better Temperature programming and overheat protection facility
2	Pneumatic based or equivalent gas flow control	Programmable Electronic control via software built in GC. Automatic leak testing Modes of operation – Constant flow, constant pressure, programmable flow, programmable pressure, and constant linear velocity Backflush System needed.
3	Injection ports	Two (One for packed column and one capillary split and splitless) Flow and temperature setting through GC control Temperature Range : Ambient to 450 °C
3a	Programmable Temperature Vaporization Injector	Temperature programmable inlet with large volume injection Automatic control of split vent and purge flows. Electronic pressure and flow control of column flow, split ratio etc. Pressure programming, Temperature programming
3b	Packed column injector	Electronic flow control of column flow Facility to fit 1/8 inch or 1/4 inch packed columns Separate heating zone Digital display of gas flow, temperature programming etc.
4	Detectors:	FID detectors compatible with methanizer
4a	Flame Ionisation Detector (FID)	Temperature Range : to 450° C Detectivity: 1.5×10^{-12} grams of carbon per second or equivalent (dodecane) Linearity: better than 10^7 High speed FID acquisition rate of 200- 250Hz Detection Limit for CH₄ : 0.1 ppm Detection Limit for CO₂ : 1 ppm
	Methanizer	Suitable for accurate atmospheric CO ₂ analysis; temperature range: 350-600°C
5	Software	Windows based Good Laboratory Practices compliance should be documented Multi-instrument capability feature Simultaneous data acquisition from the detector
6		
6	Headspace Sampler Independent	Sampling method: Pneumatic loop method and pressure-balanced sampling (~20ml volume) Sample thermostat needed with ~10 vial caps or more

		Compatible with the supplied GC model as well as higher versions
7	Columns	<p>Suitable columns for the estimation of atmospheric CO₂ and CH₄ should be quoted.</p> <p>Separately quote following packed column compatible with GC POROPAK Q Column (2 Columns), Length - 6', Diameter - 1/8", Mesh Size - 80/100 Max Temp : 250° C. (Optional)</p> <p>POROPAK Q Column, Length - 3 m, Diameter - 0.2 cm, Mesh Size - 80/100, Max Temp : 250° C, Pre-column absorbent fitting, Absorbent - Carbosorb, Magnesium per chlorate (2 Columns), <i>HAYESEB-B column</i>. (Optional)</p>
8	Accessories and consumables	<p>Gas tight Syringes, Graphite Ferrules etc.</p> <p>Septa for injection ports: 100 Nos.</p> <p>Installation kit: Must include the Gas Purification System</p> <p>Soap bubble flow meter</p> <p>Copper or SS tubing for gases</p> <p>Required consumables for installation of instrument</p> <p>Other materials required for installation and operation of instrument</p>
9	Computers	<p>Latest model Pentium IV computer compatible with Windows 7 Professional and higher versions from standard company along with colored laser printer.</p>
	Compatibility and upgradability	<p>GC should be compatible with methanizer, Headspace, Auto Gas Sampling Valves, Thermal Desorber, Purge & Trap, Pyrolyzer etc.</p> <p>GC also should be upgradable to MS detector and GC - MS mode.</p>

Package 4 - Total Station with Accessories

Sl. No.	SPECIFICATIONS	
	Angle measurement	
1.	Accuracy in vertical and horizontal angle	5"
2.	Angle reading (least count)	0.1" in angle
3.	Automatic level compensator	Dual-axis compensator +/- 4" or better
4.	Magnification	30x
5.	Aperture	40mm
6.	Field of view at 100m	1° 30 Sec or better
	Distance Measurement	
7.	Accuracy in Prism Mode	2+ 2ppm or better
8.	Accuracy in Non Prism/Reflector-less	3+ 2ppm upto 400m or better
9.	Distance least count	0.1mm in distance
	Measurement range	
10.	Single circular prism:	3000 m in manual mode or better 800m in auto lock mode or better
11.	360deg Prism	2000m in manual or better 600m in auto lock range or better
12.	Non Prism /Reflector-less	400m or better
	Display, Memory & Communication	

13.	Keyboard	Full Alphanumeric keyboard with function keys back-lighted and identical on both faces to be effectively used in traversing application.
14.	Processor speed	500Mhz or better
15.	Interface	RS232 and Integrated Blue tooth communication
16.	Display	High resolution full VGA with 320x240 pixels or better. LED back-lighted and touch screen.
17.	Memory, Ports and communications	128 MB or more Internal memory, SD Card/USB etc.,
18.	Graphical Representation	Creation of points, Line, Polygon features should be available onboard and it should be seen as a map and to be downloaded to computer. Machine to have capability to take AutoCAD drawings as background Map
Servo/Motorisation, Automatic Target aiming and Search		
19.	Shortest search distance	1.5m or better
20.	Search time	Less than 10 Sec
21.	Rotation speed	45°/Sec or better
22.	Prism Search Window	Definable by the user requirement
Power Management		
23.	Battery & Operating time	Li-ion battery with 5Hrs or better on continuous operation
Environmental Specifications		
24.	Operating temperature	0 to + 50° C or better
25.	Storage Temperature	0 to + 60° C or better
26.	Dust and water proofing	IP55 or better
Onboard Applications		
27.	Applications	Standard applications like Surveying, Setting out, setting up of the station and orientation, Coordinate Geometry calculations etc., should be available.
28.	Additional Applications Required	<ul style="list-style-type: none"> ➤ Onboard Traverse Application ➤ Horizontal Plane Scanning ➤ Vertical Plane, Scanning ➤ Cross Sectional survey
Single user downloading and post processing software in desktop/Laptop		
29.	File management, Printing and plotting, editing, merging, extracting files, Configuring the units, code table XML export, Fit, zoom, window, pan, redraw, Real-time Zoom with mouse, CAD output, and compatibility to AutoCAD, DWG and DXF, DGN etc with legend settings. Create points, line Arc, circle, spiral, spline, combined curve, radiation, alignment, polygon, intersection points, line segments, Line conversions, Area, Validating data, Generation of Contour, 3D view and volume calculations. Should support industry standard GIS and data produced should be able to merge with data by total stations of other make. Compatible to run in windows 7	

	with Hardware lock protected.	
	Standard OEM (Original Equipments Manufacturer) Accessories to be supplied	
30.	Accessories required per total station	<ul style="list-style-type: none"> ➤ Wooden Tripod – 1 No. ➤ Circular Prism with Holder and Target plate– 1 No. ➤ Pole with Bipod – 1 No. ➤ 360 degree Prism – 1 No. ➤ Battery – 2 Nos. ➤ Battery Charger – 1 No.

Package 5 - XRF-Spectrometer (Hand held) with Accessories

Handheld X-Ray Fluorescence Analyser for high speed, high precision and calibrated for qualitative, and quantitative analysis of elements in the field of Geological/Geochemical, RoHS Material/Consumer Products, environmental analysis and Metal & alloy analysis for trace element to major element analysis.

The instrument should have the following specifications and configurations.

1. Excitation source : X-ray tube, Target Anode Rh / W, Rating min 40KV, and current 100 μ A or above.
2. Good geometry between source, sample and detector for better fluorescence yield
3. Detector : High resolution/sensitive Silicon Drift Detector (SDD) or modified Silicon Drift Detector with resolution of ~140 - 170ev @ ~ 60,000 to 100,000 cps.
4. Laptop with latest processor and windows operating system for data storage,
5. Communication Software : Compatible communication software should provide for automatic date exchange with Laptop.
6. PC connection cables (USB and RS-232)
7. Storage Capacity : ~ 8,000 results
8. RoHS Material/Consumer Products: Analysis of RoHS/Consumer Products material. Sample size: Provision to have to analysis small sample size by small spot adopter for min 2mm.
9. Display : Capable of showing result on color touch screen.
10. Elements to be analyzed : Mg (12) to U (92)
11. *Vendor* should provide complete list of calibrated elements which can be analyzed in Geological/Geochemical, RoHS Material/Consumer Products, environmental analysis and Metal & alloy samples.
12. Temperature Range : -10 Deg.C to +50 Deg.C.
13. Battery : rechargeable battery (2nos) along with charger, each should provide minimum 6Hrs constant use on a single charge.

14. Safety should be provided for protection against radiation which include shielding such that user shall not be exposure to radiation and instrument shall not be triggered unless the sample is detected, warning etc Safety certificate to be provided for safe operation.
15. Compatible PC software to transfer data of instrument in to PC.
16. Stand kit for tripod as per analytical requirement.
17. CRM samples: i) 316TI grade 01no, ii) SS 304 & 302 one no. each iv) Brass 70/30 one no v) RoHS one polymer & one soldering alloys standard.
18. Sample cups & suitable films to be quoted.
19. Camera for locating and storing images (Optional)
20. Analysis of elements like carbon and nitrogen (Optional)
21. carrying case (Optional)
22. Suitable Rock Sampler and Mill kit for collection of fine rock powders & milling and homogenize the samples. (Optional)
23. Storage Capacity extendable up to ~ 85,000 results using external memory device. (Optional)
24. Calibration Software (Optional)

Package 6 – Magnetic Barrier Laboratory Separator

It should be used for separating a mixture of diamagnetic and weakly paramagnetic grains. The magnetic system should be inclined so that the gravity urges particles toward the far side of the chute and down its length. The light colored diamagnetic grains are to be deflected along the magnetic barrier, while the darker paramagnetic grains should pass through it and out of the field in the channel on the far side of the divider. It should have the capability for providing separations according to slight differences in either paramagnetic or diamagnetic susceptibility.

It should consist the following:-

1. Regulated power supply with resistance sensitive voltage control to stabilize the current.
2. Tilt adjustable magnetic barrier system with spirit level and scale.
3. Regulated magnetic field control should allow ascending magnetic energy gradient across the width of the supply channel.
4. Control for regulating and monitoring of pulsed current preferably ranging from 0 to 100 mill amperes (mA) in coils of separator to allow selection and repetition of frequencies ranging from 3 to 35 Hertz (Hz) with capacity of ~20 g/hr.
5. Working with 220-240V A.C. at 50 HZ or suitable Transformer to reduce 220-240V A.C. to 115V A.C. at 50/60 Hz.
6. Capability for diamagnetic separation of material.

7. Low Field Control Unit.
8. Material should be visible as it enters the magnetic field and undergo separation allowing more rapid determination of the effectiveness of the separation.
9. It should allow separations exploiting weaker paramagnetic susceptibilities, either separating particles of one more diamagnetic susceptibility from those of a slightly different diamagnetic susceptibility or from weakly paramagnetic susceptibility or from non-magnetic particles.

SEPARATION IN THE BARRIER FIELD:-

The equipment should run continuously and the stream of particles traveling through a field of the magnetic Barrier Laboratory Separator should split by the opposed magnetic and nonmagnetic forces.

The material is to be moved by gravity across the field, through the succession of sheets of ascending magnetic force, towards the region of maximum transverse force. Particles of like susceptibility encounter like magnetic force per unit volume. Particles having susceptibility such that magnetic force opposing their motion exceeds the gravitational force are deflected in the vicinity of the sheet of maximum transverse force, while particles having susceptibility that is weaker or of opposite sign pass through it. A component of gravity urges both fractions toward a mechanical divider and out of the field.

