

**International Competitive Bidding**

**BIDDING DOCUMENTS**

**Issued on: 31.12.2013**

**for**

**Procurement of Scientific & Technical  
Equipments and Related Services**

**ICB No.: NPMU/G-35**

*Credit # 4765 - IN*

**Project: Integrated Coastal Zone Management Project**

**Purchaser:**

**National Centre for Sustainable Coastal Management  
Ministry of Environment and Forests, Chennai**

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## **PART 1 - Bidding Procedures**



# Section I. Instructions to Bidders

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## Section I. Instructions to Bidders

### General

- 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 there to as specified in Section VI, Schedule of Requirements. The name and identification number of this International Competitive Bidding (ICB) 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.
- Source of Funds**
- 2.1 The Borrower or Recipient (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.

**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. <sup>1</sup> 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 party<sup>2</sup>;
    - (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 obligation<sup>3</sup>;
    - (iii) "collusive practice" is an arrangement between two or more parties<sup>4</sup> 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 party<sup>5</sup>;
    - (v) "obstructive practice" is
      - (aa) deliberately destroying, falsifying, altering or concealing of evidence material to the

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<sup>1</sup>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.

<sup>2</sup>"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.

<sup>3</sup>"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.

<sup>4</sup>"Parties" refers to participants in the procurement process (including public officials) attempting to establish bid prices at artificial, non-competitive levels.

<sup>5</sup>"Party" refers to a participant in the procurement process or contract execution.



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

- (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<sup>a</sup>, 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<sup>b</sup>

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<sup>a</sup>A 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.

<sup>b</sup>A nominated sub-contractor, consultant, manufacturer or supplier, or service provider (different names are used depending on the particular bidding document) is one which either has been:(i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and

subcontractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm 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.

**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 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.
- 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.

### **Contents of Bidding Documents**

- 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.

**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 twenty-one (21) 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.

**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

### Preparation of Bids

- 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.
- 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 the language **specified in the BDS**. 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 the language **specified in the BDS**, in which case, for purposes of interpretation of the Bid, such translation shall govern.
- 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 or Bid-Securing Declaration, 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) any other document **required in the BDS**.

**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.
- 12.2 The Bidder shall submit the Price Schedules for Goods and Related Services, according to their origin as appropriate, using the forms furnished in Section IV, Bidding Forms

**Alternative Bids**

- 13.1 Unless otherwise **specified in the BDS**, alternative bids shall not be considered.

**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, CIP, 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 each Price Schedule included in Section IV, Bidding Forms. The disaggregation 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 manufactured in the Purchaser's Country:
  - (i) the price of the Goods quoted EXW (ex works, ex factory, ex warehouse, ex showroom, or off-the-shelf, as applicable), including all customs duties 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 Purchaser's Country 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**.
- (b) For Goods manufactured outside the Purchaser's Country, to be imported:
  - (i) the price of the Goods, quoted CIP named place of destination, in the Purchaser's Country, or CIF named port of destination, as specified in the **BDS**;
  - (ii) the price for inland transportation, insurance, and other local services required to convey the Goods from the named place of destination to their final destination (Project Site) specified in the **BDS**;
  - (iii) in addition to the CIP prices specified in (b)(i) above, the price of the Goods to be imported may be quoted FCA (named place of destination) or CPT (named place of destination), if so specified in the **BDS**;
- (c) For Goods manufactured outside the Purchaser's Country, already imported:

*[For previously imported Goods, the quoted price shall be distinguishable from the original import value of these Goods declared to customs and shall include any rebate or mark-up of the local agent or representative and all local costs except import duties and taxes, which have been and/or have to be paid by the Purchaser. For clarity the bidders are asked to quote the price including import duties, and additionally to provide the import duties and the price net of import duties which is the difference of those values.]*

- (i) the price of the Goods, including the original import value of the Goods; plus any mark-up (or rebate); plus any other related local cost, and custom duties and other import taxes already paid or to be paid on the Goods already imported.
  - (ii) the custom duties and other import taxes already paid (need to be supported with documentary evidence) or to be paid on the Goods already imported;
  - (iii) the price of the Goods, obtained as the difference between (i) and (ii) above;
  - (iv) any Purchaser's Country sales and other taxes which will be payable on the Goods if the contract is awarded to the Bidder; and
  - (v) the price for inland transportation, insurance, and other local services required to convey the Goods from the named place of destination to their final destination (Project Site) specified in the **BDS**.
- (d) for 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).

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). Unless otherwise indicated in the



**BDS**, 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.

- Currencies of Bid**
- 15.1 The Bidder shall quote in the currency of the Purchaser's Country the portion of the bid price that corresponds to expenditures incurred in the currency of the Purchaser's country, unless otherwise specified in the **BDS**.
- 15.2 The Bidder may express the bid price in the currency of any country in accordance with Section V, Eligible countries. If the Bidder wishes to be paid in a combination of amounts in different currencies, it may quote its price accordingly but shall use no more than three currencies in addition to the currency of the Purchaser's Country.
- 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.
- 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.
- 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.

**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) 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;
- (b) that, if **required in the BDS**, in case of a Bidder not doing business within the Purchaser's Country, the Bidder is or will be (if awarded the contract) represented by an Agent in the country equipped and able to carry out the Supplier's maintenance, repair and spare parts-stocking obligations prescribed in the Conditions of Contract and/or Technical Specifications; and
- (c) that the Bidder meets each of the qualification criterion specified in Section III, Evaluation and Qualification Criteria.

**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 specified in the request for extension. Bid evaluation shall be based on the Bid Price without taking into consideration the above correction.

### **Bid Security**

- 21.1 The Bidder shall furnish as part of its bid, a Bid Security or a Bid-Securing Declaration, 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 letter of credit, or a bank guarantee from a banking institution, or a bond issued by a surety;
  - (b) be issued by a reputable institution selected by the bidder and located in any eligible country. If the institution issuing the bond is located outside the Purchaser's Country, it shall have a correspondent financial institution located in the Purchaser's Country to make it enforceable.
  - (c) 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;
  - (d) be payable promptly upon written demand by the Purchaser in case the conditions listed in ITB Clause 21.5 are invoked;
  - (e) be submitted in its original form; copies will not be accepted;
  - (f) remain valid for a period of 28 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 or a Bid- Securing Declaration is required in accordance with ITB Sub-Clause 21.1, any bid not accompanied by a substantially responsive Bid Security or Bid Securing Declaration 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 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
  - (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 The Bid Security or Bid- Securing Declaration of a JV must be in the name of the JV that submits the bid. If the JV has not been legally constituted at the time of bidding, the Bid Security or Bid-Securing Declaration shall be in the names of all future partners as named in the letter of intent mentioned in Section IV "Bidding Forms," Bidder Information Form Item 7.
- 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**.

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

**Submission and Opening of Bids****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.
- 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.**
- 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.
- 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.
- 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.

**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**.
- 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 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 or Bid-Securing Declaration, 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 or Bid-Securing Declaration, 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.

### **Evaluation and Comparison of Bids**

- Confidentiality**
- 28.1 Information relating to the examination, evaluation, comparison, and post-qualification 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 post-qualification 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.
- 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 is not in response to a request by the Purchaser 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.
- 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 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.

**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.
- 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.
    - (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 or Bid Securing Declaration, in accordance with ITB Clause 21, if applicable.
- Examination of Terms and Conditions; Technical Evaluation**
  - 33.1 The Purchaser shall examine the Bid to confirm that all terms and conditions specified in the GCC and the SCC have been accepted by the Bidder without any material deviation or reservation.
  - 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.
- Conversion to Single Currency**
  - 34.1 For evaluation and comparison purposes, the Purchaser shall convert all bid prices expressed in amounts in various currencies into an amount in a single currency **specified in the BDS**, using the selling exchange rates established by the source and on the date **specified in the BDS**.

- Domestic Preference** 35.1 Domestic preference shall not be a factor in bid evaluation, unless otherwise **specified in the BDS**.
- 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;
  - e) adjustments due to the application of a margin of preference, in accordance with ITB Clause 35 if applicable.
- 36.4 The Purchaser's evaluation of a bid will exclude and not take into account:
- (a) In the case of Goods manufactured in the Purchaser's Country, sales and other similar taxes, which will be payable on the goods if a contract is awarded to the Bidder;
  - (b) in the case of Goods manufactured outside the Purchaser's Country, already imported or to be imported, customs duties and other import taxes levied on the imported Good, sales and other similar taxes, which will be payable on the Goods if the contract is awarded to the Bidder;
  - (c) 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.

**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.

**Post-Qualification 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.

**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.

## Award of Contract

- 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.
- 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.
- 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.
- 42.3 The Purchaser shall publish in UNDB online and in the dgMarket 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.
- 42.4 Upon the successful Bidder's furnishing of the signed Contract Form and performance security 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.

**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-eight (28) days of receipt of the Agreement, the successful Bidder shall sign, date, and return it to the Purchaser.
- 43.3 Notwithstanding ITB 43.2 above, in case signing of the Contract Agreement is prevented by any export restrictions attributable to the Purchaser, to the country of the Purchaser, or to the use of the products/goods, systems or services to be supplied, where such export restrictions arise from trade regulations from a country supplying those products/goods, systems or services, the Bidder shall not be bound by its bid, always provided, always provided, however, that the Bidder can demonstrate to the satisfaction of the Purchaser and of the Bank that signing of the Contract Agreement has not been prevented by any lack of diligence on the part of the Bidder in completing any formalities, including applying for permits, authorizations and licenses necessary for the export of the products/goods, systems or services under the terms of the Contract.

**Performance  
Security**

- 44.1 Within twenty eight (28) 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 or execution of the Bid-Securing Declaration. 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 (BDS)

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	<b>A. General</b>																												
<b>ITB 1.1</b>	The Purchaser is: National Centre for Sustainable Coastal Management Ministry of Environment and Forests Koodal Building, Anna University Campus Chennai-600025, Tamil Nadu																												
<b>ITB 1.1</b>	<p>The number, identification and names of the lots comprising this ICB are: <b>NPMU/G-35- Procurement of Scientific &amp; Technical Equipments and Related Services</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Lot No.</th> <th style="text-align: center;">Description of the Instrument</th> <th style="text-align: center;">Unit</th> <th style="text-align: center;">Quantity</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1.</td> <td>Stable Isotope Ratio Mass Spectrometer With Carbonate, Water and Gas preparation devices</td> <td style="text-align: center;">Set</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">2.</td> <td>High Resolution Inductively Coupled Plasma Mass Spectrometer (HR-ICP-MS)</td> <td style="text-align: center;">Set</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">3.</td> <td>Wave length Dispersive X-ray Fluorescence Spectrometer (WDXRFS)</td> <td style="text-align: center;">Set</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">4.</td> <td>Automated nutrient analyzer for seawater application</td> <td style="text-align: center;">Set</td> <td style="text-align: center;">2</td> </tr> <tr> <td style="text-align: center;">5.</td> <td>LOW ENERGY HPGE GAMMA SPECTROMETRY SYSTEM</td> <td style="text-align: center;">Set</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">6.</td> <td>100% HPGE GAMMA SPECTROMETRY SYSTEM</td> <td style="text-align: center;">Set</td> <td style="text-align: center;">1</td> </tr> </tbody> </table>	Lot No.	Description of the Instrument	Unit	Quantity	1.	Stable Isotope Ratio Mass Spectrometer With Carbonate, Water and Gas preparation devices	Set	1	2.	High Resolution Inductively Coupled Plasma Mass Spectrometer (HR-ICP-MS)	Set	1	3.	Wave length Dispersive X-ray Fluorescence Spectrometer (WDXRFS)	Set	1	4.	Automated nutrient analyzer for seawater application	Set	2	5.	LOW ENERGY HPGE GAMMA SPECTROMETRY SYSTEM	Set	1	6.	100% HPGE GAMMA SPECTROMETRY SYSTEM	Set	1
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<b>ITB 2.1</b>	The Borrower is: <b>Government of India</b>																												
<b>ITB 2.1</b>	The name of the Project is: <b>Integrated Coastal Zone Management Project (Credit No: # 4765 - IN )</b>																												
<b>ITB 4.3</b>	A list of debarred firms is available at <a href="http://www.worldbank.org/debarr">http://www.worldbank.org/debarr</a>																												

<b>B. Contents of Bidding Documents</b>	
<b>ITB 7.1</b>	<p>For <b><u>Clarification of bid purposes</u></b> only, the Purchaser's address is:</p> <p>Attention is:</p> <p style="padding-left: 40px;">The Director National Centre for Sustainable Coastal Management Ministry of Environment and Forests Koodal Building, Anna University Campus, Chennai-600025, Tamil Nadu Email : procurement@ncscm.org Web: <a href="http://www.ncscm.org">www.ncscm.org</a></p>
<b>ITB 7.2</b>	<p><b>Add the following sub-para:</b></p> <p>A clarification meeting will be held at the following address and Date &amp; Time at which prospective bidders may request clarification of the project requirements and the criteria for qualification -</p> <p><b>Date: 20/01/2014 at 11.30 A.M.</b></p> <p>Place: National Centre for Sustainable Coastal Management Ministry of Environment and Forests Koodal Building, Anna University Campus, Chennai-600025, Tamil Nadu</p>
<b>C. Preparation of Bids</b>	
<b>ITB 10.1</b>	The language of the bid is: <b>English</b>
<b>ITB 11.1 (h)</b>	The Bidder shall submit the following additional documents in its bid: Manufacturer's Authorization Form
<b>ITB 13.1</b>	Alternative Bids <i>shall not be</i> considered.
<b>ITB 14.5</b>	The Incoterms edition is: Latest Version of " <i>Incoterms 2010</i> "
<b>ITB 14.6(a) (i)</b>	Insert the words "excise and other" in between the words "customs" and "duties" in Line 3 of this sub-clause. Insert the word ", VAT" in between the words 'sales' and 'and' in line 4 of this sub-clause.
<b>ITB 14.6(a) (ii)</b>	Insert the word ", VAT" in between the words 'sales-tax' and 'and' in line 1 of this sub-clause.



<b>ITB 14.6(a)</b>	<p>Add the following at the end of ITB Clause 14.6(a) as 14.6 (a) (iv)</p> <p>(iv) Bidders may like to ascertain availability of Deemed Export or other Benefits. 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 separately.</p> <p>Where the bidder has quoted taking into account such benefits, he must give all information required for issue of the Project Authority/ Payment and other Certificates in terms of the Import Export Policy or Central Excise Notifications along with his bid in Form Serial No. 8 of Section VI. The Project Authority/payment/other Certificates will be issued on this basis only and no subsequent change will be permitted. Where such Certificates are issued by the Purchaser, Excise Duty will not be reimbursed separately.</p> <p>Bids which do not conform to this provision, will be treated as non-responsive and rejected.</p>
<b>ITB 14.6 (b) (i) and (c) (iii)</b>	<p>Place of Destination: At Locations detailed in: Section VI. Schedule of Requirements in "List of Goods and Delivery Schedule"</p>
<b>ITB 14.6 (a) (iii);(b)(ii) and (c)(v)</b>	<p>"Final destination (Project Site)": National Centre for Sustainable Coastal Management Ministry of Environment and Forests Koodal Building, Anna University Campus, Chennai-6000025, Tamil Nadu</p>
<b>ITB 14.6 (b) (iii)</b>	<p>Not Required</p>
<b>ITB 14.7</b>	<p>The prices quoted by the Bidder <i>shall not</i> be adjustable.</p>
<b>ITB 14.8</b>	<p>Prices quoted for each lot shall correspond at least to 100% of the items specified for each lot.</p>
<b>ITB 15.1</b>	<p>Clause 15.1 is not applicable and Clause 15.2 applies to all goods and services.</p>
<b>ITB 18.3</b>	<p>Period of time the Goods are expected to be functioning (for the purpose of spare parts): <b>10 years</b></p>

ITB 19.1 (a)	Manufacturer's Authorization is <i>required as per proforma in Section IV for all the Lots.</i>																					
ITB 19.1 (b)	After sales service is <i>required</i> for two years comprehensive service after warranty period of one year. Service frequency once a quarter for each of the Equipments.																					
ITB 19.1 (d)	<p>Add the following as Clause s19.1(d) and (e)</p> <p>"19.1(d) If an agent submits bids on behalf of more than one Manufacturer, unless each such bid is accompanied by a <u>separate bid form for each bid and a bid security</u>, for each bid and authorization from the respective Manufacturer, all such bids will be rejected as non-responsive."</p> <p>19.1 (e) Supplies for any particular item in each lot of the bid should be from one manufacturer only for the entire quantity required. Bids from agents offering supplies for different items included in the lot with Manufacturer's authorization from different manufacturers for different item of the lot in the bid will be treated as non-responsive.</p>																					
ITB 19.1 (f)	Bids from Joint Ventures are not acceptable.																					
ITB 20.1	The bid validity period shall be <b>90</b> days after the bid submission deadline date prescribed by the Purchaser.																					
ITB 21.1	Bid shall include a Bid Security (issued by bank or surety) in the form included in Section IV Bidding Forms.																					
ITB 21.2	<p>The amount of the Bid Security shall be for each Lot as under. In case the bidder wishes to bid for more than one Lot, he shall submit each bid separately along with the bid security of the specified amount.</p> <p>Bid Security amount</p> <table data-bbox="516 1415 1052 1703"> <thead> <tr> <th></th> <th>INR</th> <th>US \$</th> </tr> </thead> <tbody> <tr> <td>1. Lot 1-</td> <td>3,00,000.00</td> <td>5,000</td> </tr> <tr> <td>2. Lot 2-</td> <td>4,00,000.00</td> <td>6,600</td> </tr> <tr> <td>3. Lot 3-</td> <td>1,50,000.00</td> <td>2,500</td> </tr> <tr> <td>4. Lot 4-</td> <td>1,00,000.00</td> <td>1,600</td> </tr> <tr> <td>5. Lot 5-</td> <td>1,25,000.00</td> <td>2,100</td> </tr> <tr> <td>6. Lot 6-</td> <td>1,50,000.00</td> <td>2,500</td> </tr> </tbody> </table> <p><b>The Bid security shall be in Indian Rupees or US dollar as specified above or in an equivalent amount in a freely convertible currency.</b></p>		INR	US \$	1. Lot 1-	3,00,000.00	5,000	2. Lot 2-	4,00,000.00	6,600	3. Lot 3-	1,50,000.00	2,500	4. Lot 4-	1,00,000.00	1,600	5. Lot 5-	1,25,000.00	2,100	6. Lot 6-	1,50,000.00	2,500
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5. Lot 5-	1,25,000.00	2,100																				
6. Lot 6-	1,50,000.00	2,500																				

	<p>If the bid security is taken in India, it should be from Nationalized/Scheduled Banks.</p> <p>In sub-para (b), line 2, substitute the word 'bond' with 'security'.</p>
<b>ITB 21.7</b>	<b>Not Applicable</b>
<b>ITB 22.1</b>	In addition to the original of the bid, the number of copies is: <b>Two (2)</b>
<b>ITB 22.2</b>	<p>Please add the following at the end of this clause:</p> <p>"A copy of the Power of Attorney" confirming the signature as a person duly authorized to sign on behalf of the bidder should be attached with the bid."</p>
	<b>D. Submission and Opening of Bids</b>
<b>ITB 23.1</b>	Bidders <i>shall not</i> have the option of submitting their bids electronically.
<b>ITB 23.1 (b)</b>	If bidders shall have the option of submitting their bids electronically, the electronic bidding submission procedures shall be: <i>Not Applicable</i>
<b>ITB 23.2 (c)</b>	<p>The inner and outer envelopes shall bear the following additional identification marks:</p> <p style="text-align: center;"><b>ICB No.: NPMU/G-35, Lot no. ...., Name of Project - Integrated Coastal Zone Management Project (Credit no: # 4765 - 0 IN ), Name of Equipments - Scientific &amp; Technical Equipments and Related Services</b></p>
<b>ITB 24.1</b>	<p>For bid submission purposes, the Purchaser's address is:</p> <p>National Centre for Sustainable Coastal Management  Ministry of Environment and Forests  Koodal Building, Anna University Campus,  Chennai-600025, Tamil Nadu, India  Phone: +91 44 22300108, Fax: 91 44 2220 0158</p> <p>The deadline for the submission of bids is:</p> <p>Date: <b>18/02/2014</b>  Time: <b>10:00 A.M.</b></p> <p>Add at the end of ITB Clause 24.1 the following:</p> <p>"In the event of the specified date for the submission of bids, being declared a holiday for the Purchaser, the bids will be received upto the appointed time on the next working day."</p>

ITB 27.1	<p>The bid opening shall take place at:</p> <p>In The office of :-</p> <p>The Director National Centre for Sustainable Coastal Management Ministry of Environment and Forests Koodal Building, Anna University Campus Chennai-600025, Tamil Nadu, India Phone: +91 44 22300108,Fax: 91 44 2220 0158</p> <p>Date: <b>18/02/2014</b></p> <p>Time: <b>10.30A.M.</b></p> <p>Add at the end of ITB Clause 27.1 the following:</p> <p>“In the event of the specified date of the bid opening being declared a holiday for the Purchaser, the bids shall be opened at the appointed time and location on the next working day.”</p>
ITB 27.1	<p>If electronic bid submission is permitted in accordance with ITB sub-clause 23.1, the specific bid opening procedures shall be: <i>Not Applicable</i></p>
	<p><b>E. Evaluation and Comparison of Bids</b></p>
ITB 30.4	<p>Add the following sub-clause:</p> <p>“Bids from Agents without proper authorization from/ the manufacturer/ dealership certificate as per Clause 19.1(a) of ITB shall be treated as non-responsive.”</p>
ITB 33.1	<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"> <li>- Bid Security [ITB Clause 21];</li> <li>- Performance Security [GCC Clause 18];</li> <li>- Governing Law (GCC Clause 9);</li> <li>- Deemed Export [Note under 14.6(a) of ITB Bid Data Sheet];</li> <li>- Taxes and Duties [GCC/SCC Clause 17];</li> <li>- Warranty [GCC/SCC Clause 28];</li> <li>- Force Majeure [GCC Clause 32]; and</li> <li>- Limitation of Liability [GCC Clause 30].</li> </ul>
ITB 34.1	<p>Bid prices expressed in different currencies shall be converted in: <i>Indian Rupees</i></p> <p>The source of exchange rate shall be: <i>BC selling exchange rate from State Bank of India Chennai main Branch .</i></p> <p>The date for the exchange rate shall be: <b>Date of bid opening.</b></p>

ITB 35.1	Domestic preference <i>shall</i> be a bid evaluation factor.
ITB 36.3(a)	<p>Evaluation will be done for each Lot separately.</p> <p>Bids will be evaluated lot by lot. There are 6 (Six) Lots in this IFB.</p> <p>Bidder should quote for the complete requirement for goods and services specified in a Lot as stated in ITB clause 14.8, failing which, such bids will be treated as non-responsive.</p>
ITB 36.3(d)	<p>The adjustments shall be determined using the following criteria, from amongst those set out in Section III, Evaluation and Qualification Criteria:</p> <ul style="list-style-type: none"> <li>(a) Deviation in Delivery schedule: <b>Not Used</b></li> <li>(b) Deviation in payment schedule: Applicable; the interest rate is 12% per annum</li> <li>(c) the cost of major replacement components, mandatory spare parts, and service: <b>Not Used</b></li> <li>(d) the availability in the Purchaser's Country of spare parts and after-sales services for the equipment offered in the bid : <b>Yes</b>, The bidder shall confirm the availability of spare parts and after-sales service within India and provide the address for verification or confirm that the bidder will establish the above services within 30 days of notification of award. If the bidder quotes separately for setting up of the above services, then this cost will be added for evaluation purposes.</li> <li>(e) The prices quoted by the bidder towards Annual Maintenance charges for the respective Lots 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 12% per annum; the NPV shall then be added to the bid prices of the respective Lots.</li> </ul>
ITB 36.6	Bidders <b>shall</b> be allowed to quote separate prices for one or more Lots.
<b>F. Award of Contract</b>	
ITB 41.1	<p>The maximum percentage by which quantities may be increased is : <b>15 %</b></p> <p>The maximum percentage by which quantities may be decreased is : <b>15 %</b></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. Domestic Preference (ITB 35.1)
2. Evaluation Criteria (ITB 36.3 (d))
3. Multiple Contracts (ITB 36.6)
4. Post-Qualification Requirements (ITB 38.2)

## 1. Domestic Preference (ITB 35.1) -

Bids will be classified in one of three groups, as follows:

- (a) **Group A:** Bids offering goods manufactured in the Purchaser's Country, for which (i) labor, raw materials, and components from within the Purchaser's Country account for more than thirty (30) percent of the EXW price; and (ii) the production facility in which they will be manufactured or assembled has been engaged in manufacturing or assembling such goods at least since the date of bid submission.
- (b) **Group B:** All other bids offering Goods manufactured in the Purchaser's Country.
- (c) **Group C:** Bids offering Goods manufactured outside the Purchaser's Country that have been already imported or that will be imported.