DIAMAGNETIC SEPARATIONS:-

Many of the most valuable elements and inorganic compounds are diamagnetic in a relatively pure state, including, for example, barium, beryllium, bismuth, boron, carbon (including graphite and diamonds), germanium, gold, silicon, zircon and others. Most organic compounds are diamagnetic.

Relatively pure natural diamonds should be separated from diamonds with inclusions of other minerals for classifying and grading, and for separating synthetic from natural diamonds.

Standard parts for guiding particles into the Barrier field:

- (a) Diamagnetic feed trough,
- (b) Steep side slope feed trough,
- (c) Feed blade,
- (d) Feed trough assembly.

Working with 220-240V A.C. at 50 HZ or suitable Transformer to reduce 220-

240V A.C. to 115V A.C. at 50/60 Hz.

Package 7 – Underwater PAM Fluorometer with Accessories

PAM Underwater Fluorometer		
1	General	The DIVING-PAM Underwater Fluorometer is a worldwide unique instrument for studying in situ photosynthesis in underwater plants, including macroalgae, sea grasses and corals.
2	Technical Specifications:	
a		Measuring light source: Red LED, emission peak at 650 nm; 12 intensity settings, standard intensity 0.15 mmol m ⁻² s ⁻¹ PAR; modulation frequency 0.6 or 20 kHz; Auto 20 kHz function; burst-mode, 1/5 integrated intensity
b		Halogen lamp: 8 V/20 W blue enriched, filtered to give λ<710 nm; 12 intensity settings, max. intensity 6000 mmol m ⁻² s ⁻¹ PAR with continuous actinic illumination, max. intensity 18000 mmol m ⁻² s ⁻¹ PAR during saturation pulses
3	Signal detection:	PIN-photodiode protected by long-pass filter (λ>710 nm); selective window amplifier (patented)
4	Microcontroller:	Microcontroller based control
5	Data memory:	1Gb RAM, providing memory for 4000 data sets
6	Measured parameters:	F _o , F _m , F _{m'} , F, F _v /F _m (max. Yield), DF/F _{m'} (Yield), qP, qN, NPQ, PAR (using fiber quantum sensor), ETR (i.e. PAR x DF/F _{m'}), water temperature, water depth
7	Display:	2 x 24 character alphanumeric LC-display with backlight, character

		size 4.5 mm
8	User interface:	1 x 8 touch-sensitive keypad
9	PAR measurement:	0 to 20000 mmol m ⁻² s ⁻¹ PAR, in steps of 1 mmol m ⁻² s ⁻¹ PAR; using fiber quantum sensor
10	Water temperature measurement:	-10 °C to +60 °C, in steps of 1 °C
11	Water depth measurement:	0 to -70 m, in steps of 0.1 m
12	PC-terminal operation:	Via RS 232 interface using WinControl Software
13	Data output:	Data transfer on PC via RS 232 using WinControl Software
14	Power supply:	Internal rechargeable battery 12 V/2.1 Ah, providing power for up to 1000 yield measurements; Battery Charger MINI-PAM/L (90 to 260 V AC)
15	Operating temperature:	-5 to +45 °C
16	Dimensions:	Approx. Diameter 19 cm, length 39 cm
17	Accessories:	
a		Fiberoptics DIVING-F
b	Design:	Randomized 70 mm glass fibers forming single plastic shielded bundle with waterproof stainless steel adapter ends
c	Dimensions:	Active diameter 5.5 mm, outer diameter 8 mm, length 150 cm

Package 8 – Atomic Absorption Spectrophotometer

Photometer:	<ul style="list-style-type: none"> • Flame and furnace operation on a single instrument fully automated with dual atomizer design and software – controlled changeover of the atomizer between the two facilities • Operates in the wavelength range ~190 – 850 nm • High sensitivity : > 0.5 Abs. from 5 mg/L Cu • High precision : ~ 0.5% RSD • Spectral bandpass of ~ 0.2, 0.5 or 1.0 nm should be automatically selectable • Diffraction Grating with 1800 lines/mm • Fully automatic as well as operator controlled photometer settings (wavelength, slit width, etc.) • Solid state/ Photomultiplier Detector with high signal-to-noise ratio • Fully-automated lamp holder 6 or higher lamp cassette with software controlled lamp selection • Lamp alignment should be an easy and smooth operation • Auto switch off of lamps at the end of the analysis • Suitability for volatile elements such as arsenic, mercury and
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	<p>selenium</p> <ul style="list-style-type: none"> • Flame/ Furnace atomization system, which can analyze samples with high salt content and contaminated with a number of metal complexes.
Flame operation	<ul style="list-style-type: none"> • Universal, corrosion resistant, titanium burner with increased the efficiency and accuracy of flame analysis • Removable Burner (5 cm and 10cm) assembly with minimum maintenance required with facility for Auto recognition • . Single burner to both Air/acetylene as well as Nitrous oxide /acetylene applications. • Easy and seamless fully automatic alignment of burner • Fully automated computer-controlled burner system including automatic burner position optimization • Complete control and monitoring of gas flows through software, with automatic gas flow adjustments and automatic changeover between air acetylene to Nitrous oxide vice versa. without any manual intervention. • Continuum sources-double beam-high-intensity deuterium background correction. • Computer controlled for monitoring and control of fuel/oxidant ratio during gas flow changes, including nebulizer adjustment • Corrosion – resistant nebulizer, capable of handling strong acids. • Easy Cleaning for regular maintainable of nebulizer for clearing blockage etc.
Graphite furnace	<ul style="list-style-type: none"> • Longitudinal Zeeman background correction of 0.6 Tesla or higher, • Baseline Correction with auto zero option prior to atomization • Built-in furnace power supply • Ambient furnace temperature > 2000 °C. • High heating rates > 1500°C/s • Furnace dispensable volume ~ 0.1 ml with flushing volume ~ 1 ml • Transverse Heated Graphite furnace to provide constant temperature profile over the entire length of the tube. • Recirculating cooling system controlled by the instrument/controller and operational only during instrument operation. • Easy changing of graphite tube with no time-consuming tube alignment. • Color furnace camera to aid in method development. • Required gas Argon with gas consumption 750 ml / min or less
Autosampler	<ul style="list-style-type: none"> • Autosampler modules for flame analysis and furnace analysis accommodating at least 60 samples along with standards and pure water • Easy and software controlled changeover from flame analysis to the furnace graphite furnace without being removed

	<ul style="list-style-type: none"> • Automatic multi-point calibration using at least four or more standard solutions. • Automatic sample dilution for over range samples • Pipetting speed adjustable 		
Modules	<ul style="list-style-type: none"> • For analysis of small volume samples and sample with high matrix and salt content, flow injection module should be included in the quote • Software controlled Hydride generation system for analysis of Hg, As and other hydride forming elements with all required accessories. 		
Lamps	<ul style="list-style-type: none"> • Quotes for following lamps to be included • Aluminium, Antimony, Arsenic, Barium, Beryllium, , Bismuth, Boron, Cadmium, Calcium, Cesium, Cerium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Silicon, Sodium, Tin, Zinc • All the lamps should be warranted for 5,000 mA/h or equivalent and the software should have an usage meter to record the life. 		
Lamp minimum detection limits specific for elements		Flame	Graphite
	Cadmium	< 5 µg/L	< 0.5 µg/L
	Chromium	< 50 µg/L	< 1 µg/L
	Copper	< 5 µg/L	< 0.1 µg/L
	Lead	< 25 µg/L	< 1 µg/L
Hydride generation	Mercury < 0.02 µg/L	Arsenic < 0.05 µg/L	
Others	<ul style="list-style-type: none"> • Safety facilities for safe shutdown in case of sudden loss of air pressure. • Noise-less (<60 db) air compressor pump to be included in the quote 		
Software & PC	<ul style="list-style-type: none"> • Windows based 32-bit software, with complete system control, facilities for method and data storage, calculations and reporting and data reprocessing option; compatible with Window 7 or higher • Easy and self explanatory software • User method storable • Multiple calibration formats, including linear, non-linear, bracketing, method of standard additions and additions calibration. • Customizable sequencing during analysis • Option of Reanalysis of a particular sample as well as random analysis • Dilution correction • Automatic spike and recovery calculations, precision checks, online QC, sample prep duplicates, and over-calibration limits set up all with corrective actions • Autosave of the operation 		

	<ul style="list-style-type: none"> • Data transfer to popular formats
	<ul style="list-style-type: none"> • Intel Second Gen i5 or higher computer should be quoted with 500 GB hard disk drive and atleast 4 GB RAM
Optional	<ul style="list-style-type: none"> • Gas Cylinders and Regulators should be quoted. • Essential spares, consumables, accessories etc. for maintaining the equipment trouble free for a period of 2 years after warranty should be quoted.

Package 9 – Air Sampler with Accessories

Sl. No	Description
1. Inlet	Sampling Inlets for PM ₁₀ , PM _{2.5} , and TSPM
2. Flow	<ul style="list-style-type: none"> • Volumetric Flow Rate 1m³/Hr • Flow accuracy: ±2% • Microprocessor based digital flow controller for constant flow rate even as particulate matter loading in filter increases • Flow in LPM on digital display with a resolution of 0. 01 LPM under actual operating conditions. • Flow rate maintained constant with ±2% accuracy throughout sampling period.
3. Filter	<ul style="list-style-type: none"> • Filter holder: Anodised aluminium or any non-reactive and non-corrosive material • Filter Media: Quartz, Teflon or Glass Fibre filter, • Standard 47 mm filter holder with filter support rod and SS mesh adapter.
4. User interface	<ul style="list-style-type: none"> • Interface: accessed via in-built keypad and LCD display. • Simple user programming of sampling periods, including multiple daily, weekly, 1-in-x days sampling sequences as well as continuous operation • Data Storage: Internal data logging with time/date stamp, total STP corrected and uncorrected sample volume, average temperature, pressure. • USB serial interface to enable data to be easily downloaded to PC • Display: Flow rate LPM, Volumetric flow, Ambient temperature, Filter temperature, Barometric pressure • Output terminal: USB transferring data into pc.
5. Operation	<ul style="list-style-type: none"> • Cut-off for PM¹⁰ particles through an omni-directional jet impactor system • Collection of PM^{2.5} is on main filter after passage of airstream through WINS impactor • Operating Environment: Operating ambient relative humidity 0–99%. temperature 0-50°C, • Quiet operation: Sampler should have extremely quiet operation as it may be used in residential locations. < 60 db • Calibration: Flow rate calibration kits to be provided
6. Other	Clock / Timer system: Programmable real time control system with automatic start & stop & digital display of date& time & time of sampling. Accuracy ± 2 min / month Construction: Weatherproof enclosure required .
7. Filter paper	Filter paper for collection of :47 mm dia PTFE
8. Power Requirement	230V AC, 50 Hz