To facilitate this classification by the Purchaser, the Bidder shall complete whichever version of the Price Schedule furnished in the Bidding Documents is appropriate provided, however, that the completion of an incorrect version of the Price Schedule by the Bidder shall not result in rejection of its bid, but merely in the Purchaser's reclassification of the bid into its appropriate bid group.

The Purchaser will first review the bids to confirm the appropriateness of, and to modify as necessary, the bid group classification to which bidders assigned their bids in preparing their Bid Forms and Price Schedules.

All evaluated bids in each group will then be compared to determine the lowest evaluated bid of each group. Such lowest evaluated bids shall be compared with each other and if as a result of this comparison a bid from Group A or Group B is the lowest, it shall be selected for the award.

If, as a result of the preceding comparison, the lowest evaluated bid is from Group C, the lowest evaluated bid from Group C bids will then be further compared with the lowest evaluated bid from Group A, after adding to the evaluated bid price of goods offered in the bid for Group C, for the purpose of further comparison only an amount equal to fifteen (15) percent of the CIP (named place of destination) bid price. The lowest-evaluated bid determined from this last comparison shall be selected for the award."

## 2. Evaluation Criteria (ITB 36.3 (d))

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, the following factors as specified in ITB Sub-Clause 36.3(d) and in BDS referring to ITB 36.3(d), using the following criteria and methodologies.

- (a) **Delivery schedule:** 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 no adjustment will be carried.



- (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 (d).
- (c) Cost of major replacement components, mandatory spare parts, and service. **Not Used**
- (d) Availability in the Purchaser's Country of spare parts and after sales services for equipment offered in the bid.

The bidder shall confirm the availability of spare parts and after-sales service within India and provide the address for verification or confirm that the bidder will establish the above services within 30 days of notification of award. 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(d), if quoted separately, shall be added to the bid price, for evaluation purposes only.

- (e) Comprehensive Annual Maintenance Cost.

An adjustment to take into account the annual maintenance costs of the Equipment will be added to the bid price, for evaluation purpose as 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).

- (f) Performance and productivity of the equipment. **Not Used**
- (g) Specific additional criteria : Nil

### 3. Multiple Contracts (ITB 36.6)

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

The Purchaser shall:

- (a) evaluate only lots or contracts that include at least the percentages of items per lot and quantity per item as specified in ITB Sub Clause 14.8.
- (b) take into account:
  - (i) the lowest-evaluated bid for each Lot and
  - (ii) the price reduction per Lot and the methodology for its application as offered by the Bidder in its bid.

### 4. 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 for the successful bidder in any two of the last five Financial Years i.e. from 2008-09 to 2012-13 shall be of amount as indicated below in INR or an equivalent amount in a freely convertible currency -

1. Lot 1-	3,00,00,000.00 INR
2. Lot 2-	4,00,00,000.00 INR
3. Lot 3-	1,50,00,000.00 INR
4. Lot 4-	1,00,00,000.00 INR
5. Lot 5-	1,25,00,000.00 INR
6. Lot 6-	1,50,00,000.00 INR

**N.B.: To qualify for more than one Lot 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 Lots.**

- (b) Experience and Technical Capacity

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

- (i) The Bidder shall furnish documentary evidence to demonstrate that he has successfully supplied, installed and commissioned at least 100% of the quantity of items included in a lot as detailed in schedule of requirements (the equipment shall be same or similar in nature) in any one of the last five Financial Years i.e. from 2008-09 to 2012-13.
- (ii) If the bidder is a manufacturer, he must have manufactured, tested and supplied the goods, similar to the type specified in the "Schedule of Requirements" up to at least 200% of the quantity of items included in a lot as detailed in Schedule of Requirements in any one of the last 5 Financial Years i.e. from 2008-09 to 2012-13. Further, the 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.

In case the bidder is not the manufacturer or producer of the goods it offers to supply and has submitted the bid in accordance with ITB clause 19.1 (a), the bid shall include the above information about the manufacturer whose goods has been offered, and the said manufacturer shall meet the requirement specified in (ii) above.

In both the above two cases, the list of supplied Equipments & Instruments shall include:

- Name and address of Purchaser with contact details as email address/phone No.
- Contract no. and date.

- Equipments ordered/supplied & delivered with their respective quantities.
- Scheduled delivery date and actual delivery date.
- Details of Complaint, if any, received from the purchaser about the performance of the Equipments & Instruments.

The bidder shall furnish the requisite details as per proforma for Performance Statement provided in Section VI.

- (iii) The Equipments offered for supply must be of the most recent series models incorporating the latest improvements in design and with improvement features as applicable in the last five years.
- (c) 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 equipment 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.



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## Section IV. Bidding Forms

### Table of Forms

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## 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]*

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

Page \_\_\_\_\_ of \_\_\_\_\_ pages

1. Bidder's Legal Name <i>[insert Bidder's legal name]</i>
2. In case of JV, legal name of each party: <i>[insert legal name of each party in JV]</i>
3. Bidder's actual or intended Country of Registration: <i>[insert actual or intended Country of Registration]</i>
4. Bidder's Year of Registration: <i>[insert Bidder's year of registration]</i>
5. Bidder's Legal Address in Country of Registration: <i>[insert Bidder's legal address in country of registration]</i>
6. Bidder's Authorized Representative Information  Name: <i>[insert Authorized Representative's name]</i> Address: <i>[insert Authorized Representative's Address]</i> Telephone/Fax numbers: <i>[insert Authorized Representative's telephone/fax numbers]</i> Email Address: <i>[insert Authorized Representative's email address]</i>
7. Attached are copies of original documents of: <i>[check the box(es) of the attached original documents]</i>  <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.  <input type="checkbox"/> In case of JV, letter of intent to form JV or JV agreement, in accordance with ITB Sub-Clause 4.1.  <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, in accordance with ITB Sub-Clause 4.5.

## **Joint Venture Partner Information Form**

Not Used.

## 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]*

ICB 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 18 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 \_\_\_\_\_ *[insert the nationality of the Bidder, including that of all parties that comprise the Bidder and the nationality each subcontractor and supplier]*
- (h) We have no conflict of interest in accordance with ITB Sub-Clause 4.2;
- (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 4.3;
- (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.

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 line items 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: Goods Manufactured Outside the Purchaser's Country, to be Imported (For each Lot separately)

(Group C bids, goods to be imported)							Date: _____	
Currencies in accordance with ITB Sub-Clause 15							ICB No.: _____	
							Alternative No.: _____	
							Page No. _____ of _____	
1	2	3	4	5	6	7	8	9
Line Item No.	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price CIP <i>[insert place of destination]</i> in accordance with ITB 14.6(b)(i)	CIP Price per line item (Col. 5x6)	Price per line item for inland transportation and other services required in the Purchaser's country to convey the Goods to their final destination specified in BDS	Total Price per Line item (Col. 7+8)
<i>[insert number of the item]</i>	<i>[insert name of good]</i>	<i>[insert country of origin of the 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 unit price CIP per unit]</i>	<i>[insert total CIP price per line item]</i>	<i>[insert the corresponding price per line item]</i>	<i>[insert total price of the line item]</i>
							Total Price	

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

## Price Schedule: Goods Manufactured Outside the Purchaser's Country, already imported (For each Lot separately)

(Group C bids, Goods already imported)										Date: _____	
Currencies in accordance with ITB Sub-Clause 15										ICB No.: _____	
										Alternative No.: _____	
										Page No. _____ of _____	
1	2	3	4	5	6	7	8	9	10	11	12
Line Item No.	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price including Custom Duties and Import Taxes paid, in accordance with ITB 14.6(c)(i)	Custom Duties and Import Taxes paid per unit in accordance with ITB 14.6(c)(ii) , [to be supported by documents]	Unit Price net of custom duties and import taxes, in accordance with ITB 14.6 (c) (iii) (Col. 6 minus Col.7)	Price per line item net of Custom Duties and Import Taxes paid, in accordance with ITB 14.6(c)(i) (Col. 5×8)	Price per line item for inland transportation and other services required in the Purchaser's country to convey the goods to their final destination, as specified in BDS in accordance with ITB 14.6 (c)(v)	Sales tax, VAT and other taxes paid or payable per item if Contract is awarded (in accordance with ITB 14.6(c)(iv)	Total Price per line item (Col. 9+10)
<i>[insert number of the item]</i>	<i>[insert name of Goods]</i>	<i>[insert country of origin of the 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 unit price per unit]</i>	<i>[insert custom duties and taxes paid per unit]</i>	<i>[insert unit price net of custom duties and import taxes]</i>	<i>[ insert price per line item net of custom duties and import taxes]</i>	<i>[insert price per line item for inland transportation and other services required in the Purchaser's country]</i>	<i>[insert sales and other taxes payable per item if Contract is awarded]</i>	<i>[insert total price per line item]</i>
										Total Bid Price	

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

## Price Schedule: Goods Manufactured in the Purchaser's Country (For each Lot separately)

Purchaser's Country _____		(Group A and B bids)  Currencies in accordance with ITB Sub-Clause 15					Date: _____ ICB No.: _____ Alternative No.: _____ Page No. _____ of _____			
1	2	3	4	5	6	7	8	9	10	
Line Item No.	Description of Goods	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price EXW [including Excise Duty if any]	Total EXW price [including Excise Duty if any] per line item (Col. 4x5)	Price per line item for inland transportation and other services required in the Purchaser's Country to convey the Goods to their final destination	Cost of local labor, raw materials and components from with origin in the Purchaser's Country % of Col. 5	Sales tax, VAT and other taxes payable per line 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 cost of local labor, raw material and components from within the Purchase's country as a % of the EXW price per line item]</i>	<i>[insert sales and other taxes payable per line item if Contract is awarded]</i>	<i>[insert total price per item]</i>	
<b>Total Price</b>										

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

## Price and Completion Schedule - Related Services (For each Lot separately)

Currencies in accordance with ITB Sub-Clause 15						Date: _____
						ICB No.: _____
						Alternative No: _____
						Page No. _____ of _____
1	2	3	4	5	6	7
Service No.	Description of Services (excludes inland transportation and other services required in the Purchaser's country 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 or estimate)
<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.	Annual maintenance Charges - AMC (Maintenance, repair including supply of spare parts and updates of the supplied goods ) for Year 1 after the end of Warranty Period		National Centre for Sustainable Coastal Management, Ministry of Environment and Forests, Koodal Building, Anna University Campus, Chennai-6000025, Tamil Nadu, as detailed in: Section VI. Schedule of Requirements in "List of Goods and Delivery Schedule"			
2.	Annual maintenance Charges - AMC (Maintenance, repair including supply of spare parts and updates of the supplied goods ) for Year 2 after the end of Warranty period					
<b>Total Bid Price</b>						

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.]*

\_\_\_\_\_  
*[Bank's Name, and Address of Issuing Branch or Office]*

**Beneficiary:** \_\_\_\_\_ *[Name and Address of Purchaser]*

**Date:** \_\_\_\_\_

**BID GUARANTEE No.:** \_\_\_\_\_

We have been informed that *[name of the Bidder]* (hereinafter called "the Bidder") has submitted to you its bid dated (hereinafter called "the Bid") for the execution of *[name of contract]* under Invitation for Bids No. *[IFB number]* ("the IFB").

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

At the request of the Bidder, we *[name of Bank]* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *[amount in figures]* (*[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 Form of Bid; or
- (b) having been notified of the acceptance of its Bid by the Purchaser during the period of bid validity, (i) fails or refuses to execute the Contract Form; or (ii) fails or refuses to furnish the performance security, if required, in accordance with the Instructions to Bidders.

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 of the name of the successful bidder; or (ii) twenty-eight 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 (URDG) 2010 Revision, ICC Publication No. 758.

\_\_\_\_\_  
*[signature(s)]*

## Manufacturer's Authorization (where ever required as per the data sheet)

*[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 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]*

ICB 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.

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.

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]*

Dated on \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ *[insert date of signing]*



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## Section V. Eligible Countries

### 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 bidders, at the present time firms, goods and services from the following countries are excluded from this bidding:
  - (a) With reference to paragraph 1.8 (a) (i) of the Guidelines:  
Nil \_\_\_\_\_  
\_\_\_\_\_
  - (b) With reference to paragraph 1.8 (a) (ii) of the Guidelines:  
\_\_\_\_\_  
Nil \_\_\_\_\_



## **PART 2 - Supply Requirements**



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## Section VI. Schedule of Requirements

### Contents

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## 1. List of Goods & Delivery Schedule

Lot 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]
1.	Stable Isotope Ratio Mass Spectrometer With Carbonate, Water and Gas preparation devices	1	Set	National Centre for Sustainable Coastal Management, Ministry of Environment and Forests, Koodal Building, Anna University Campus, Chennai-6000025, Tamil Nadu	90 Days	180 Days	
2.	High Resolution Inductively Coupled Plasma Mass Spectrometer (HR-ICP-MS)	1	Set		90 Days	180 Days	
3.	Wave length Dispersive X-ray Fluorescence Spectrometer (WDXRFS)	1	Set		90 Days	180 Days	
4.	Automated nutrient analyzer for seawater application	2	Set		90 Days	180 Days	
5.	LOW ENERGY HPGE GAMMA SPECTROMETRY SYSTEM	1	Set		90 Days	180 Days	
6.	100% HPGE GAMMA SPECTROMETRY SYSTEM	1	Set		90 Days	180 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 into 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 Lots 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)) for each Lot in one batch (Four Scientific & Four Technical Personnel) for 10 days each for Lot No. 1, 2, 3, 5 & 6 and for 5 days for Lot No. 4 within 15 days of installation of the equipments with a repeat training for 2 days after 1 month of initial training.

## 2. List of Related Services and Completion Schedule - For each lot separately

Service	Description of Service	Quantity <sup>1</sup>	Physical Unit	Place where Services shall be performed	Final Completion Date(s) of Services
1	2	3	4	5	6
1.	Annual maintenance Charges - AMC ( <i>Maintenance, repair including supply of spare parts and updates of the supplied goods</i> ) for Year 1 after the end of Warranty Period			National Centre for Sustainable Coastal Management, Ministry of Environment and Forests, Koodal Building, Anna University Campus, Chennai-6000025, Tamil Naduas detailed in: Section VI. Schedule of Requirements in "List of Goods and Delivery Schedule"	Service required every quarter
2.	Annual maintenance Charges - AMC ( <i>Maintenance, repair including supply of spare parts and updates of the supplied goods</i> ) for Year 2 after the end of Warranty period				Service required every quarter

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

### 3. Technical Specifications

Each Bidder has to prepare a comparison sheet as below -

Lot No.	Name of the Equipment	Required Specifications as per the Bid Document	Bidder's Offered Specifications	Remarks/ Deviations, if any
1.				
2.				
3.				
4.				
5.				
6.				

Technical Specifications for each of the 6 Lots are given below -

**Lot 1: Stable Isotope Ratio Mass Spectrometer with Carbonate, Water and Gas preparation devices**

**Instrument generals:**

One gas source stable isotope ratios Mass spectrometer (IRMS) having large geometry with high precision in the performance meg range determination of H/D,  $^{18}\text{O}/^{16}\text{O}$ ,  $^{13}\text{C}/^{12}\text{C}$  and  $^{15}\text{N}/^{14}\text{N}$ . The IRMS should be universal triple collector and HD collectors, Seven cups configuration to measure simultaneously m/z 28,32,40 for gas ratios of  $\text{N}_2/\text{O}_2/\text{Ar}$ , isotopic measurements of m/z 32, 33, 34, 28, 29, 44 to 46, and simultaneously measurements of Ne/Ar (m/z 20 and 40) and 29 and 28 of  $\text{N}_2$  ratios. IRMS must be capable of measuring extremely small amounts and low background concentration of natural sample as well as carbonates and organic materials via dual inlet mode but with a clear options for optimized operation in continuous flow mode.

The system should be sturdy and robust with a flexible and open platform for the connection of inlet system and preparation devices. The set up should have high quality data acquisition microprocessor and controlled through a comprehensive software suite to achieve fast sampling rates and to enable the unit to be easily setup turned and run automatically.



**Quotation generals:**

The company quoting for the IRMS shall provide a track record of performance (in the form of the list of scientific publications arising out of the IRMS) and shall provide worldwide user lists for last 5 years.

Quotation shall include full length of specification of mass spectrometer performance (shall match with the company's brochure/factory reports), including both internal and external precision in the measurement of H, C, O and N isotope ratios on standard gases.

The installation/ factory engineer should install and demonstrate the various performance parameters of the IRMS accordingly to those mentioned in the factory reports and / or quoted in the deal.

**Instruments configurations/ specifications:**

1. **Mass range:** At least 1-96 amu.
2. **Mass resolution:** For C, N, O:  $m/\Delta m > 110$  (10% valley); For H:  $m/\Delta m > 10$  (10% valley)
3. **Ion source linearity:**  
Better than 0.02 %/nA at a beam intensity of  $2 \times 10^{-8}$  A for CO<sub>2</sub>, measured on the 45/44 ratio.
4. **Absolute Sensitivity:**  
At least 850 molecules/ion CO<sub>2</sub> m/z44 ion under normal dual-inlet operation condition.
5. **Abundance sensitivity:**  
The contribution of the mass44 to mass45 intensity should be less than 4 ppm under dual-inlet operating conditions..
6. **H<sub>3</sub><sup>+</sup> factor:**  $\leq 10$  ppm/nA.
7. **The sample type, size and precision required under normal conditions are:**

(i) <i>Sample</i>	<i>Quantity</i>	<i>Precision</i>
1. Carbonate	<50 μgm	<sup>18</sup> O/ <sup>16</sup> O- $\leq 0.07\%$ ; <sup>13</sup> C/ <sup>12</sup> C- $\leq 0.03\%$ .
2. Organic matter	10-50 μg	C& $\leq 50$ μg N <sup>13</sup> C/ <sup>12</sup> C- $\leq 0.2\%$ ; <sup>15</sup> N/ <sup>14</sup> N - $\leq 0.2\%$
3. Water	<1 ml	<sup>18</sup> O/ <sup>16</sup> O- $\leq 0.08\%$ ; H/D- $\leq 1.0\%$ .

### 8. Precision for normal operation in dual-inlet mode.

Isotope reference gas	Internal precision (‰) (2σ mean)	*External precision(‰) (1σ)
CO <sub>2</sub> (□ <sup>13</sup> C)	0.006 or less	0.04 or less
CO <sub>2</sub> (□ <sup>18</sup> O)	0.01 or less	0.06 or less
H <sub>2</sub> (□D)	0.1 or less	0.8 or less
N <sub>2</sub> (□ <sup>15</sup> N)	0.01 or less	0.1 or less

\*using the attached carbonate & water preparation devices.

### 9. Ion source:

High sensitivity should be self-aligning gas tight electron impact ion source and optimised for CO<sub>2</sub>,N<sub>2</sub> and H<sub>2</sub> measurement with extremely low and stable H<sub>3</sub><sup>+</sup> abundances.

**Ion Source Housing:** Stainless steel mono-block design without welding seams. The ion source housing shall be capable of baking to 90°C or better using integrated heaters.

### 10. Vacuum system:

Automatic, maintenance free turbo pumps (250 L/s) along with suitable rotary pumps (preferably Edwards or Hitachi) with no requirement of cooling water. Automatic system protection in case of vacuum system/power failure. The instrument control panel should display the status of the vacuum system.

### 11. Dual inlet system:

Viscous gas flow dual inlet system using a mono block design along with all metallic valves along with a turbo molecular pump for the waste line. Automatically adjustable gas storage bellows for automated pressure adjustment through computer control is necessary. Pressure transducers for variable volumes for reference gas & sample gas monitoring. The changeover valve shall be mounted directly on the ion source so as to minimize the dead volume and the gas path length. The inlet system shall be bakeable up to 90°C or better by integrated heaters. A *micro* dual inlet system shall be provided to measure extremely small amount of samples.

**12. Continuous flow system:** High linearity at least 0.002 per mil/nA.

### 13. Continuous flow and dual-inlet interface:

There should be a Continuous Flow interface with automated gas dilution system that could be coupled with an Elemental Analyzer (EA). It should be compatible with an EA to measure C, H N& O in solid samples and in water samples.

**14. Computer system:**

Compatible PC with 19 TFT and a colour laser network printer

**15. Automatic carbonate sample preparing device:**

Carbonate preparation device with acid dosing valve with provision for at least 46 samples and individual acid reaction of each sample. It shall be compatible with dual inlet system. The device shall be fully automatic and controlled by microprocessor with automated leak test and provision for individual vial leak test so as to prevent sample loss. Minimum carbonate measurable shall be <20 µg. The device shall yield a precision (1  $\sigma$  standard deviation) of <0.04 and <0.06 for  $\delta^{13}\text{C}$  &  $\delta^{18}\text{O}$  respectively.

**16. Water Sample preparation device:**

A fully automated water equilibration device for measuring i) dissolved inorganic carbon (DIC), ii) hydrogen and iii) oxygen isotopes in water and shall be compatible with dual inlet system. It shall yield a precision (1  $\sigma$  standard deviation) better than 0.04‰ ( $\delta^{13}\text{C}$ ) 0.8‰ ( $\delta\text{D}$ ) & 0.06‰ ( $\delta^{18}\text{O}$ ). Additionally, the supplier should also quote for online, continuous flow analysis of isotopes in water with necessary liquid auto sampler.

**18. Elemental analyser for C,H,N and O for solid samples:**

A fully automated high-precision flash combustion (~1400°C) Elemental Analyser (EA) for measuring the carbon and nitrogen concentration and connected to IRMS for the respective ( $^{13}\text{C}/^{12}\text{C}$ ,  $^1\text{H}/^2\text{H}$ ,  $^{15}\text{N}/^{14}\text{N}$  and  $^{18}\text{O}/^{16}\text{O}$ ) isotope analysis. The EA should have a random auto-sampler for unassisted operation. Consumables and spares should be provided for approximately 3000 samples and 2 sets of reducing and oxidizing columns including chemicals and traps. The EA should operate from the main computer itself.

**Additional requirements:****19. Manual and diagnostic tools:**

Full service manuals with complete circuit diagrams and circuit descriptions to be supplied both as hard copy as well CDs, along with diagnostic tools including interface cards and software, plus any specialized & general mechanical tools required for instrument servicing or repair should be provided. The quotation should include a clear statement of all site requirements for installation and operation of the equipment specified. It also need to mention what items would be provided by the supplier (apart from IRMS) and the site requirements for installation and operation of the equipment.