Package 10 – Gas Chromatograph with FID + ECD +Column + Accessories

Item No:	Specifications	
1	Column	Capable of housing at least two columns (Capillary column; length 30m and packed columns) Oven with operating temperature range: + 4°C to 450°C Heat up time: 50°C to 450°C in 4 mins or less. Ramp: 15 ramp or better, Plateau: 16 or better Temperature stability: ± 0.1 °C Temperature programming and overheat protection facility
2	Pneumatic based or equivalent gas flow control	Programmable Electronic control via software built in GC. Automatic leak testing Modes of operation – Constant flow, constant pressure, programmable flow, programmable pressure, and constant linear velocity Backflush System needed.
3	Injection ports	Two (one packed column injector; one Capillary split and splitless) Flow and temperature setting through GC control Temperature Range : Ambient to 450 °C
3a	Programmable Temperature Vaporization Injector	Temperature programmable inlet Automatic control of split vent and purge flows. Electronic pressure and flow control of column flow, split ratio etc. Pressure programming, Temperature programming
3b	Slit and splitless injector	Electronic flow control of column flow Separate heating zone Digital display of gas flow, temperature programming etc.
4	Detectors:	FID and ECD. Both detectors operational at the same time
4a	Electron capture detector (ECD)	Electronic pressure and flow control of auxillary/purge/make gases. Radioactive source: ⁶³ Ni Detection Limit for N₂O : 50ppb
4b	Flame Ionisation Detector (FID)	Temperature Range : to 450° C Detectivity: 1.5 x 10 ⁻¹² grams of carbon per second or equivalent Linearity: better than 10 ⁷ High speed FID acquisition rate of 250Hz Detection Limit for CH₄ : 0.1 ppm Detection Limit for CO₂ : 1 ppm
5	Software	Windows based Good Laboratory Practices compliance should be documented Multi-instrument capability feature Simultaneous data acquisition from three detectors

6	Columns	<p>Suitable columns for the estimation of atmospheric CO₂, CH₄ and N₂O should be quoted. Columns should support the mentioned detection limits for individual gases.</p> <p>Separately quote following packed column compatible with GC POROPAK Q Column (2 Columns), Length - 6', Diameter - 1/8", Mesh Size - 80/100 Max Temp : 250° C. (Optional)</p> <p>POROPAK Q Column, Length - 3 m, Diameter - 0.2 cm, Mesh Size - 80/100, Max Temp : 250° C, Pre-column absorbent fitting, Absorbent - Carbosorb, Magnesium per chlorate (2 Columns), HAYESEP-B column . (Optional)</p>
7	Accessories and consumables	<p>Syringes, Graphite Ferrules etc. Septa for injection ports: 100 Nos. Installation kit: Must include the Gas Purification System Soap bubble flow meter Copper or SS tubing for gases Required consumables for installation of instrument Other materials required for installation and operation of instrument</p>
8	Computers	<p>Latest model Pentium IV computer compatible with Windows 7 Professional and higher versions from standard company along with colored laser printer.</p>
9	Compatibility and upgradability	<p>GC should be compatible with methanizer, Headspace, Auto Gas Sampling Valves, <i>customized gas equilibrators</i>, Thermal Desorber, Purge & Trap, Pyrolyzer etc. GC also should be upgradable to MS detector and GC - MS mode.</p>

Package 11 – Gas Chromatograph with NPD + PFPD+ ECD + Column + Accessories

Item No:	Specifications	
1	Column	<p>Capable of housing at least two columns (Capillary column min. upto 60 m length and PTV) Oven with operating temperature range: + 4°C to 450°C Heat up time: 50°C to 250°C in 3 mins or less. Ramp: 15 ramp or better, Plateau: 16 or better Temperature stability: ± 0.1 °C Temperature programming and overheat protection facility</p>
2	Pneumatic based or equivalent gas flow control	<p>Programmable Electronic control via software built in GC. Automatic leak testing Modes of operation – Constant flow, constant pressure, programmable flow, programmable pressure, and constant linear velocity Backflush System needed.</p>
3	Injection ports	<p>Two (PTV, split and splitless capillary port) Flow and temperature setting through GC control</p>

		Temperature Range : Ambient to 450 °C
3a	Programmable Temperature Vaporization (PTV) Injector	Temperature programmable inlet Automatic control of split vent and purge flows. Electronic pressure and flow control of column flow, split ratio etc. Pressure programming, Temperature programming
3b	Capillary port (split/splitless)	Electronic pressure and flow control of column flow, split ratio etc. Split ratio should not change column flow Facility to fit 0.53, 0.32, 0.25, and 0.10 mm capillary columns Separate heating zone Digital display of gas flow, split ratio, temperature programming etc.
4	Detectors:	NPD, ECD and PFPD. All detectors should be operational simultaneously.
4a	Electron capture detector (ECD)	Electronic pressure and flow control of auxiliary/purge/make gases. Radioactive source: ⁶³ Ni Sensitivity: ≤0.01 pg lindane/second or equivalent
4b	Pulse Flame Photometric Detector (PFPD)	Detection Limit for S- <1 pg S/sec or equivalent P <100 fg P/sec or equivalent Dynamic range S: 10 ³ , P: 10 ⁴ , N: 10 ²
4c	Nitrogen-phosphorous Detector (NPD)	Detection Limit for P 55 fgP/s (tributyl phosphate) or equivalent S 3 pgS/s (dodecane thiol) or equivalent Dynamic range Phosphorous mode: 10 ⁴ Sulphur mode : 10 ³
5	Software and hardware	Windows based Good Laboratory Practices compliance should be documented Multi-instrument capability feature Simultaneous data acquisition from three detectors Latest model Pentium IV computer compatible with Windows XP Professional and higher versions from standard company along with colour laser printer.
6		
6a	Autosampler Independent (Pesticide)	Automatic liquid sampler 15 or better Compatible for use in other GC Programmable vial sequence, Priority sampling mode
7	Columns	Capillary Column (2 Nos) DB 35, DB 5.
8	Accessories and consumables	Syringes, Graphite Ferrules etc. Septa for injection ports: 100 Nos. Installation kit: Must include the Gas Purification System Soap bubble flow meter Copper or SS tubing for gases Required consumables for installation of instrument Other materials required for installation and operation of instrument
9	Compatibility	GC should be compatible with Auto Gas Sampling Valves, Thermal

	and upgradability	Desorber, Purge & Trap, Pyrolyzer etc. GC also should be upgradable to MS detector and GC - MS mode.
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Package 12 – Gas Chromatograph with ECD + FID with Head Space + Column + Accessories

Item No:	Specifications	
1	Column	Capable of housing at least two columns (Capillary column min. 30m length and packed columns) Oven with operating temperature range: + 4°C to 450°C Heat up time: 50°C to 450°C in 4 mins or less. Ramp: 15 ramp or better, Plateau: 16 or better Temperature stability: ± 0.1 °C Temperature programming and overheat protection facility
2	Pneumatic based or equivalent gas flow control	Programmable Electronic control via software built in GC. Automatic leak testing Modes of operation – Constant flow, constant pressure, programmable flow, programmable pressure, and constant linear velocity Backflush System needed.
3	Injection ports	Two (packed column injector; one capillary column split and splitless) Flow and temperature setting through GC control Temperature Range : Ambient to 450 °C
3a	Programmable Temperature Vaporization Injector	Temperature programmable inlet Automatic control of split vent and purge flows. Electronic pressure and flow control of column flow, split ratio etc. Pressure programming, Temperature programming
3b	Slit and splitless injector	Electronic flow control of column flow Separate heating zone Digital display of gas flow, temperature programming etc.
4	Detectors:	FID and ECD. Both detectors operational at the same time
4a	Electron capture detector (ECD)	Electronic pressure and flow control of auxillary/purge/make gases. Radioactive source: ⁶³ Ni Detection Limit for N₂O : 50ppb
4b	Flame Ionisation Detector (FID)	Temperature Range : to 450° C Detectivity: 1.5 x 10 ⁻¹² grams of carbon per second or equivalent Linearity: better than 10 ⁷ High speed FID acquisition rate of 250Hz Detection Limit for CH₄ : 0.1 ppm Detection Limit for CO₂ : 1 ppm
5	Software	Windows based

		Good Laboratory Practices compliance should be documented Multi-instrument capability feature Simultaneous data acquisition from three detectors
6	Columns	Suitable columns for the estimation of atmospheric CO₂, CH₄ and N₂O should be quoted. Columns should support the mentioned detection limits for individual gases. Separately quote following packed column compatible with GC POROPAK Q Column (2 Columns), Length - 6', Diameter - 1/8", Mesh Size - 80/100 Max Temp : 250° C. (Optional) POROPAK Q Column, Length - 3 m, Diameter - 0.2 cm, Mesh Size - 80/100, Max Temp : 250° C, Pre-column absorbent fitting, Absorbent - Carbosorb, Magnesium perchlorate (2 Columns), HAYESEP-B column . (Optional)
7	Accessories and consumables	Syringes, Graphite Ferrules etc. Septa for injection ports: 100 Nos. Installation kit: Must include the Gas Purification System Soap bubble flow meter Copper or SS tubing for gases Required consumables for installation of instrument Other materials required for installation and operation of instrument
8	Computers	Latest model Pentium IV computer compatible with Windows 7 Professional and higher versions from standard company along with colored laser printer.
9	Compatibility and upgradability	GC should be compatible with methanizer, Headspace, Auto Gas Sampling Valves, <i>customized gas equilibrators</i> , Thermal Desorber, Purge & Trap, Pyrolyzer etc. GC also should be upgradable to MS detector and GC - MS mode.

Headspace equilibration Unit

Auto sampler capacity	Minimum 10 positions
Heater	Ambient temperature upto 200°C
Vial size	~20ml
Sample mixing	Sample shaking capability with differential (high/medium/low) shaking modes
Sample Path	Entire sample path should be temperature controlled
GC Interface	Interface to virtually all commercially available GC instrument
Pressure control	Software should have the ability to control the pressure to assure consistent volume in spite of external conditions

Voltage requirements	220/ 240 VAC
Gas requirements	Ultra-high purity (99.999%) He or N ₂ ,
Weight	<20kgs
Corrosion resistance	Unit, trays should be resistant to aqueous samples
Certifications	CE,CETL,CSA,ETL

Package 13 – Total Organic Carbon Analyzer with Accessories

The systems should include TOC Analyzer for liquid samples, with NDIR detector and Pt catalyst, with halide scrubber and moisture traps, auto sampling unit and the system should be upgradable to solid sample analyses. The instrument should simultaneously and/or stand alone measure TOC in seawater samples. PC controlled with software.