**20. Supporting equipments to be supplied along with the IRMS:**

The supporting facilities for the Mass Spectrometer should include:

**Compressor:** For generating compressed air for the system and associated peripherals.

**Cooling device:** A cryogenic cooling device for trapping moisture.

**Liquid nitrogen container:** Two 25 litre and two 10 litre liquid nitrogen containers for storing liquid nitrogen.

**Power back up:** A compact UPS with appropriate rating and power back up for not less than 2 hrs.

**Note: DETAILED TECHNICAL BROCHURES ALONG WITH THE QUOTATIONS SHOULD BE PROVIDED.**

**21. Standards:**

The supplier should provide all necessary gas/ liquid/ solid reference standards for the O, C, H and N analysis in water and sediments. The cost of the same may be quoted separately.

**22. External spare parts:**

- (a) Required gases in 47L steel cylinders should be supplied along with regulators and gas supply lines to the instrument including traps.
- (b) Sealing device for preparation of samples for elemental analyser.

**Lot 2: High Resolution Inductively Coupled Plasma Mass Spectrometer (HR-ICP-MS)****Instrument Generals**

- Automated, High Resolution Inductively Coupled Plasma Mass Spectrometer (HR-ICP-MS) system based on a double focusing system consisting of electrostatic and magnetic analyzer with single collector for trace element/isotopic analysis of corals, marine sediments, seawater samples, for a wide range of concentrations.
- System should be able to handle **seawater sample analysis** smoothly **without any adverse impact on the cones**
- The system should be capable of performing trace levels(parts per million) to ultra trace level (parts per trillion) multi elemental/isotopic analysis in aqueous media with high accuracy and precision for R & D applications. The instrument credibility should have been established for at least last eight years in the form of research publications in internationally reputed

Oceanographic science journals. Accuracy and precision have to be demonstrated. The supplier should provide a complete list of users worldwide with full address, e-mail and telephone numbers. Equipment should be operated at  $220V \pm 10 \%$ , and 50 Hz power supply. The system should comprise of the following components:

## Key Specification

### 1. Sample Introduction System

- The sample introduction system should consist of pneumatic nebulizer with provision for using other types of nebulizers and with Peltier Cooling for spray chamber.
- It should have computer controlled peristaltic pumps with minimum of three channels.
- Strong acid resistant (HF & Perchloric acid) spray chamber should be provided.
- High matrix capability: system should be capable of carrying out direct and routine analysis of **high matrix samples (e.g., sea water without dilution)**.

### 2. Ion Source

- Argon plasma torch
- RF generator with minimum output power of 1.5 kW or more and minimum frequency of  $\sim 27$  MHz.
- Analysis of *Alkali and Alkaline Earth Metals* should be software selectable.

### 3. Cooling System

- Adequate water re-circulating chiller should be provided for continuous cooling of RF generator, RF load coil and ICP interface.

### 4. Vacuum System

- Rugged vacuum pump with low noise which should ensure a short startup time of 45 Min or less.
- The pressure in the analyzer should be in the range of  $10^{-6}$  to  $10^{-7}$  mbar (during operation) with full gas load.
- Platinum tipped skimmer and sampling cones, with easy to remove and clean options.

**5. Mass Analyzer System**

- The mass analyzer should consist of double focusing electrostatic and magnetic sector field.
- Scanning speed of 5000 amu or higher
- Signal Stability: < 3 % RSD in 10 min and < 4 % RSD in 1 hr

**6. Gas Flow Control System**

- The gas flow control system should be microprocessor based precise electronic mass flow controller for all gas channels (minimum five nos.) such as plasma support, auxiliary and sample carrier gases with provision for additional controllers for Laser Ablation, and Oxygen supply (accessory for organic samples)
- The gas flow control system should have computer controlled safety interlocks and automatic gas flow controls for startup and shutdown operation.

**7. Detector System**

- Dynamic range: in the order of  $10^8$  cps or better
- Detector background noise should be less than 2 cps
- High sensitivity:  $1 \times 10^8$  cps/ppm or better for  $\text{In}^{115}$  or similar mid mass element (to be backed by certificate from a reputed laboratory).
- Stability: better than 0.5% drift per hour

**8. Auto Sampler**

- Auto sampler for handling 30 or more samples vials of about ~10 ml capacity each with cover for anti-contamination process.

**9. Instrument Control and Data Acquisition & Processing**

- Suitable software interface should be provided for operation and data acquisition
- The vendor should provide a branded PC of latest configuration with ~24" LED monitor with laser jet printer.

**10. Spare Parts and consumables**

- Spare components for trouble-free operation required for next five years after completion of warranty period should be clearly listed and quoted separately as option.
- Spares/consumables that will be supplied free of cost with the system should also be listed.
- Two additional sets of skimmer and sampling cones should be provided with the system as consumables.

**11. Installation and Acceptance Testing**

- Installation and acceptance testing requirements should be explicitly mentioned along with the technical bid/ specification.

**12. Software Upgrades**

The firm should provide free software upgrades from time-to-time at least for six years after the installation.

**13. Calibration standards:**

- The supplier should provide all necessary tune solutions for optimizing the instrument
- A set of multi-element calibration/standards of appropriate concentrations for the analysis should be included.

**14. Additional Requirements**

Gas Supplies: System should be supplied with all the necessary gases with cylinders, regulators, purifiers (especially Hg trap), panel, and plumbing.

**15. Manuals & circuit diagrams**

- A complete set of operational and maintenance manuals containing complete circuit diagrams should be provided in hardcopy as well as electronic copy.

**16. Laser Ablation System**

A laser ablation system is required for in situ elemental and isotopic analysis. The laser system should be compatible with the **HR-ICP-MS**.

The quotation should include a laser ablation system with the following specifications.

- It should be an Excimer, Nanosecond-pulse, UV laser system
- Sample fluence > 5 J/cm<sup>2</sup>, Pulse width: < 5 ns, Pulse stability: < 3% (1σ). Beam Delivery System should be able to deliver homogeneous beam energy with spot size between 5 and 120 μm. The sample holder should be coupled to X-Y-Z stage (with minimum travel along X, Y and Z directions) of 0.5 cm and with 1 μm or less, step resolution.
- Various designs/sizes (volume) of ablation cells and their features should be stated. All the parameters including laser firing, focusing, spot size control, sample maneuvering etc. should be software controlled and compatible with **HR-ICP-MS** software.
- The desirable spot sizes should be between 5 and 120 μm. It should have color video microscope and high resolution CCD camera with computer-controlled zoom lens for clear viewing of the sample.
- Should have options of single point, multipoint, line scan, area scan, area raster, depth profiling or draw a pattern to facilitate different mode of analyses.
- The company must ensure that the laser ablation unit is completely compatible with the HR-ICP-MS including automatic triggering capability.
- The Laser system with the above specifications should be quoted separately.
- After Sale Support for the Laser Ablation System should be provided by the bidder (to be backed by certificate)

**17. MicroMill Sampling Preparation Device (optional)**

- MicroMill is a microsampling device designed for high resolution milling of coral, rock or hard tissue samples with supporting hardware and software.
- High-precision milling.
- Sample height detection and tilt correction by a drill-tip sensor.
- Sample map navigation increases sample-area field-of-view.
- 50mm of computer-driven sample movement on X, Y and Z axes.
- Sub-sampling path interpolation.



### MicroMillSpecifications

Drilling capacity	~10 mm
End milling capacity	~10 mm
Face milling capacity	~16 mm
Longitudinal axis (X)	~200 mm
Crpss axis (Y)	~105 mm
Headstock travel (Z)	~195 mm
Throat	~140 mm
Max. distance spindle to table	~265 mm
Spindle speed Low range	~0-1000 $\pm$ 10% rpm
High range	~0-2000 $\pm$ 10% rpm

### Lot 3: Wave length Dispersive X-ray Fluorescence Spectrometer (WDXRFS)

Fully Automated sequential Wave length Dispersive X-ray Fluorescence Spectrometer (WDXRFS) for high speed, accurate and high precision qualitative, semi quantitative and **quantitative analysis**(from ppm to 100% concentration level) of elements from **Be** (at.no.4) to **U** (at.no.92) in **physico-chemical, geological and biological materials**.

The proposed WDXRF model should be of very recent technology & integrated with highest precision. It should have fully digitized instrumentation, high endurance electronics and fully automated for unsupervised analysis. The purpose being major, minor and trace element analysis of geological materials which includes different kinds of rocks, soil, mineral concentrate, and beneficiated products; physic chemical products and biological materials.

#### 1. X-RAY GENERATOR

- 1.1. Solid state high frequency generator with ratings of 60 -70 kV and 120-160 mA, with a minimum of 4.0 kW.
- 1.2. The generator stability should be around  $\pm$  0.0005% per 1% variation.
- 1.3. Generator should not switch off and on during loading and unloading of samples on measuring position.
- 1.4. Mains (Max. line) voltage should vary from -15% (minimum) to +10% (maximum).

- 1.5. Solid State Generator should have kV and mA selectable in suitable steps
- 1.6. A built in microprocessor should control all important functions of generator and spectrometer and allow service testing from remote locations and monitor tube life, water flow, temperature status etc.

## 2. X-RAY TUBE

- 2.1 High Performance Rh end window tube compatible with the above generator Ratings.
- 2.2 Ceramic insulation and tapered nose which can be operated with programmable setting with minimum distance between samples to X-ray tube target.
- 2.3 Very thin Be window (less than 50 micron) for achieving maximum primary X-rays intensity and brilliance.

**Additional set of tube with various anode materials should be included in the quote. The spare X- ray tube shall be capable of keeping in normal room temperature and normal room condition. Warranty period for the tube as well other spares should be provided.**

## 3. SPECTROMETER

- 3.1 The spectrometer should be microprocessor controlled and compatible with dual core processor PC.
- 3.2 The spectrometer should be equipped with a **eight to nine** position bi-directional crystal changer and the same should be supplied with **PET(002), GE-111, TLAP, LIF-200, LIF-220, LIF-420, ADP(101)** and multi layer synthetic crystals with larger 2d values that are suitable analysing the entire range of elements including **Sodium, Magnesium, Carbon, Boron and Beryllium.**
- 3.3 Motorized filter changer with at least three suitable filters, motorized collimator changer with at least three suitable collimators should be offered. The collimator should be automatically controlled with analytical software.

- 3.4 To enable fast evacuation, the chamber volume should be low, with suitable vacuum pump.
- 3.5 For maximum speed & highest sample through put all instrument parameters must be set simultaneously.
- 3.6 The sample spinner with about 0.5 revolutions per second (rps) should be inbuilt.
- 3.7 The design of the spectrometer should provide very close coupling between the anode of X-ray tube and sample.

#### 4. OPTICS

- 4.1 Closely coupled optics for increased intensity
- 4.2 The primary collimator positions (four) and choice of collimators ranging from ultra high resolution(150 micron), coarse (300 & 500 micron) to extra coarse(700 micron) should be provided to optimize the measuring conditions per elements
- 4.3 Six or more selectable channel masks should be made available to provide optimal peak to background ratios evaluation and eliminate radiation from sample holder/ masks.

#### 5. GONIOMETER

- 5.1 Gearless, microprocessor controlled goniometer using optical encoders which can be configured to cover all elements from Beryllium (Be) to uranium (U) in sequential mode
- 5.2 Total angle range:  $0-145^{\circ}2\theta$  or higher
- 5.3 Angular accuracy must be  $\geq 0.0025^{\circ}$  (for  $\theta$ ,  $2\theta$ )
- 5.4 Angular reproducibility must be around  $0.0002^{\circ}$  (for  $\theta$ ,  $2\theta$ )
- 5.5 To ensure shortest analysis slewing speed should be around  $40^{\circ} 2\theta$  per second
- 5.6 The goniometer design should be such that it should maintain with high speed, consistent accuracy and reliability.

## 6. DETECTORS

- 6.1 Provision for two types of detectors is essential
  - 6.1.1 Gas Flow Proportional counter [Ar(90%)/CH<sub>4</sub>(10%)]
  - 6.1.2 Scintillation detector
- 6.2 Third sealed detector (Xenon sealed detector) must be part of the Spectrometer for analysis of elements Ca, Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu and Zn for better LOD and maximum CPS ( 4400 KCPS)
- 6.3 A gas flow detector should be capable of operating at 17-145°2θ range to cover low Z elements.
- 6.4 For heavy elements, a scintillation detector should be mounted at the same crystal-detector distance as the like flow counter and in an offset position and can vary with suitable designation

## 7. COUNTING ELECTRONICS

- 7.1 Multi channel analyzer or similar arrangement to discriminate peaks of higher energies
- 7.2 Digital Automatic gain Control (AGC) or similar arrangement for pulse shrinking correction

## 8. SAMPLE HANDLING & PRESENTATION

- 8.1 The sample presentation system should be capable of handling solids, loose & compressed powders and fused beads in a variety of sample holders.
- 8.2 The X-ray path medium should be selectable by the operator or be programmable for automatic selection when working with a sample changer depending on the design.
- 8.3 Programmable primary beam filter for modifying X-ray excitation. A variety of interchangeable Cu, Al, Fe, Au etc. sample holder masks.
- 8.4 On line matrix correction facility & reporting shall be available.
- 8.5 There should be a provision for incorporating geological reference material during the analysis of unknown samples in addition to the standard (concentration) provided by the manufacturer in the software.

## **9. COMPUTER AND PERIPHERALS**

### **9.1 HARDWARE:**

System compatible high end PC, preferably with 21" high resolution, high contrast ratio, reputed make LCD monitor of high-quality, 3<sup>rd</sup> generation intel core i7 - 3770, greater than 3.0 GHz or higher, onboard dedicated graphics 2GB, sound, network card, 4 GB DDR2 RAM 667 MHz, 1 TB Hard Disk, 6 USB ports, PS2 optical mouse, 105+ Windows Key board along with a A4 size laser Printer with 4 MB RAM.

### **9.2. SOFTWARE FOR QUALITATIVE AND QUANTITATIVE ANALYSIS**

- 9.2.1 For maximum speed different instrument conditions shall be selectable within one scan.
- 9.2.2 Both digital and graphical recording of continuous and step scan shall be possible.  
Selection shall be possible of linear root & log scales for count rates as a function of  $2\theta$ , wavelength, energy or atomic number.
- 9.2.3 Software program manuals, etc. on CDs/DVDs and Hard Copies.  
Software should be updated free of charge during warranty.

## **10. POWER SUPPLY**

Power requirements for the instrument should be 220-240 VAC (preferably equal to 230VAC) 50A fused single phase, 50Hz frequency as prevailed in India.

## **11. OTHER TERMS AND CONDITIONS**

### **11.1. INSTALLATION & COMMISSIONING:**

- 11.1.1 Supplier of the equipment must provide pre-installation advice
- 11.1.2 The system should be complete in all respects. The firm must ensure complete integration of all subsystems with cables, connectors as required and show the performance of the equipment as per the inspection criteria at site.
- 11.1.3 The equipment should be calibrated to the International Standards
- 11.1.4 CRM and standards for *rare earth elements* should be included

**11.2. QUALITY & SAFETY:**

ISO 9001:2000 certified

Fully radiation protected system; radiation < 1  $\mu$ Sv/h

**Lot 4: Automated nutrient analyzer for seawater application**

The automated nutrient analyzer should run all methods in sequence, preferably based on Discrete Technology with the possibility to use 50mm Flow through Cell for seawater applications.

**List of Methods:**

Parameter	Range	Method description & chemistry	Reference method
Ammonia	0-200 ppb as N-NH <sub>3</sub> MDL <2 ppb	Phenate/Chlorine	- EPA - Grasshoff, Kremling and Ehrhardt: "Methods of Seawater Analysis";
Nitrate+Nitrite	0-200 ppb as N-NO <sub>x</sub> MDL < 1 ppb	Cd reduction, SAA/NED	- Grasshoff, Kremling and Ehrhardt: "Methods of Seawater Analysis";
Nitrite	0-50 ppb as N-NO <sub>2</sub> MDL < 0.5 ppb	SAA/NED	- EPA - Grasshoff, Kremling and Ehrhardt: "Methods of Seawater Analysis"; - SM 4500 NO <sub>2</sub>
Phosphate-Ortho	0-200 ppb as P-PO <sub>4</sub> , MDL <2 ppb	Molybdate/Ascorbic acid	- EPA - Grasshoff, Kremling and Ehrhardt: "Methods of Seawater Analysis" - SM 4500 PO <sub>4</sub>
Silicate	0-500 ppb SiO <sub>2</sub> MDL < 5 ppb	Molybdate/Ascorbic acid	- EPA - Grasshoff, Kremling and Ehrhardt: "Methods of Seawater Analysis"
Total Nitrogen	0-500 ppb N MDL < 5 ppb	External Digestion, N-NO <sub>3</sub> measured by Cd reduction & SAA+NED	Grasshoff, Kremling and Ehrhardt: "Methods of Seawater"
Total Phosphorous	0-300 ppb P MDL < 3 ppb	External Digestion, P-PO <sub>4</sub> measure by Molybdate/Ascorbic acid	Grasshoff, Kremling and Ehrhardt: "Methods of Seawater"
Sulfate	0-200 ppm SO <sub>4</sub> <sup>2-</sup> MDL < 5 ppm	Turbidimetric with Barium chloride and PVP to stabilize suspension	- EPA

**Analyzer specifications - Discrete analyzer (Flow through)**

<b>Specifications</b>	<b>Description</b>
Technology	Flow Through
<b>Sampling</b>	
Sample capacity	Min50-60 positions
Test Hour (single reagent method)	Min 80 tests/hour
Sample addition during run	Required
Dosing Syringe	900 $\mu$ L min resolution 1 $\mu$ L, min dispensed volume 3 $\mu$ L.
Syringe location	External
<b>Reagent area</b>	
Number of reagent positions	Min 15
Refrigerated reagent tray	Required
Reagent level sensor	Required
<b>Reaction area</b>	
Number of reaction wells (disposable)	Min 80-90 reaction cuvette
Reaction plate temperature	Adjustable 37 to 50 ° C +/- 0.2
<b>Incubator type</b>	Electrical
Detector area	
Flow Cell optical path length (mm)	Standard Flow Cell 10mm and 50 mm Flow cell for seawater applications (compulsory)
<b>Detector</b>	Colorimetric
Temperature controlled	Yes (mandatory)
Technology	Interferential Filters
Number of wavelength	Min 9 filters - mandatory
Peristaltic pump for sample transfer to Flow Cell	External
<b>Specifications</b>	<b>Description</b>
<b>NO<sub>3</sub> Sample reduction</b>	
Cadmium reduction module for N-NO <sub>3</sub>	Essential
Cadmium reduction type	Coil
Automated regeneration	Required
Closed loop	Yes (Mandatory)
<b>Software and Hardware options</b>	
PC	PC with latest Hardware configuration, Windows 7 operating software, ~19" Flat TFT Monitor, Key board, Mouse and Laser Printer

Communication Software :	<ul style="list-style-type: none"> <li>• Compatible communication software (Windows 7 compatible software)</li> <li>• should provide for automatic data exchange with external PC and</li> <li>• multiple data analysis modes</li> </ul>
Sample analysis	Independent list of parameters should be selected for each sample and stored in memory.
Sample ID:	Alphanumeric
<b>Sample &amp; reagent blank</b>	Mandatory to correct sample color
Sample spiking	Required
Random access to samples, calibrants etc.	Mandatory
Inclusive of External Sample digestion unit for <i>TN</i> and <i>TP</i> separately	Mandatory
Inclusive of reagent for Ammonia, Nitrate+Nitrite, Nitrite ,Phosphate-Ortho, Silicate, TN, TP and sulfate For 1000 samples	Mandatory
Spare 5 numbers of Cadmium reduction module for N-NO <sub>3</sub>	Mandatory
Multilevel QC	Min 5 levels
QC Check and pre programmed action in case of QC failure	Mandatory
Spike recovery check and Pre-programmed action in case of spike recovery lower than expected	Required
Calibration	9 point calibration
Calibrations fits	Min Linear & Polynomial
Calibration check against minimum correlation coefficient, if lower than expected, option for automatic calibration repeat	Mandatory
Reagent blank OD check if out of tolerance option for preprogrammed action(Please check this)	Mandatory
Results correction for moisture and weight, (used in soil analysis)	Mandatory
Sample pre dilution	Mandatory
Automated dilution and re-analysis of off scale samples	Mandatory
Working Calibrant and QC dilution from Stock solutions	Mandatory
Import Work list and export results to LIMS	Mandatory
Possibility to use multiple diluents	Mandatory



**Lot 5: LOW ENERGY HPGE GAMMA SPECTROMETRY SYSTEM****APPLICATION:**

For identification and determination of low energy gamma emitting radionuclides such as Pb-210 (46.5 KeV), U-235 (185 KeV) and Ra-226 (186 KeV) and also other important gamma emitting radionuclides such as Cs-137(660 KeV), Co-60(1170 KeV&1330 KeV), Pb-212(239 KeV), Pb-214(352 KeV), Bi-214(609 KeV) etc) in aquatic and terrestrial environmental samples (sediment core, soil, beachsand, rice, fishetc); for identification of specific radionuclides and calculation of their activities.

***Technical Specifications for Low Energy HPGe Gamma Spectrometry System***

Gamma spectrometry system having a Low Energy HPGe Germanium detector, Digital Signal Processing Device compatible with the above mentioned HPGe germanium detector (which includes internal high Voltage and preamplifier power supply, Spectroscopic amplifier, 16K Multichannel analyser) for amplification, optimal digital filtration of pulse signals going from the detection unit, spectral accumulation in internal memory and transfer to PC, Liquid nitrogen sensor and level monitor, suitable lead shielding with necessary full Software package and other cables and personal computer, printer,

**1. LOW ENERGY HPGe GERMANIUM DETECTOR UNIT: 1 NO**

1. 200 cc active volume (70x65 mm DxL)
2. U-type Cryostat, 30 liter dewar; distance between end cap and the top of chamber should be at least 30 cm
3. Suitable for measuring small samples inside the well and larger sample containers on the endcap or in Marinelli beakers
4. Provides the versatility for the broad range of samples and nuclides of interest described above.
5. Energy range limited to:
  - > 20 keV inside the well
  - > 40 keV outside
6. Well diameter : 16mm
7. Well depth : 40mm
8. Relative efficiency: Approx. 35%
9. Energy Resolution: < 750 eV at 122 KeV  
< 2.2 keV at 1332 KeV

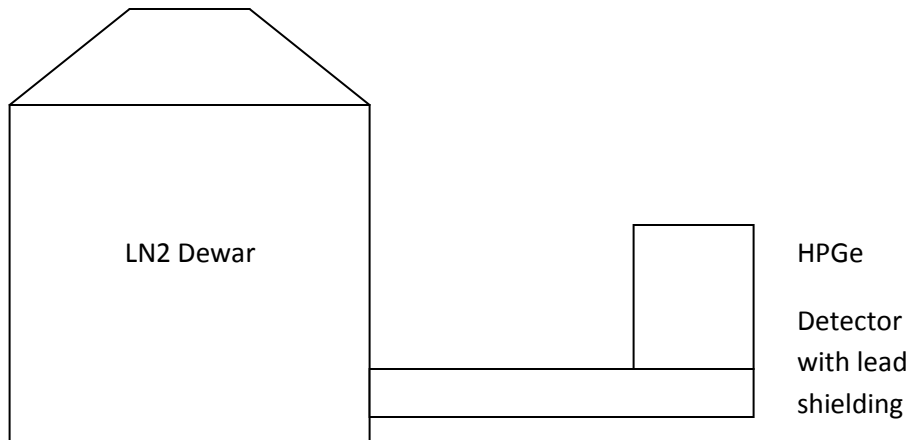
10. Energy Range: 20 keV up to 10 MeV
11. Input window thickness: 0.5 mm Al endcap with:  
Well insert: 0.5 mm side & 1 mm bottom  
End cap diameter: 3.5 " or 89 mm Suitable for 1L Marinelli
12. Preamplifier (remote from the detector capsule) with cooled FET and resistive feedback
  - Preamplifier power supply is  $\pm 12$  V with 9 pin connector compatible with NIM standards;
  - TTL signal to shut down the HV:
    - detector warm -0V, ; - detector cold: +5V;

HV INHIBIT - BNC.