Sl. No.	Instrument/ Accessory Component	Description
1	TOC Analyzer	NDIR detector based analyzer, PC controlled, High temperature oxidation, aqueous samples, Suitability for saline samples
2	Measured parameters	TOC: Reproducibility:+ 1.5%. Measuring range 4ppb-3000 ppm. Detection limit:± 4 ppb.
3	Working temperature range	20-40 C
4	Sample analyses	time < 5 mins
5	Sample injection and maximum injection volume	Variable from 10 –2000 micro liters variable.
6	Acidification for IC removal	Automatic (including sparging)
7	Instrument background correction and check function	Analyzer has built in ultra pure (Carbon free) water generation system, which enables to perform back ground correction/check function.
8	Measurement features	<ul style="list-style-type: none"> • Automatic settings for optimal measurement conditions. • Automatic reanalysis of out of range samples. • Automatic selection of best calibration curve. • Automatic exclusion of anomalous values.
9	Sample dilution and dilution accuracy	Automatic dilution range 2x to 50x (+ 5%)
10	Data processing	Linearization, peak detection, calibration, area calculation, SD and CV calculation, automatic reanalyses of samples

		depending upon dilution requirement
11	Instrument Controls	Aspiration, measurement, injection, volume setting, Turning on/off of carrier gas, self diagnostics, warning for abnormalities, leakage check, timer for restarting from running conditions, Automatic blank checks and correction, Multipoint calibration, baseline Auto correction, Automatic power shut down after furnace cooling
12	Additional essential features	High-salt sample combustion tube kit, Halogen scrubber, gas sample injection kit, POC measuring kit with sparger.
13	Automatic Sample injection (ASI) unit	<ul style="list-style-type: none"> • Optional manual injection • Vial capacity :~25ml (External diameter ~25 x height ~85 mm); Vial septum • Magnetic stirrer • Acid addition and Sparging unit for NPOC analysis • Needle rinse possible • 1000 Glass vials with septum
14	Auto sampler	<ul style="list-style-type: none"> • Interchangeable manual injection and automatic injection module • Sample Containers: • ~25 mL vial rack at least~80 sample capacity • Sample pre-treatment: • Acid addition and sparging possible for NPOC analysis • Rinsing of the needle • Optional stirring
15	Spares	<ul style="list-style-type: none"> • Combustion tubes • Halogen scrubber
16	Gas accessories	Universal gas regulators for carrier gas; Gas filters for air and oxygen, gas tubing with/without sleeves.
17	PC, printer with software	<ul style="list-style-type: none"> • Complete control through software • Windows 7 compatibility • Data export to ASCII or excel format • PC: I 3 second gen or higher, 4 GB RAM, 500 GB HDD, CD/DVD read-write combo, USB ports. • Printer: Black and White laser printer,
18	Energy saving	Automatic power off after electric furnace cools down

N.B.: Standard accessories required for equipment if any quote separately (provide list of standard accessories)

Package 14 – Spectrofluorometer/ Fluorescence spectrophotometer with Accessories

Important general features of the system:

- Fully PC controlled system with a compatible software.
- All reflective optical system with quartz over coated optics for increased throughput.
- It should be immune to any other interference, like that of light, so that measurements can be taken even after keeping sample door open.
- The light source should be on only during sample reading to avoid continuous exposure causing photo-degradation of sensitive samples.
- Slits should be able to preserve maximum resolution and allow instant reproducibility.

Light source	Xenon Lamp,
Monochromator	Czerny-Turner
Spectral bandwidth	Excitation and Emission : 1.5 – 5 nm
Wavelength range	190-900 nm or better
Resolution	1.5 nm or better
Filters	Excitation: computer selectable including bandpass filter, cutoff filter, a shutter and open beam position Emission: computer selectable including bandpass, cutoff, a shutter, an attenuator and open beam position.
Scan	Synchronous scanning with constant wavelength or constant frequency difference Scan rate 10-2000 nm/min or better The luminescence intensity and the excitation and emission wavelengths to be displayed in real-time. Spectral and time drive data to be displayed in real-time.
Software	User friendly, based on compatible software. It should have the facilities of scan application, kinetics, concentration, data storage and graphical display.
Accessories	System should be supplied with standard liquid cell holder.
Installation Accessories	~0.5-3.0 ml Cuvettes (with spare set of cuvettes) Suitable PC-Colour Laser Printer & UPS must be included.

Package 15 – Microprocessor based pH Meter

1.	Instrument Specification	<ol style="list-style-type: none"> 1. Dedicated to water Soil ORP and pH measurement 2. Multi-level LCD display 3. User friendly operation 4. Automatic Temperature Compensation
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		<p>5. Automatic one or two point calibration</p> <p>6. Low power consumption with Battery % displayed on start up</p> <p>7. Rechargeable battery</p> <p>8. Compact, heavy-duty, and waterproof</p> <p>9. Direct soil pre-amplified pH-ORP and temperature probe, users can test soil directly or after preparation of a diluted sample.</p> <p>10. Provision for a conical, rugged tip that can be directly inserted in moist or soft soil.</p>
2.	Range	<p>pH Range : 0 to 14</p> <p>Potential: From -2200mV to + 2200 mV</p> <p>Temp Range: 20 °C to 40 °C</p>
3.	Resolution:	pH: 0.001; mV: 0.1 mV; Temperature: 0.1 °C
4.	Other features	<ul style="list-style-type: none"> • Provision for measuring soil and water pH • Simultaneous display of pH & Temperature • pH Calibration with at least 6 buffers with automatic Buffer Recognition • Automatic Temperature compensation • Drift Indicator • Automatic monitoring of validation, service, calibration intervals • Instrument should be supplied with combined pH electrode with inbuilt temperature sensor with Pt 1000 Sensor with necessary cables. • Long life of electrodes with usability in varied matrix • Variable Speed Magnetic Stirrer with parallel control • Graphic display (Plot) of measured value with time for pH, mV. Temperature • Facility to display & plot the calibration curve. • Memory for minimum 100 measured values. • Interface to connect PC and Printer.

Compulsory Accessories:

It should be supplied complete with all necessary electrodes, reference electrodes, cables, buffers, stirrer.

4. Drawings

This Bid Document includes no drawings.

5. Inspections and Tests

Inspection and tests prior to shipment of goods/ final acceptance are as follows:

- (i) The inspection of the goods shall be carried out to check whether the goods are in conformity with the technical specifications attached to the purchase- order form and shall be in line with the inspection/test procedures laid down in the technical specifications and the manufacturer's warranty certificate. The purchaser will test the equipment after completion of the installation and commissioning at the site of the installation. For site preparation, the supplier should furnish all details to the purchaser sufficiently in advance so as to get the works completed before receipt of the equipment. Complete hardware and software as specified in section VI should be supplied, installed and commissioned properly by the supplier prior to commencement of performance tests.
- (ii) The acceptance test will be conducted by a Committee constituted by the Director, NCSCM, Chennai and the Committee shall inspect and make recommendations for acceptance of goods & related services offered by the supplier for Final Acceptance by the Director, NCSCM.

The acceptance will involve successful installation, commissioning, performance by the way of trouble- free operation during the acceptance exercise at site. The acceptance exercise shall be combined with the Training exercise to be impacted by the supplier.

There shall not be any additional charges for carrying out acceptance tests. No malfunction, partial or complete failure of any part of hardware or bugs in the software should occur. All the software should be complete and no missing modules/sections will be allowed. The software should be correctly configured to the requirements of NCSCM. The outputs generated during the acceptance exercise and/or training exercises to demonstrate the successful performance of the equipment/software, shall be taken into account by the Committee before issuing the Acceptance Certificate

- (iii) In the event of the equipment and/or on-board software failing to pass the acceptance test, a period not exceeding 15 days will be given to rectify the defects and clear the acceptance test, failing which the purchaser reserves the rights to get the equipment replaced by the supplier at no extra cost to the purchaser

Manuals

- (a) Before the goods and equipments are taken over by the Purchaser, the Supplier shall supply operation and maintenance manuals together with drawings if any, of the goods and equipment. These shall be in such detail as will enable the Purchaser to operate, maintain, adjust and repair all parts of the works as stated in the specifications.
- (b) The manuals shall be in the ruling language (English) and in such form and numbers as stated in the contract.
- (c) Unless and otherwise agreed, the goods and equipment shall not be considered to be completed for the purpose of taking over until such manuals and drawings if any, have been supplied to the Purchaser.

For the System and Other Software the following will apply:

The Supplier shall provide complete and legal documentation of hardware, all subsystems, operating systems, compiler, system software and the other software. The Supplier shall also provide licensed software for all software products, whether developed by it or acquired from others. The supplier shall also indemnify the purchaser against any levies/penalties on account of any default in this regard.

Acceptance Certificate:

On successful completion of acceptability test and training exercise, receipt of deliverables etc, and after the Purchaser is satisfied with the working of the system, the acceptance certificate signed by the supplier and the representative of the purchaser will be issued. The date on which such certificate is signed shall be deemed to be the date of successful commissioning of the systems.

6. PROFORMA OF CERTIFICATE FOR ISSUE BY THE PURCHASER AFTER SUCCESSFUL INSTALLATION AND STARTUP OF THE SUPPLIED GOODS

[This is to be attached for supply, erection, supervision of erection and startup contracts only]

No.

Date:

M/s.

Sub: Certificate of startup of the supplied Goods

1. This is to certify that the plant/s as detailed below has/have been received in good condition along with all the standard and special accessories (subject to remarks in Para No. 2) and a set of spares in accordance with the Contract/Specifications. The same has been installed and commissioned.

(a) Contract No. _____ dated _____

(b) Description of the plant _____

(c) Plant Nos. _____

(d) Quantity _____

(e) Bill of Lading _____ dated _____
(for import contract)

(f) Name of the vessel/transporter _____

(g) Rail/Roadways Receipt No. _____ dated _____

(h) Name of the consignee _____

(i) Date of start up and proving test _____

2. Details of accessories/spares not yet supplied and recoveries to be made on that account.

<u>S. No.</u>	<u>Description</u>	<u>Amount to be recovered</u>
---------------	--------------------	-------------------------------

3. The proving test has been done to our entire satisfaction and operators have been trained to operate the plant.
4. The supplier has fulfilled his contractual obligations satisfactorily. *

or

The supplier has failed to fulfill his contractual obligations with regard to the following:

(a)

(b)

(c)

(d)

5. The amount of recovery on account of non-supply of accessories and spares is given under Para No. 2.
6. The amount of recovery on account of failure of the supplier to meet his contractual obligations is as indicated in endorsement of the letter.

Signature _____

Name _____

Designation with Stamp _____

* Explanatory notes for filling up the certificates:

- (a) He has adhered to the time schedule specified in the contract in dispatching the documents/drawings pursuant to Technical Specifications.
- (b) He has supervised the startup of the plan in time i.e., within the period specified in the contract from the date of intimation by the Purchaser in respect of the installation of the plant.
- (c) Training of personnel has been done by the supplier as specified in the contract.
- (d) In the event of documents/drawings having not been supplied or installation and startup of the plant have been delayed on account of the supplier, the extent of delay should always be mentioned.

7. PERFORMA FOR PERFORMANCE STATEMENT

[Please see ITB Clause 38.2 and Section III-Evaluation and Qualification Criteria]

Performa for Performance Statement (for a period of last three/five years)

Bid No. _____ Date of opening _____ Time _____ Hours

Name of the Firm _____

<u>Order placed by</u> <u>(full address of Purchaser)</u>	<u>Order No. and</u> <u>date</u>	<u>Description and</u> <u>quantity of ordered</u> <u>equipment</u>	<u>Value of order</u>	<u>Date of completion of delivery</u>		<u>Remarks</u> <u>indicating</u> <u>reasons for late</u> <u>delivery, if any</u>	<u>Has the equipment</u> <u>been satisfactorily</u> <u>functioning? (Attach a</u> <u>certificate form the</u> <u>Purchaser/Consignee)</u>
				As per contract	Actual		
1	2	3	4	5	6	7	8

Signature and seal of the Bidder _____

8. DECLARATION REGARDING DEEMED EXPORT BENEFITS

Integrated Coastal Zone Management Project (Credit No: # 4765 – IN)

(Bidder's name and address):

To:.....

(Name of the Purchaser)

Dear Sir:

1. We confirm that we are solely responsible for obtaining deemed export benefits which we have considered in our bid and in case of failure to receive such benefits for reasons whatsoever, Purchaser will not compensate us separately.

2. We are furnishing below the information required by the Purchaser for issue of Project Authority/Payment Certificate in terms of the Export and Import Policy of the Government of India:

(A) (i) Value of import content of supply * Rs. _____
to be made by the Bidder:
(Breakup of list of items to be (exchange rate on US\$ = Rs. _____)
imported with value attached)

- (B) (i) Name of the sub-contractor, if any, and whose name is to be included in the main Contract: _____
- (ii) Description, quantity and value of the goods to be supplied by the above sub-contractor: Description _____
Quantity _____
Value (Rs.) _____
- (iii) Value of import content of supply to be made by the sub-contractor: Rs. _____
(Breakup of list of items to be imported with value attached.) (exchange rate on US\$ = Rs. _____)

(The requirements listed above are as per current Export and Import Policy of Government of India. These may be modified, if necessary, in terms of the Export and Import Policy in force.)

Date: _____ (Signature) _____

Place: _____ (Printed Name) _____

(Designation) _____

(Common Seal) _____

* Please attach details item-wise with cost.

PART 3 – CONTRACT

SECTION VII – GENERAL CONDITIONS OF CONTRACT

Section VII. General Conditions of Contract

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Section VII. General Conditions of Contract

1. Definitions

The following words and expressions shall have the meanings hereby assigned to them:

- (a) "Bank" means the World Bank and refers to the International Bank for Reconstruction and Development (IBRD) or the International Development Association (IDA).
- (b) "Contract" means the Contract Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to therein, including all attachments, appendices, and all documents incorporated by reference therein.
- (c) "Contract Documents" means the documents listed in the Contract Agreement, including any amendments thereto.
- (d) "Contract Price" means the price payable to the Supplier as specified in the Contract Agreement, subject to such additions and adjustments thereto or deductions there from, as may be made pursuant to the Contract.
- (e) "Day" means calendar day.
- (f) "Completion" means the fulfillment of the Related Services by the Supplier in accordance with the terms and conditions set forth in the Contract.
- (g) "GCC" means the General Conditions of Contract.
- (h) "Goods" means all of the commodities, raw material, machinery and equipment, and/or other materials that the Supplier is required to supply to the Purchaser under the Contract.
- (i) "Purchaser's Country" is India.
- (j) "Purchaser" means the entity purchasing the Goods and Related Services, as specified in the **SCC**.

- (k) "Related Services" means the services incidental to the supply of the goods, such as insurance, installation, start-up, training and initial maintenance and other such obligations of the Supplier under the Contract
- (l) "SCC" means the Special Conditions of Contract.
- (m) "Subcontractor" means any natural person, private or government entity, or a combination of the above, to whom any part of the Goods to be supplied or execution of any part of the Related Services is subcontracted by the Supplier.
- (n) "Supplier" means the natural person, private or government entity, or a combination of the above, whose bid to perform the Contract has been accepted by the Purchaser and is named as such in the Contract Agreement.
- (o) "The Project Site," where applicable, means the place named in the **SCC**.

2. Contract Documents

2.1 Subject to the order of precedence set forth in the Contract Agreement, all documents forming the Contract (and all parts thereof) are intended to be correlative, complementary, and mutually explanatory. The Contract Agreement shall be read as a whole.

3. Fraud and Corruption

3.1 If the Purchaser determines that the Supplier and/or any of its personnel, or its agents, or its Subcontractors, consultants, service providers, suppliers and/or their employees has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices, in competing for or in executing the Contract, then the Purchaser may, after giving 14 days notice to the Supplier, terminate the Supplier's employment under the Contract and cancel the contract, and the provisions of Clause 35 shall apply as if such expulsion had been made under Sub-Clause 35.1.

- (a) For the purposes of this Sub-Clause:
- (i) “corrupt practice” is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party⁷;
 - (ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation⁸;
 - (iii) “collusive practice” is an arrangement between two or more parties⁹ designed to achieve an improper purpose, including to influence improperly the actions of another party;
 - (iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party¹⁰;
 - (v) “obstructive practice” is
 - (a) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or

⁷ “Another party” refers to a public official acting in relation to the procurement process or contract execution. In this context, “public official” includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

⁸ “Party” refers to a public official; the terms “benefit” and “obligation” relate to the procurement process or contract execution; and the “act or omission” is intended to influence the procurement process or contract execution.

⁹ “Parties” refers to participants in the procurement process (including public officials) attempting to establish bid prices at artificial, non competitive levels.

¹⁰ “Party” refers to a participant in the procurement process or contract execution.

- (b) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under Clause 11 [Inspections and Audits by the Bank].

3.2 Should any employee of the Supplier be determined to have engaged in corrupt, fraudulent, collusive, coercive, or obstructive practice during the purchase of the Goods, then that employee shall be removed.

4. Interpretation

4.1 If the context so requires it, singular means plural and vice versa.

4.2 Incoterms

(a) Unless inconsistent with any provision of the Contract, the meaning of any trade term and the rights and obligations of parties thereunder shall be as prescribed by Incoterms.

(b) The terms EXW and other similar terms, when used, shall be governed by the rules prescribed in the current edition of Incoterms specified in the **SCC** and published by the International Chamber of Commerce in Paris, France.

4.2 Entire Agreement

The Contract constitutes the entire agreement between the Purchaser and the Supplier and supersedes all communications, negotiations and agreements (whether written or oral) of the parties with respect thereto made prior to the date of Contract.

4.3 Amendment

No amendment or other variation of the Contract shall be valid unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party thereto.

4.4 Nonwaiver

(a) Subject to GCC Sub-Clause 4.5(b) below, no relaxation, forbearance, delay, or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect, or restrict the rights of that party under the Contract, neither shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.

- (b) Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, dated, and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.

4.5 Severability

If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.

5. Language

- 5.1 The Contract as well as all correspondence and documents relating to the Contract exchanged by the Supplier and the Purchaser, shall be English. Supporting documents and printed literature that are part of the Contract may be in another language provided they are accompanied by an accurate translation of the relevant passages in English language, in which case, for purposes of interpretation of the Contract, this translation shall govern.
- 5.2 The Supplier shall bear all costs of translation to the governing language and all risks of the accuracy of such translation, for documents provided by the Supplier.

6. Deleted

7. Eligibility

- 7.1 The Supplier and its Subcontractors shall have the nationality of an eligible country. A Supplier or Subcontractor shall be deemed to have the nationality of a country if it is a citizen or constituted, incorporated, or registered, and operates in conformity with the provisions of the laws of that country.
- 7.2 All Goods and Related Services to be supplied under the Contract and financed by the Bank shall have their origin in Eligible Countries. For the purpose of this Clause, origin means the country where the goods have been grown, mined, cultivated, produced, manufactured, or processed; or through manufacture, processing, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its components.

8. Notices

- 8.1 Any notice given by one party to the other pursuant to the Contract shall be in writing to the address specified in the SCC. The term "in writing" means communicated in written form with proof of receipt.

- 8.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.
- 9. Governing Law** 9.1 The Contract shall be governed by and interpreted in accordance with the laws of the Union of India.
- 10. Settlement of Disputes** 10.1 The Purchaser and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.
- 10.2 If, after twenty-eight (28) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract. Arbitration proceedings shall be conducted in accordance with the rules of procedure **specified in the SCC**.
- 10.3 Notwithstanding any reference to arbitration herein,
- (a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and
- (b) the Purchaser shall pay the Supplier any monies due the Supplier.
- 11. Inspections and Audit by the Bank** 11.1 The Supplier shall permit, and shall cause its Subcontractors and consultants to permit, the Bank and/or persons appointed by the Bank to inspect the Supplier's offices and all accounts and records relating to the performance of the Contract and the submission of the bid, and to have such accounts and records audited by auditors appointed by the Bank if requested by the Bank. The Supplier's and its Subcontractors and consultants' attention is drawn to Clause 3 [Fraud and Corruption], which provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under this Sub-Clause 11.1 constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Bank's prevailing sanctions procedures).

- 12. Scope of Supply** 12.1 The Goods and Related Services to be supplied shall be as specified in the Special Condition of Contract.
- 13. Delivery and Documents** 13.1 Subject to GCC Sub-Clause 33.1, the Delivery of the Goods and Completion of the Related Services shall be in accordance with the Delivery and Completion Schedule specified in the Schedule of Requirements. The details of shipping and other documents to be furnished by the Supplier are specified in the **SCC**.
- 14. Supplier's Responsibilities** 14.1 The Supplier shall supply all the Goods and Related Services included in the Scope of Supply in accordance with GCC Clause 12, and the Delivery and Completion Schedule, as per GCC Clause 13.
- 15. Contract Price** 15.1 Prices charged by the Supplier for the Goods supplied and the Related Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid, with the exception of any price adjustments authorized in the **SCC**.
- 16. Terms of Payment** 16.1 The Contract Price, including any Advance Payments, if applicable, shall be paid as specified in the **SCC**.
- 16.2 The Supplier's request for payment shall be made to the Purchaser in writing, accompanied by invoices describing, as appropriate, the Goods delivered and Related Services performed, and by the documents submitted pursuant to GCC Clause 13 and upon fulfillment of all other obligations stipulated in the Contract.
- 16.3 Payments shall be made promptly by the Purchaser, but in no case later than sixty (60) days after submission of an invoice or request for payment by the Supplier, and after the Purchaser has accepted it.
- 16.4 The payments shall be made in Indian Rupees to the Supplier under this Contract.
- 16.5 In the event that the Purchaser fails to pay the Supplier any payment by its due date or within the period set forth in the **SCC**, the Purchaser shall pay to the Supplier interest on the amount of such delayed payment at the rate shown in the **SCC**, for the period of delay until payment has been made in full, whether before or after judgment or arbitration award.
- 17. Taxes and Duties** The Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser.
- 18. Performance** 18.1 If required as specified in the **SCC**, the Supplier shall, within twenty-eight (28) days of the notification of contract award,

Security

provide a performance security for the performance of the Contract in the amount specified in the **SCC**.

- 18.2 The proceeds of the Performance Security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.
- 18.3 As specified in the SCC, the Performance Security shall be denominated in the Indian Rupees, and shall be in one of the format stipulated by the Purchaser in the **SCC**, or in another format acceptable to the Purchaser.
- 18.4 The Performance Security shall be discharged by the Purchaser and returned to the Supplier not later than twenty-eight (28) days following the date of Completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless specified otherwise in the **SCC**.

19. Copyright

- 19.1 The copyright in all drawings, documents, and other materials containing data and information furnished to the Purchaser by the Supplier herein shall remain vested in the Supplier, or, if they are furnished to the Purchaser directly or through the Supplier by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party

20. Confidential Information

- 20.1 The Purchaser and the Supplier shall keep confidential and shall not, without the written consent of the other party hereto, divulge to any third party any documents, data, or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such information has been furnished prior to, during or following completion or termination of the Contract. Notwithstanding the above, the Supplier may furnish to its Subcontractor such documents, data, and other information it receives from the Purchaser to the extent required for the Subcontractor to perform its work under the Contract, in which event the Supplier shall obtain from such Subcontractor an undertaking of confidentiality similar to that imposed on the Supplier under GCC Clause 20.
- 20.2 The Purchaser shall not use such documents, data, and other information received from the Supplier for any purposes unrelated to the contract. Similarly, the Supplier shall not use such documents, data, and other information received from the Purchaser for any purpose other than the performance of the Contract.

20.3 The obligation of a party under GCC Sub-Clauses 20.1 and 20.2 above, however, shall not apply to information that:

- (a) the Purchaser or Supplier need to share with the Bank or other institutions participating in the financing of the Contract;
- (b) now or hereafter enters the public domain through no fault of that party;
- (c) can be proven to have been possessed by that party at the time of disclosure and which was not previously obtained, directly or indirectly, from the other party; or
- (d) otherwise lawfully becomes available to that party from a third party that has no obligation of confidentiality.