LED indicator: High Rate, Warm and Cold
13. 3 metre Cable connectors: 9 pin - PA Power supply; 11 SHV - detector power supply; BNC - signal output of detector, test output preamplifier
14. Dewar Volume 30 litres; Dewar to detector gap: 588mm between center of dewar to center of endcap  
305mm free between flange and center of end cap
15. Liquid Nitrogen holding time in Dewar Vessel : 15 days

## **2. LOW BACKGROUND LEAD SHIELDING: 1 NO.**

Suitable ultra low background lead shield with copper-tin liner; Pb-210 emitted by the lead shield should be completely stopped entering the detector; A suitable steel table to keep the lead shielding also should be provided. Drawing of whole shielding system should be provided. For sample chamber access, the shielding is equipped with a swing-top door, allowing it to fit tightly against the shield body. 15 cm (6 in.) lead thickness, Ultra low-background materials, should have Purge port for radon expulsion and should have Graded tin-copper liner. Should be capable of stopping lead K-shell x rays in the energy range of 75-85 keV,



### **3. DIGITAL SIGNAL ANALYZER: 1 NO**

Key features of the Digital Signal Analyzer.

Integrated desktop MCA based on Digital Signal Processing (DSP)

- Excellent count rate and temperature stability
- 16K channels of spectral memory
- Dual memory groups
- Supports a wide range of detector types
- HPGe, NaI, Si(Li), CdTe or Cd(Zn)Te, (basically all common scintillation detectors with a preamp and compatible cable connections)
- USB 2.0 interface allows simple connection to computer
- Convenient small form-factor desktop package
- Full set of front panel indicators

Advanced patented\* auto pole /zero, base line restoration and digital stabilization capability

Web-based digital oscilloscope spectrum viewer and maintenance utility

Built-in power up diagnostics

- Performs pulse height analysis (PHA) or multi- channel scaling (MCS), Implemented by using successive approximation technique which reduces the automatic adjustment time to 10-15 seconds (typically), independent of base-line offset and immune to rise time variations. Inspection of the

base line is needed. Thus, the pole-zero can be adjusted precisely even at relatively high counting rates.

- Sample Changer support
- Monitor Out
- A real-time image of the internally-shaped energy signal for use with an external oscilloscope. Can be used in diagnostic mode to review the energy signal quality
- Separate positive and negative High Voltage connectors\*

HVPS RANGE 1:  $\pm 200 - \pm 1500$  V at 1 mA max.

RIPPLE: 5 mV P-P.

TEMPERATURE COEFFICIENT:  $\pm 50$  ppm/ $^{\circ}$ C.

STABILITY: 0.01%/h, 0.02%/8 h.

ACCURACY:  $\pm 5\%$ .  $\pm 2.5\%$  typical.

LOAD REGULATION: 1%.

SETTING RESOLUTION: 12-bit (1/4096).

HVPS RANGE 2:  $\pm 1500$  to 5000 V at 1  $\mu$ A max.

RIPPLE: 10 mV P-P.

TEMPERATURE COEFFICIENT:  $\pm 50$  ppm/ $^{\circ}$ C.

STABILITY - 0.01%/h, 0.02%/8 h.

ACCURACY:  $\pm 5\%$  to  $\pm 2.5\%$  typical.

LOAD REGULATION: 1%.

SETTING RESOLUTION: 12-bit (1/4096).

#### **4. SPECTROSCOPY MCA SOFTWARE: 1 NO.**

MCA SOFTWARE should have the following specifications

- (a) MCA software should be based on WINDOWS-7 operating system
- (b) WINDOWS graphical environment for control and spectrum manipulation via mouse and function keys
- (c) Multiple windows display
- (d) Multi MCD operation
- (e) Automatic operation through MACRO commands
- (f) Hardcopy output to any Printer or Plotter supported by MS-WINDOWS

- 1) The spectroscopy software shall be a complete environment for MCA Acquisition control, spectral display, complete gamma and/or alpha spectroscopy analysis and quality assurance.
- 2) The system shall include 3 utility programs: an MCA Input Definition Editor, a Certificate File Editor and a Nuclide Library Editor. All three programs shall operate in a consistent windowing human interface style for ease of use. A fourth utility shall be available to create and launch sequences of analysis steps that make up a complete analysis for a particular sample type. Multiple individual sequences shall be selectable tailored to the various counting requirements of the laboratory. All parameters and algorithms that are available for each analysis step must be definable with the editor utility.
- 3) The package shall support a variety of multichannel analyzer hardware – both manually and computer controlled. The different MCAs shall be supported consistently and seamlessly. The user shall be able to operate multiple MCAs from a single user interface window in a thoroughly consistent manner. Vendor literature provided with the response shall describe this capability in detail.
- 4) An Input Definition Wizard shall be provided that allows simple detector/MCA configurations to be defined using a set of straightforward fill-in-the-blanks screens.
- 5) The system shall offer two entirely separate user interface environments:

A fully interactive environment for the knowledgeable user shall allow full access to all system functions. This environment will be used for setup, experimental operation, data review and troubleshooting.

A batch procedure environment shall be available which allows for the creation of complete, dedicated application software. Minimum capabilities in the batch environment shall include the creation of custom, graphical user interface screens, full MCA control, access to all spectrum analysis facilities along with setup parameters, logic and decision making commands, loops, etc. A batch command shall also be available to launch a spectral display window or the full interactive environment. Programming libraries shall support the Visual Basic® and Visual C++® programming environments. The ability to use Visual Basic or Java® scripts for manual processing of spectral data or as part of an automated analysis sequence shall be a standard feature of the software.
- 6) The system shall offer comprehensive and varied spectral analysis facilities. Peak searches shall include user-directed ROI, library-driven and unidentified 2nd difference approaches. Peak area calculations shall be library-driven or by non-linear least squares fit – either for multiplet areas or for all peaks. An interactive peak fit feature shall provide a simple means to review peak fit results and add, edit or delete peaks as required. Nuclide identification shall include automatic detection and correction of interfering peaks, confirming lines identification with user

adjustable confidence factors and weighted mean activity calculation. Analysis capabilities shall be described in detail in supporting literature.

7) The software, shall include the following analysis and spectral processing capabilities:

- MCA control and spectral display of live or stored spectral data sources
- Ability to view up to eight spectra in a spectral viewing window, expand a spectrum and overlap two spectra in the same spectral viewing window
- Ability to control or view live acquisition with MCAs directly connected to the computer or with MCAs connected to the same network or another computer on the network (with permission)
- Unidentified 2nd difference peak search
- Simple summation peak analysis for singlet peaks
- User directed Region of Interest peak search
- Library directed peak search and area calculation
- Non-linear least squares fit peak analysis for multiplets and/or singlets
- Interactive or batch procedure calibrations for energy, peak shape, efficiency and peak-to-total ratios
- Complete reporting functions with reports to disk, hard copy and/or PDF format
- Spectrum smoothing (3, 5, 7, 9, 11 or 13 point)
- Spectrum stripping
- Tentative nuclide identification with peaks labeled and basic peak information available in the spectral viewing window
- Ability to compare and evaluate energy calibration and gain settings of two spectra – gain can automatically be adjusted in one spectrum to help match energy calibration of another for adding, stripping or comparing the two spectra

8) **Gamma Analysis package** should also include the following additional support for the following analysis features for gamma spectroscopy:

- Efficiency correction – Dual Polynomial, Linear, Empirical and Interpolated curve choices
- Nuclide identification and activity quantification
- Peak net area background subtraction
- Reference peak correction
- Automatic interference correction
- Parent/daughter decay correction

- Weighted mean activity calculation
- Minimum detectable activity (MDA) calculations including Currie and KTA methods
- True cascade summing correction
- Action/alarm level calculations
- Graphical line activity consistency evaluator for easy comparison of activities calculated for each energy line of multi-line nuclides
- Interactive spectral analysis capability for detailed inspection of peaks and reviewing/updating calibrations and nuclide libraries
- Interactive definition of geometry-related parameters including detector properties, sample dimensions/densities and distances/shielding between sample and detector. This feature is used with the cascade summing correction algorithm and optional sourceless efficiency calibration software packages.

Complete Operation and service manual should be provided

#### **5. LIQUID NITROGEN SENSOR AND MONITOR: 1 NO.**

Liquid nitrogen level monitor should provide the measurement and indication of the nitrogen level by indicator; The specification includes

- i. Digital level display
- ii. High and low alarm setpoints
- iii. Audible and visible alarm
- iv. Alarm relay
- v. Sensor tailored to cryostat

#### **6. LIQUID NITROGEN CONTAINER FOR TRANSPORT: 1 NO.**

1.LN <sub>2</sub> Capacity	:	50ltrs
2.Static Evaporation Loss Rate	:	0.5ltrs/day

#### **7. LIQUID NITROGEN TRANSFER DEVICE: 1 NO.**

Liquid Nitrogen Transfer Device should transfer Liquid Nitrogen from the following specification container

#### **8. DESKTOP PERSONAL COMPUTER: 1NO.**

Processor	CORE I3-550 , 3.2 GHZ SPEED /H57
RAM memory	8 GB DDR
Hard Disc	500 GB
Software	WINDOWS 7 or later

DVD	R/W DVD DRIVE - 8GB DISK READ/WRITE
Keyboard	PS/2; 104 keys
Mouse	Wireless Logitech Scroll mouse
Monitor	18.5" TFT
Printer	Laser Jet
Cabinet	P4 with 300 W SMPS

### 9. **ACCESSORIES:**

1. Cable of 3 metre length for signal and HV power supply
2. Cable Connectors: 9 Pin- PA power supply
3. BNC signal output of detector test output preamplifier
4. Operating Manual
5. Pack containing set of gamma emitting radioactive sealed sources including Pb-210 for calibration purpose.

### **Lot 6: 100% HPGE GAMMA SPECTROMETRY SYSTEM**

#### **APPLICATION:**

For identification and determination of low energy gamma emitting radionuclides such as Pb-210 (46.5 KeV), U-235 (185 KeV) and Ra-226 (186 KeV) and also other important gamma emitting radionuclides such as Cs-137(660 KeV), Co-60(1170 KeV&1330 KeV), Pb-212(239 KeV), Pb-214(352 KeV), Bi-214(609 KeV), K-40 (1.46 MeV) etc) in aquatic and terrestrial environmental samples (sediment core, seaweed, fish, soil, beachsand, rice etc); for identification of specific radionuclides and calculation of their activities.