20.4 The above provisions of GCC Clause 20 shall not in any way modify any undertaking of confidentiality given by either of the parties hereto prior to the date of the Contract in respect of the Supply or any part thereof.

20.5 The provisions of GCC Clause 20 shall survive completion or termination, for whatever reason, of the Contract.

21. Subcontracting

21.1 The Supplier shall notify the Purchaser in writing of all subcontracts awarded under the Contract if not already specified in the bid. Such notification, in the original bid or later shall not relieve the Supplier from any of its obligations, duties, responsibilities, or liability under the Contract.

21.2 Subcontracts shall comply with the provisions of GCC Clauses 3 and 7.

22. Specifications and Standards

22.1 Technical Specifications and Drawings

(a) The Goods and Related Services supplied under this Contract shall conform to the technical specifications and standards mentioned in Section VI, Schedule of Requirements and, when no applicable standard is mentioned, the standard shall be equivalent or superior to the official standards whose application is appropriate to the Goods' country of origin.

(b) The Supplier shall be entitled to disclaim responsibility for any design, data, drawing, specification or other document, or any modification thereof provided or designed by or on behalf of the Purchaser, by giving a notice of such disclaimer to the Purchaser.

(c) Wherever references are made in the Contract to codes and standards in accordance with which it shall be executed, the

edition or the revised version of such codes and standards shall be those specified in the Schedule of Requirements. During Contract execution, any changes in any such codes and standards shall be applied only after approval by the Purchaser and shall be treated in accordance with GCC Clause 33.

23. Packing and Documents

- 23.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. During transit, the packing shall be sufficient to withstand, without limitation, rough handling and exposure to extreme temperatures, salt and precipitation, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.
- 23.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional requirements, if any, specified in the **SCC**, and in any other instructions ordered by the Purchaser.

24. Insurance

- 24.1 Unless otherwise specified in the **SCC**, the Goods supplied under the Contract shall be fully insured—against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery, in accordance with the applicable Incoterms or in the manner specified in the **SCC**.

25. Transportation

- 25.1 Unless otherwise specified in the **SCC**, responsibility for arranging transportation of the Goods shall be in accordance with the specified Incoterms.

26. Inspections and Tests

- 26.1 The Supplier shall at its own expense and at no cost to the Purchaser carry out all such tests and/or inspections of the Goods and Related Services as are specified in the **SCC**.
- 26.2 The inspections and tests may be conducted on the premises of the Supplier or its Subcontractor, at point of delivery, and/or at the Goods' final destination, or in another place in the Purchaser's Country as specified in the **SCC**. Subject to GCC Sub-Clause 26.3, if conducted on the premises of the Supplier or its Subcontractor, all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Purchaser.
- 26.3 The Purchaser or its designated representative shall be entitled to attend the tests and/or inspections referred to in GCC Sub-Clause 26.2, provided that the Purchaser bear all of its own

costs and expenses incurred in connection with such attendance including, but not limited to, all traveling and board and lodging expenses.

26.4 Whenever the Supplier is ready to carry out any such test and inspection, it shall give a reasonable advance notice, including the place and time, to the Purchaser. The Supplier shall obtain from any relevant third party or manufacturer any necessary permission or consent to enable the Purchaser or its designated representative to attend the test and/or inspection.

26.5 The Purchaser may require the Supplier to carry out any test and/or inspection not required by the Contract but deemed necessary to verify that the characteristics and performance of the Goods comply with the technical specifications codes and standards under the Contract, provided that the Supplier's reasonable costs and expenses incurred in the carrying out of such test and/or inspection shall be added to the Contract Price. Further, if such test and/or inspection impedes the progress of manufacturing and/or the Supplier's performance of its other obligations under the Contract, due allowance will be made in respect of the Delivery Dates and Completion Dates and the other obligations so affected.

26.6 The Supplier shall provide the Purchaser with a report of the results of any such test and/or inspection.

26.7 The Purchaser may reject any Goods or any part thereof that fail to pass any test and/or inspection or do not conform to the specifications. The Supplier shall either rectify or replace such rejected Goods or parts thereof or make alterations necessary to meet the specifications at no cost to the Purchaser, and shall repeat the test and/or inspection, at no cost to the Purchaser, upon giving a notice pursuant to GCC Sub-Clause 26.4.

26.8 The Supplier agrees that neither the execution of a test and/or inspection of the Goods or any part thereof, nor the attendance by the Purchaser or its representative, nor the issue of any report pursuant to GCC Sub-Clause 26.6, shall release the Supplier from any warranties or other obligations under the Contract.

27. Liquidated Damages

27.1 Except as provided under GCC Clause 32, if the Supplier fails to deliver any or all of the Goods by the Date(s) of delivery or perform the Related Services within the period specified in the Contract, the Purchaser may without prejudice to all its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in the SCC of the delivered price of the delayed

Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in those **SCC**. Once the maximum is reached, the Purchaser may terminate the Contract pursuant to GCC Clause 35.

28. Warranty

- 28.1 The Supplier warrants that all the Goods are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.
- 28.2 Subject to GCC Sub-Clause 22.1(b), the Supplier further warrants that the Goods shall be free from defects arising from any act or omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in the country of final destination.
- 28.3 Unless otherwise specified in the **SCC**, the warranty shall remain valid for twelve (12) months after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the **SCC**, or for eighteen (18) months after the date of shipment from the port or place of loading in the country of origin, whichever period concludes earlier.
- 28.4 The Purchaser shall give notice to the Supplier stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. The Purchaser shall afford all reasonable opportunity for the Supplier to inspect such defects.
- 28.5 Upon receipt of such notice, the Supplier shall, within the period specified in the **SCC**, expeditiously repair or replace the defective Goods or parts thereof, at no cost to the Purchaser.
- 28.6 If having been notified, the Supplier fails to remedy the defect within the period specified in the **SCC**, the Purchaser may proceed to take within a reasonable period such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

29. Patent Indemnity

- 29.1 The Supplier shall, subject to the Purchaser's compliance with GCC Sub-Clause 29.2, indemnify and hold harmless the Purchaser and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Purchaser may suffer as a result of any infringement or alleged

infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of:

- (a) the installation of the Goods by the Supplier or the use of the Goods in the country where the Site is located; and
- (b) the sale in any country of the products produced by the Goods.

Such indemnity shall not cover any use of the Goods or any part thereof other than for the purpose indicated by or to be reasonably inferred from the Contract, neither any infringement resulting from the use of the Goods or any part thereof, or any products produced thereby in association or combination with any other equipment, plant, or materials not supplied by the Supplier, pursuant to the Contract.

29.2 If any proceedings are brought or any claim is made against the Purchaser arising out of the matters referred to in GCC Sub-Clause 29.1, the Purchaser shall promptly give the Supplier a notice thereof, and the Supplier may at its own expense and in the Purchaser's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.

29.3 If the Supplier fails to notify the Purchaser within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Purchaser shall be free to conduct the same on its own behalf.

29.4 The Purchaser shall, at the Supplier's request, afford all available assistance to the Supplier in conducting such proceedings or claim, and shall be reimbursed by the Supplier for all reasonable expenses incurred in so doing.

29.5 The Purchaser shall indemnify and hold harmless the Supplier and its employees, officers, and Subcontractors from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Supplier may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided or

designed by or on behalf of the Purchaser.

30. Limitation of Liability

- 30.1 Except in cases of criminal negligence or willful misconduct,
- (a) the Supplier shall not be liable to the Purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Supplier to pay liquidated damages to the Purchaser and
 - (b) the aggregate liability of the Supplier to the Purchaser, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the supplier to indemnify the purchaser with respect to patent infringement

31. Change in Laws and Regulations

- 31.1 Unless otherwise specified in the Contract, if after the date of 28 days prior to date of Bid submission, any law, regulation, ordinance, order or bylaw having the force of law is enacted, promulgated, abrogated, or changed in India, where the Site is located (which shall be deemed to include any change in interpretation or application by the competent authorities) that subsequently affects the Delivery Date and/or the Contract Price, then such Delivery Date and/or Contract Price shall be correspondingly increased or decreased, to the extent that the Supplier has thereby been affected in the performance of any of its obligations under the Contract. Notwithstanding the foregoing, such additional or reduced cost shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions where applicable, in accordance with GCC Clause 15.

32. Force Majeure

- 32.1 The Supplier shall not be liable for forfeiture of its Performance Security, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
- 32.2 For purposes of this Clause, “Force Majeure” means an event or situation beyond the control of the Supplier that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Supplier. Such events may include, but not be limited to, acts of the Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.

32.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

33. Change Orders and Contract Amendments

33.1 The Purchaser may at any time order the Supplier through notice in accordance GCC Clause 8, to make changes within the general scope of the Contract in any one or more of the following:

- (a) drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser;
- (b) the method of shipment or packing;
- (c) the place of delivery; and
- (d) the Related Services to be provided by the Supplier.

33.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or in the Delivery/Completion Schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this Clause must be asserted within twenty-eight (28) days from the date of the Supplier's receipt of the Purchaser's change order.

33.3 Prices to be charged by the Supplier for any Related Services that might be needed but which were not included in the Contract shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services.

33.4 Subject to the above, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

34. Extensions of Time

34.1 If at any time during performance of the Contract, the Supplier or its subcontractors should encounter conditions impeding timely delivery of the Goods or completion of Related Services

pursuant to GCC Clause 13, the Supplier shall promptly notify the Purchaser in writing of the delay, its likely duration, and its cause. As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may at its discretion extend the Supplier's time for performance, in which case the extension shall be ratified by the parties by amendment of the Contract.

34.2 Except in case of Force Majeure, as provided under GCC Clause 32, a delay by the Supplier in the performance of its Delivery and Completion obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 26, unless an extension of time is agreed upon, pursuant to GCC Sub-Clause 34.1.

35. Termination

35.1 Termination for Default

(a) The Purchaser, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate the Contract in whole or in part:

(i) if the Supplier fails to deliver any or all of the Goods within the period specified in the Contract, or within any extension thereof granted by the Purchaser pursuant to GCC Clause 34;

(ii) if the Supplier fails to perform any other obligation under the Contract; or

(iii) if the Supplier, in the judgment of the Purchaser has engaged in fraud and corruption, as defined in GCC clause 3, in competing for or in executing the Contract.

(b) In the event the Purchaser terminates the Contract in whole or in part, pursuant to GCC Clause 35.1(a), the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Related Services similar to those undelivered or not performed, and the Supplier shall be liable to the Purchaser for any additional costs for such similar Goods or Related Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

35.2 Termination for Insolvency.

(a) The Purchaser may at any time terminate the Contract by giving notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In such event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect

any right of action or remedy that has accrued or will accrue thereafter to the Purchaser

35.3 Termination for Convenience.

- (a) The Purchaser, by notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.

- (b) The Goods that are complete and ready for shipment within twenty-eight (28) days after the Supplier's receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:
 - (i) to have any portion completed and delivered at the Contract terms and prices; and/or

 - (ii) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and Related Services and for materials and parts previously procured by the Supplier.

36. Assignment

- 36.1 Neither the Purchaser nor the Supplier shall assign, in whole or in part, their obligations under this Contract, except with prior written consent of the other party.

Section VIII. Special Conditions of Contract

The following Special Conditions of Contract (SCC) shall supplement and / or amend the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

GCC 1(j)	The Purchaser is : The Director National Centre for Sustainable Coastal Management, Chennai.
GCC 1 (o)	Final destination (Project Site): National Centre for Sustainable Coastal Management Koodal Building, Anna University Campus, Chennai-600025,Tamilnadu, India
GCC 4.2 (a)	The meaning of the trade terms shall be as prescribed by Incoterms.
GCC 4.2 (b)	The version edition of Incoterms shall be Latest Version of 2010
GCC 8.1	For notices , the Purchaser's address shall be: The Director National Centre for Sustainable Coastal Management Koodal Building, Anna University Campus, Chennai-600025,Tamilnadu, India Ph No : 011-47397710 Email : procurement@ncscm.org Web: www.ncscm.org
GCC 10.2	Settlement of Disputes The dispute settlement mechanism to be applied shall be as follows: (a) In case of Dispute or difference arising between the Purchaser and a domestic supplier relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Arbitration and Conciliation Act, 1996. The arbitral tribunal shall consist of 3 arbitrators one each to be appointed by the Purchaser and the Supplier. The third Arbitrator shall be chosen by the two Arbitrators so appointed by the Parties and shall act as Presiding arbitrator. In case of failure of the two arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the arbitrator appointed subsequently, the Presiding Arbitrator shall be appointed by the President of the institution of Engineers (India), Delhi

	<p>Chapter.</p> <p>(b) In the case of a dispute with a Foreign Supplier, the dispute shall be settled in accordance with provisions of UNCITRAL (United Nations Commission on International Trade Law) Arbitration Rules. The Arbitral Tribunal shall consist of three Arbitrators one each to be appointed by the Purchaser and the Supplier. The third Arbitrator shall be chosen by the two Arbitrators so appointed by the parties, and shall act as presiding arbitrator. In case of failure of the two arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the arbitrator appointed subsequently, the Presiding Arbitrator shall be appointed by the President of the Institution of Engineers (India), Delhi Chapter.</p> <p>(c) If one of the parties fails to appoint its arbitrator in pursuance of sub-clause (a) and (b) above, within 30 days after receipt of the notice of the appointment of its arbitrator by the other party, then the President of the Institution of Engineers (India), Delhi Chapter, both in cases of the Foreign supplier as well as Indian supplier, shall appoint the arbitrator. A certified copy of the order of the President of the Institution of Engineers (India), Delhi Chapter, making such an appointment shall be furnished to each of the parties.</p>
	<p>(d) Arbitration proceedings shall be held at Chennai, India, and the language of the arbitration proceedings and that of all documents and communications between the parties shall be English.</p> <p>(e) The decision of the majority of arbitrators shall be final and binding upon both parties. The cost and expenses of Arbitration proceedings will be paid as determined by the arbitral tribunal. However, the expenses incurred by each party in connection with the preparation, presentation etc. of its proceedings as also the fees and expenses paid to the arbitrator appointed by such party or on its behalf shall be borne by each party itself.</p> <p>(f) Where the value of the contract is Rs. 10 million and below, the disputes or differences arising shall be referred to the Sole Arbitrator. The Sole Arbitrator should be appointed by agreement between the parties; failing such agreement, by the appointing authority namely the President of the Institution of Engineers (India), Delhi Chapter.</p> <p>(g) Except otherwise agreed to by the Parties, Arbitrators should give a decision in writing within 120 days of receipt of notification of dispute</p>
GCC 12.1	The scope of supply for the Goods and Related Services to be supplied shall be

	as specified below: <i>The scope of the supply including the related services is given in Schedule of Requirements.</i>
GCC 13.1	<p>Details of Shipping and other Documents to be furnished by the Supplier are given below:</p> <p>(a) <i>For Goods supplied from abroad:</i> GC 13.1 Within 24 hours of shipment, the Supplier shall notify the Purchaser and the Insurance Company by cable or telex or fax the full details of the shipment including Contract number, description of goods, quantity, the vessel, the bill of lading number and date, port of loading, date of shipment, port of discharge, etc. The Supplier shall mail the following documents to the Purchaser, with a copy to the Insurance Company:</p> <ul style="list-style-type: none"> (i) Two Copies of Supplier's invoice showing contract number, goods description, quantity, unit price and total amount; (ii) Original and Two copies of the negotiable, clean, on-board bill of lading or Airway bill marked freight prepaid and two copies of non-negotiable bill of lading; (iii) Two Copies of packing list identifying contents of each package; (iv) Insurance certificate; (v) Manufacturer's/Supplier's warranty certificate; (vi) Inspection certificate issued by the nominated inspection agency if any, and the Supplier's factory inspection report; and (vii) Certificate of origin. <p>The above documents shall be received by the Purchaser at least one week before arrival of Goods at the port or place of arrival and, if not received, the Supplier will be responsible for any consequent expenses.</p> <p>(b) <i>For Goods from within India:</i> GCC 13.1 Upon delivery of the goods to the transporter/consignee, the supplier shall notify the purchaser and mail the following documents to the Purchaser :</p> <ul style="list-style-type: none"> (i) Two Copies of the Supplier invoice showing contract number, goods description, quantity, unit price, total amount; (ii) Delivery note, Railway receipt, or Road consignment note or equivalent transport document or acknowledgement of receipt of goods from the Consignee; (iii) Two Copies of packing list identifying contents of each package; (iv) Insurance certificate; (v) Manufacturer's/Supplier's warranty certificate; (vi) Inspection certificate issued by the nominated inspection agency if any, and the Supplier's factory inspection report; and (vii) Certificate or origin. <p>The above documents shall be received by the Purchaser before arrival of the Goods (except where it is handed over to the Consignee with all documents) and if not received, the supplier will be responsible for any consequent expenses.</p>
GCC 15.1	The prices charged for the Goods supplied and the related Services performed <i>shall not</i> be adjustable.

<p>GCC 16.1</p>	<p>Payment shall be made in the currency specified in the Contract in the following manner:</p> <p>(a) Payment for Goods supplied from abroad</p> <p>(i) <i>Advance Payment</i>: Ten (10%) of the Contract Price shall be paid within thirty (30) days of signing of Contract and upon submission of claim and a bank guarantee for equivalent amount valid until the Goods are delivered and in the form provided in the bidding documents or another form acceptable to the Purchaser.</p> <p>(ii) <i>On Shipment</i>: Eighty (80)% of the Contract Price of the Goods shipped shall be paid through irrevocable Letter of Credit opened in favor of the Supplier in a bank in his country and upon submission of documents specified in Clause 13.1 of SCC including :</p> <p>(1) Packing list and (2) Supplier's certificate that the amounts shown in the invoice are correct in terms of the contract and that all terms and conditions of the contract have been complied with; and</p> <p>(iii) <i>On Final Acceptance</i>: Ten (10)% of the Contract Price of Goods received shall be paid within thirty (30) days of receipt of Goods upon submission of claim supported by the Acceptance Certificate issued by the Purchaser's representative in the proforma given in Section VI - item 6</p> <p>(b) Payment for Goods supplied from Purchaser country</p> <p>(i) <i>On Delivery</i>: Ninety (90)% of the contract price shall be paid on receipt of Goods and upon submission of the documents specified in Clause 13 of SCC by Bank transfer/cheque; and</p> <p>(ii) <i>On Final Acceptance</i>: the remaining ten (10)% of the Contract Price shall be paid within thirty (30) days after the date of the Acceptance Certificate issued by the Purchaser's representative in the proforma given in Section VI - item 6.</p> <p>(c) The annual maintenance and repair cost (after warranty period)</p> <p>shall be paid in advance in equal quarterly installments within thirty days of receipt of claim at start of each quarterly period, after completion of warranty/maintenance obligations of the previous quarterly period, at the rates quoted in the price schedule, on receipt of bank guarantee for 2.5% of the cost of equipment (excluding annual maintenance costs) in the form provided in the bidding documents valid for 26 months from the date of completion of warranty period after installation and commissioning. <i>(The Bank guarantee submitted towards performance guarantee will be released only after receipt of the above).</i></p> <p>(d)</p> <p>(i) Where payments are to be effected through Letter of Credit (LC), the</p>
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	<p>same shall be subject to the latest Uniform Customs and Practice for Documentary Credit, of the International Chamber of Commerce;</p> <p>(ii) The LC will be irrevocable and will be confirmed at Supplier's cost if requested specifically by the Supplier;</p> <p>(iii) If LC is required to be extended/reinstated for reasons not attributable to the Purchaser, the charges thereof shall be to the Supplier's account.</p> <p>(e)</p> <p>(i) For all the payments to be made, against Bank guarantees, the bank guarantee shall be issued by a Scheduled Indian Bank or a foreign bank located in India in the format enclosed at Section VIII. The guarantees issued by other banks should be confirmed by a Scheduled Indian Bank or a foreign bank operating in India.</p> <p>(ii) Bank guarantees for advance payment shall be released not later than 30 days after the date of completion of supply of the goods at their final destination.</p>
GCC 16.5	<p>The payment-delay period after which the Purchaser shall pay interest to the supplier shall be 60 days.</p> <p>The interest rate that shall be applied at 8 % per annum The payment-delay period after which the Purchaser shall pay interest to the supplier shall be 60 days.</p>
GCC 17	<p>In the case of Excise duty waiver, the purchaser will issue only the certificates in terms of the Central Excise notification as per information given by supplier in form at serial no.8 of Section VI. Supplier is solely responsible for obtaining such benefits and in case of failure to receive such benefits, the purchaser will not compensate the supplier separately.</p>
GCC 18.1	<p>Performance Security to the Purchaser shall be for an amount of 5% of the contract value, valid upto 60 days after the date of completion of performance obligations including warranty obligations.</p> <p>In the event of any correction of defects or replacement of defective material during the warranty period, the warranty for the corrected/ replaced material shall be extended to a further period of 12 months and the Performance Bank guarantee for proportionate value shall be extended 60 days over and above the extended warranty period.</p>
GCC 18.3	<p>If required, the Performance Security shall be in the form of a "Bank Guarantee" or "a cashier's cheque or banker's certified cheque or crossed demand draft or pay order" drawn in favour of the Purchaser.</p>
GCC 18.4	<p>Substitute Clause 18.4 of the GCC by the following:</p> <p>The performance Security will be discharged by the Purchaser and returned to</p>

	the Supplier not later than 60 days following the date of completion of the Supplier's performance obligations, including the warranty obligation, under the contract and following receipt of a performance guarantee for 2.5% of the contract value excluding annual maintenance costs towards guarantee for the annual maintenance as stated in Clause 28.8 of SCC.
GCC 18.5	Add as Clause 18.5 to the GCC the following: Failure to submit the bank guarantee for annual maintenance service in the period specified above will constitute sufficient grounds for forfeiture of the performance guarantee.
GCC 23.2	<u>Packing Instructions:</u> The Supplier will be required to make separate packages for each Consignee. Each package will be marked on three sides with proper paint/indelible ink with the following: (i) Project; (ii) Contract No.; (iii) Country of Origin of Goods; (iv) Supplier's Name; (v) Packing List Reference Number. Suppliers should use recycled materials as much as possible for packing
GCC 24.1	The insurance shall be paid in an amount equal to 110 percent of the CIF or CIP (EXW for Goods supplied from within the country) value of the Goods from "Warehouse to warehouse (final destination)" on "All Risks" basis including War Risks and Strikes, valid for a period not less than 3 months after installation and commissioning and issue of acceptance certificate by the purchaser.
GCC 24.2	Should any loss or damage occur, the Supplier shall - a) initiate and pursue claim till settlement, and b) Promptly make arrangements for repair and/or replacement of any damaged item/s and ensure supply/commissioning as per terms of the contract, irrespective of settlement of claim by the underwriters.
GCC 25.1	The Supplier is required under the Contract to transport the Goods duly insured to the specified final destination, and all related costs shall be included in the Contract Price.
GCC 26.1	The inspections and tests shall be: <i>As stated in Section 5 of schedule of requirements.</i>
GCC 26.2	The Inspections and tests shall be conducted at the sites of Final Delivery as specified in the BDS corresponding to clause 14.6 of ITB.
GCC 27.1	The liquidated damage shall be: 0.5% of contract price per week or part thereof.

GCC 27.2	The maximum amount of liquidated damages shall be: 10% of the contract price.
GCC 28.3	<p>The Supplier shall, in addition, comply with the performance guarantees specified under the Contract. If, for reasons attributable to the supplier, these guarantees are not attained in whole or in part, the Supplier shall, make such changes, modifications, and/or additions to the Goods or any part thereof as may be necessary in order to attain the guarantees specified in the contract at its own cost and expense and to carry out further performance tests in accordance with GCC 26.2.</p> <p>For purposes of the Warranty, the place(s) of final destination(s) shall be: same as place of final destination. (Please refer BDS corresponding to clause 14.6)</p>
GCC 28.5	The period for repair or replacement shall be: 15 days.
GCC 28.7	Maintenance Service
GCC 28.7.1	Free maintenance services shall be provided by the supplier during the period of warranty. After warranty period, annual maintenance and repairs of the entire system including supply of spares etc. [excluding consumable items] for next 24months will be done by the supplier.
GCC 28.7.2	The maximum response time for a maintenance complaint from any of the destination specified in the schedule of requirements (i.e. time required for supplier's maintenance engineers to report to the installations after a request call/telegram/fax is made or letter is written) shall not exceed 3(Three) days.
GCC 28.7.3	It is expected that the average downtime of an item will be less than half the maximum downtime (i.e. defined as number of days for which an item of equipment is not usable because of inability of the supplier to repair it) as mentioned in the form of technical details. In case an item is not usable beyond the stipulated maximum downtime the supplier will be required to arrange for an immediate replacement of the same till it is repaired. Failure to arrange for the immediate repair/replacement will be liable for penalty of Rs 2500.00per day per item. The amount of penalty will be recovered from bank guarantee during warranty or annual maintenance period as the case may be.
GCC 31.1	This clause will apply only to variations in VAT/Sales tax/ Octroi, etc. payable in India on the final product which is being supplied and not for the individual components / raw materials which go into the product.

Section IX – Contract Forms

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1. CONTRACT AGREEMENT

[The successful Bidder shall fill in this form in accordance with the instructions indicated]

THIS CONTRACT AGREEMENT is made

the *[insert: number]* day of *[insert: month]*, *[insert: year]*.

BETWEEN

- (1) *[insert complete name of Purchaser]*, a *[insert description of type of legal entity, for example, an agency of the Ministry of of the Government of {insert name of Country of Purchaser}, or corporation incorporated under the laws of {insert name of Country of Purchaser}]* and having its principal place of business at *[insert address of Purchaser]* (hereinafter called "the Purchaser"), and
- (2) *[insert name of Supplier]*, a corporation incorporated under the laws of *[insert: country of Supplier]* and having its principal place of business at *[insert: address of Supplier]* (hereinafter called "the Supplier").

WHEREAS the Purchaser invited bids for certain Goods and ancillary services, viz., *[insert brief description of Goods and Services]* and has accepted a Bid by the Supplier for the supply of those Goods and Services in the sum of *[insert Contract Price in words and figures, expressed in the Contract currency(ies)]* (hereinafter called "the Contract Price").

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents shall constitute the Contract between the Purchaser and the Supplier, and each shall be read and construed as an integral part of the Contract:
 - (a) This Contract Agreement
 - (b) Special Conditions of Contract
 - (c) General Conditions of Contract
 - (d) Technical Requirements (including Schedule of Requirements and Technical Specifications)
 - (e) The Supplier's Bid and original Price Schedules
 - (f) The Purchaser's Notification of Award
 - (g) Performance Security
 - (h) *[Add here any other document(s)]*

3. This Contract shall prevail over all other Contract documents. In the event of any discrepancy or inconsistency within the Contract documents, then the documents shall prevail in the order listed above.
4. In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Purchaser to provide the Goods and Services and to remedy defects therein in conformity in all respects with the provisions of the Contract.
5. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the Goods and Services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of *[insert the name of the Contract governing law country]* on the day, month and year indicated above.

For and on behalf of the Purchaser

Signed: *[insert signature]*

in the capacity of *[insert title or other appropriate designation]*

in the presence of *[insert identification of official witness]*

For and on behalf of the Supplier

Signed: *[insert signature of authorized representative(s) of the Supplier]*

in the capacity of *[insert title or other appropriate designation]*

in the presence of *[insert identification of official witness]*

2. PERFORMANCE SECURITY

[The bank, as requested by the successful Bidder, shall fill in this form in accordance with the instructions indicated]

Date: *[insert date (as day, month, and year) of Bid Submission]*

NCB No. and title: *[insert no. and title of bidding process]*

Bank's Branch or Office: *[insert complete name of Guarantor]*

Beneficiary:*[insert complete name of Purchaser]*

PERFORMANCE GUARANTEE No.: *[insert Performance Guarantee number]*

We have been informed that *[insert complete name of Supplier]* (hereinafter called "the Supplier") has entered into Contract No. *[insert number]* dated *[insert day and month]*, *[insert year]* with you, for the supply of *[description of Goods and related Services]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a Performance Guarantee is required.

At the request of the Supplier, we hereby irrevocably undertake to pay you any sum(s) not exceeding *[insert amount(s)¹¹ in figures and words]* upon receipt by us of your first demand in writing declaring the Supplier to be in default under the Contract, without cavil or argument, or your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This Guarantee shall expire no later than the *[insert number]* day of *[insert month]**[insert year]*,¹² and any demand for payment under it must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458, except that subparagraph (ii) of Sub-article 20(a) is hereby excluded.

[signatures of authorized representatives of the bank and the Supplier]

¹¹ *The Bank shall insert the amount(s) specified in the SCC and denominated, as specified in the SCC, either in the currency(ies) of the Contract or a freely convertible currency acceptable to the Purchaser.*

¹² *Dates established in accordance with Clause 17.4 of the General Conditions of Contract ("GCC"), taking into account any warranty obligations of the Supplier under Clause 15.2 of the GCC intended to be secured by a partial Performance Guarantee. The Purchaser should note that in the event of an extension of the time to perform the Contract, the Purchaser would need to request an extension of this Guarantee from the Bank. Such request must be in writing and must be made prior to the expiration date established in the Guarantee. In preparing this Guarantee, the Purchaser might consider adding the following text to the Form, at the end of the penultimate paragraph: " We agree to a one-time extension of this Guarantee for a period not to exceed [six months] [one year], in response to the Purchaser's written request for such extension, such request to be presented to us before the expiry of the Guarantee."*

3. BANK GUARANTEE FOR ADVANCE PAYMENT

[The bank, as requested by the successful Bidder, shall fill in this form in accordance with the instructions indicated.]

Date: *[insert date (as day, month, and year) of Bid Submission]*

NCB No. and title: *[insert number and title of bidding process]*

[bank's letterhead]

Beneficiary: *[insert legal name and address of Purchaser]*

ADVANCE PAYMENT GUARANTEE No.:*[insert Advance Payment Guarantee no.]*

We, *[insert legal name and address of bank]*, have been informed that *[insert complete name and address of Supplier]* (hereinafter called "the Supplier") has entered into Contract No. *[insert number]* dated *[insert date of Agreement]* with you, for the supply of *[insert types of Goods to be delivered]*(hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, an advance is to be made against an advance payment guarantee.

At the request of the Supplier, we hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *[insert amount(s)]¹³ in figures and words* upon receipt by us of your first demand in writing declaring that the Supplier is in breach of its obligation under the Contract because the Supplier used the advance payment for purposes other than toward delivery of the Goods.

It is a condition for any claim and payment under this Guarantee to be made that the advance payment referred to above must have been received by the Supplier on its account *[insert number and domicile of the account]*

This Guarantee shall remain valid and in full effect from the date of the advance payment received by the Supplier under the Contract until *[insert date]¹⁴*.

This Guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458.

¹³*The bank shall insert the amount(s) specified in the SCC and denominated, as specified in the SCC, either in the currency(ies) of the Contract or a freely convertible currency acceptable to the Purchaser.*

¹⁴*Insert the Delivery date stipulated in the Contract Delivery Schedule. The Purchaser should note that in the event of an extension of the time to perform the Contract, the Purchaser would need to request an extension of this Guarantee from the bank. Such request must be in writing and must be made prior to the expiration date established in the Guarantee. In preparing this Guarantee, the Purchaser might consider adding the following text to the Form, at the end of the penultimate paragraph: "We agree to a one-time extension of this Guarantee for a period not to exceed [six months][one year], in response to the Purchaser's written request for such extension, such request to be presented to us before the expiry of the Guarantee."*

Notes:

1. The most current listing of eligible countries can be viewed on the Public Information Center's Web page at: <http://www.worldbank.org/html/pic/PROCURE.html>. A list of firms debarred from participating in World Bank projects is available at: <http://www.worldbank.org/html/opr/procure/debarr.html>.
2. Any questions regarding this list should be addressed to the Senior Manager, Procurement Policy and Services Group, Operational Core Services Network, The World Bank

4. FORMAT FOR BANK GUARANTEE FOR ANNUAL MAINTENANCE

(To be stamped in accordance with Stamp Act, if any, of the country of the Issuing Bank)

Bank Guarantee No.:..... Date:

To:(Name of the purchaser)

Whereas(name of the Purchaser) hereinafter called "the Supplier" has undertaken, in pursuance of contract No. dated20.... to supply(Description of Goods and Services) hereinafter 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 recognized bank for the sum specified therein as security for compliance with the Supplier's performance obligations under the contract for Annual Maintenance and Repairs of the entire system including cost of spares after warranty period for next twenty six (26) months from the date of completion of warranty period after installation and commissioning.

AND WHEREAS we have agreed to give the Supplier a guarantee.

THEREFORE WE hereby affirm that we are Guarantors and responsible to you on behalf of the Supplier, up to a total of Rs.(amount of guarantee in words and figures) being 2.5% of the total cost of equipment and we undertake to pay you, 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 limit of Rs. (Amount of guarantee) as aforesaid, without you needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until day of 20

This guarantee is subject to the uniform Rates for Demand Guarantees ICC Publication No. 456 Except that sub-paragraph (ii) of sub article 20(a) is hereby excluded.

Signature and seal of Guarantors

Date:20.....

NOTE:

1. SUPPLIERS SHOULD ENSURE THAT SEAL AND CODE NO. OF THE SIGNATORY IF PUT BY THE BANKERS, BEFORE SUBMISSION OF THE BANK GUARANTEES.