#### ***Technical Specifications for 100% HPGe Gamma Spectrometry System***

Gamma spectrometry system having a 100% HPGe Germanium detector, Digital Signal Processing Device compatible with the above mentioned HPGe germanium detector (which includes internal high Voltage and preamplifier power supply, Spectroscopic amplifier, 16K Multichannel analyser) for amplification, optimal digital filtration of pulse signals going from the detection unit, spectral accumulation in internal memory and transfer to PC, Liquid nitrogen sensor and level monitor, suitable lead shielding with necessary full Software package and other cables and personal computer, printer,

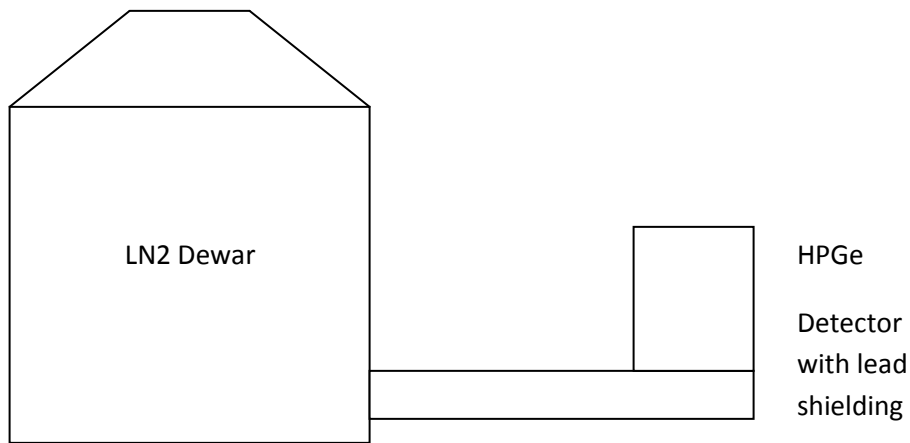


### 1. HPGe GERMANIUM DETECTOR UNIT

1.	Detector	A complete set containing a Low background, p-type high purity germanium coaxial detector with internal ion implanted contact, Preamplifier with cooled input stage.
2	Cryostat	Dip stick Cryostat/ U-type, 30 liter dewar;
3	Relative efficiency	100 % at 1.33 mev gamma photon (with respect to 3" x 3" NaI detector and Co-60 source mounted 25 cm above the detector)
4	Energy Resolution*	at - 122 keV: 1200eV - 1.332 MeV: $\leq 2.1K$ eV
5	Energy Range	40 KeV to >10 MeV
6		Diode for FET Protection
7	Peak/compton Ratio	80
8	Peak shape	FWTM / FWHM: 1.90
9	Input window material	Al
10	End cap diameter	102 mm
11	Preamplifier	Preamplifier (remote from the detector capsule) with cooled FET and resistive feedback <ul style="list-style-type: none"> <li>• Preamplifier power supply is <math>\pm 12</math> V with 9 pin connector compatible with NIM standards;</li> </ul> HV INHIBIT - BNC.
12	LED indicator	(a) high count rate (b) good operation (c) temperature
13	Cables	Cable connectors: 9 pin - PA Power supply; 11 SHV - detector power supply; BNC - signal output of detector, test output preamplifier
14	Cooling time	< 8 hours
15	Liquid Nitrogen holding time in Dewar Vessel	➤ 15 days
16	Dewar Volume	30litres

## 2. LOW BACKGROUND LEAD SHIELDING: 1 no.

Suitable ultra low background lead shield with copper-tin liner; Pb-210 emitted by the lead shield should be completely stopped entering the detector; A suitable steel table to keep the lead shielding also should be provided. Drawing of whole shielding system should be provided. For sample chamber access, the shielding is equipped with a swing-top door, allowing it to fit tightly against the shield body. 15 cm (6 in.) lead thickness, Ultra low-background materials, should have Purge port for radon expulsion and should have Graded tin-copper liner. Should be capable of stopping lead K-shell x rays in the energy range of 75-85 keV



## 3. DIGITAL SIGNAL ANALYZER: 1 no.

Key features of the Digital Signal Analyzer.

Integrated desktop MCA based on Digital Signal Processing (DSP)

- Excellent count rate and temperature stability
- 16K channels of spectral memory
- Dual memory groups
- Supports a wide range of detector types
- HPGe, NaI, Si(Li), CdTe or Cd(Zn)Te, (basically all common scintillation detectors with a preamp and compatible cable connections)
- USB 2.0 interface allows simple connection to computer
- Convenient small form-factor desktop package
- Full set of front panel indicators

Advanced patented\* auto pole /zero, base line restoration and digital stabilization capability

Web-based digital oscilloscope spectrum viewer and maintenance utility

Built-in power up diagnostics

- Performs pulse height analysis (PHA) or multi- channel scaling (MCS), Implemented by using successive approximation technique which reduces the automatic adjustment time to 10-15 seconds (typically), independent of base-line offset and immune to rise time variations. Inspection of the base line is needed. Thus, the pole-zero can be adjusted precisely even at relatively high counting rates.

- Sample Changer support
- Monitor Out

- A real-time image of the internally-shaped energy signal for use with an external oscilloscope. Can be used in diagnostic mode to review the energy signal quality

- Separate positive and negative High Voltage connectors\*

HVPS RANGE 1:  $\pm 200 - \pm 1500$  V at 1 mA max.

RIPPLE: 5 mV P-P.

TEMPERATURE COEFFICIENT:  $\pm 50$  ppm/ $^{\circ}$ C.

STABILITY: 0.01%/h, 0.02%/8 h.

ACCURACY:  $\pm 5\%$  to  $\pm 2.5\%$  typical.

LOAD REGULATION: 1%.

SETTING RESOLUTION: 12-bit (1/4096).

HVPS RANGE 2:  $\pm 1500$  to 5000 V at 1  $\mu$ A max

RIPPLE: 10 mV P-P.

TEMPERATURE COEFFICIENT:  $\pm 50$  ppm/ $^{\circ}$ C.

STABILITY: 0.01%/h, 0.02%/8 h.

ACCURACY:  $\pm 5\%$  to  $\pm 2.5\%$  typical

LOAD REGULATION: 1%

SETTING RESOLUTION: 12-bit (1/4096)

#### 4. SPECTROSCOPY MCA SOFTWARE: 1 no.

MCA SOFTWARE should have the following specifications

- (g) MCA software should be based on WINDOWS-7 operating system
  - (h) WINDOWS graphical environment for control and spectrum manipulation via mouse and function keys
  - (i) Multiple windows display
  - (j) Multi MCD operation
  - (k) Automatic operation through MACRO commands
  - (l) Hardcopy output to any Printer or Plotter supported by MS-WINDOWS
- 1) The spectroscopy software shall be a complete environment for MCA Acquisition control, spectral display, complete gamma and/or alpha spectroscopy analysis and quality assurance.
  - 2) The system shall include 3 utility programs: an MCA Input Definition Editor, a Certificate File Editor and a Nuclide Library Editor. All three programs shall operate in a consistent windowing human interface style for ease of use. A fourth utility shall be available to create and launch sequences of analysis steps that make up a complete analysis for a particular sample type. Multiple individual sequences shall be selectable tailored to the various counting requirements of the laboratory. All parameters and algorithms that are available for each analysis step must be definable with the editor utility.
  - 3) The package shall support a variety of multichannel analyzer hardware – both manually and computer controlled. The different MCAs shall be supported consistently and seamlessly. The user shall be able to operate multiple MCAs from a single user interface window in a thoroughly consistent manner. Vendor literature provided with the response shall describe this capability in detail.
  - 4) An Input Definition Wizard shall be provided that allows simple detector/MCA configurations to be defined using a set of straightforward fill-in-the-blanks screens.
  - 5) The system shall offer two entirely separate user interface environments:
    - A fully interactive environment for the knowledgeable user shall allow full access to all system functions. This environment will be used for setup, experimental operation, data review and troubleshooting.
    - A batch procedure environment shall be available which allows for the creation of complete, dedicated application software. Minimum capabilities in the batch environment shall include the creation of custom, graphical user interface screens, full MCA control, access to all spectrum analysis facilities along with setup parameters, logic and decision making commands, loops, etc. A batch command shall also be available to launch a spectral display window or the full interactive

environment. Programming libraries shall support the Visual Basic® and Visual C++® programming environments. The ability to use Visual Basic or Java® scripts for manual processing of spectral data or as part of an automated analysis sequence shall be a standard feature of the software.

- 6) The system shall offer comprehensive and varied spectral analysis facilities. Peak searches shall include user-directed ROI, library-driven and unidentified 2nd difference approaches. Peak area calculations shall be library-driven or by non-linear least squares fit – either for multiplet areas or for all peaks. An interactive peak fit feature shall provide a simple means to review peak fit results and add, edit or delete peaks as required. Nuclide identification shall include automatic detection and correction of interfering peaks, confirming lines identification with user adjustable confidence factors and weighted mean activity calculation. Analysis capabilities shall be described in detail in supporting literature.
- 7) The software, shall include the following analysis and spectral processing capabilities:
  - MCA control and spectral display of live or stored spectral data sources
  - Ability to view up to eight spectra in a spectral viewing window, expand a spectrum and overlap two spectra in the same spectral viewing window
  - Ability to control or view live acquisition with MCAs directly connected to the computer or with MCAs connected to the same network or another computer on the network (with permission)
  - Unidentified 2nd difference peak search
  - Simple summation peak analysis for singlet peaks
  - User directed Region of Interest peak search
  - Library directed peak search and area calculation
  - Non-linear least squares fit peak analysis for multiplets and/or singlets
  - Interactive or batch procedure calibrations for energy, peak shape, efficiency and peak-to-total ratios
  - Complete reporting functions with reports to disk, hard copy and/or PDF format
  - Spectrum smoothing (3, 5, 7, 9, 11 or 13 point)
  - Spectrum stripping
  - Tentative nuclide identification with peaks labeled and basic peak information available in the spectral viewing window
  - Ability to compare and evaluate energy calibration and gain settings of two spectra – gain can automatically be adjusted in one spectrum to help match energy calibration of another for adding, stripping or comparing the two spectra
  - Complete Operation and service manual should be provided

**5. LIQUID NITROGEN SENSOR AND MONITOR: 1 no.**

Liquid nitrogen level monitor should provide the measurement and indication of the nitrogen level by indicator; The specification includes

- i. Digital level display
- ii. High and low alarm setpoints
- iii. Audible and visible alarm
- iv. Alarm relay
- v. Sensor tailored to cryostat

**6. LIQUID NITROGEN CONTAINER FOR TRANSPORT: 1 no.**

- LN<sub>2</sub> Capacity : 50 ltrs
- Static Evaporation Loss Rate : 0.5ltrs/day

**7. LIQUID NITROGEN TRANSFER DEVICE:**

Liquid Nitrogen Transfer Device should transfer Liquid Nitrogen from the following specification container

**8. DESKTOP PERSONAL COMPUTER**

Processor	CORE I3-550 , 3.2 GHZ SPEED /H57
RAM memory	8 GB DDR
Hard Disc	500 GB
Software	WINDOWS 7 or later
DVD	R/W DVD DRIVE - 8GB DISK READ/WRITE
Keyboard	PS/2; 104 keys
Mouse	Wireless Logitech Scroll mouse
Monitor	18.5" TFT
Printer	Laser Jet

**9. ACCESSORIES:**

1. Cable of 3 metre length for signal and HV power supply
2. Cable Connectors: 9 Pin- PA power supply
3. BNC signal output of detector test output preamplifier
4. Operating Manual
5. Pack containing set of gamma emitting radioactive sealed sources for calibration purpose.

## 4. Drawings

Bidders have to submit Drawings in case of Lot 5: LOW ENERGY HPGE GAMMA SPECTROMETRY SYSTEM and Lot 6: 100% HPGE GAMMA SPECTROMETRY SYSTEM.

## 5. Inspections and Tests

### Pre-delivery Inspections and Tests

Manufacturer's test and inspection certificate to be provided along with the supply.

Inspection and tests prior to shipment of Goods and at final acceptance are as follows:

- (i) **Inspection:** The Drawing of each of the equipments is to be certified by the Director, National Centre for Sustainable Coastal Management, Ministry of Environment and Forests, Chennai, Tamil Nadu or expert/scientist as nominated by him. The equipments shall be inspected at the manufacturer's place, prior to dispatch and also after successful installation at National Centre for Sustainable Coastal Management, Ministry of Environment and Forests, Chennai, Tamil Nadu by the supplier/ Manufacturer expert. Such agency shall take the inspection and clearance certificate from the said qualified expert as nominated will be a mandatory document for release of payments.
- (ii) The inspection of the goods shall be carried out to check whether the instruments are in conformity with the technical specifications contained in the bid document and attached with the letter of acceptance 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 at the manufacturer's place before dispatch and also 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 should be supplied, installed and commissioned properly by the supplier prior to commencement of performance tests.
- (iii) The acceptance test after delivery will be conducted by a committee chaired by Scientist G, FTR Division, National Centre for Sustainable Coastal Management, Ministry of Environment and Forests, Chennai, Tamil Nadu with following members, who would inspect and make recommendation on the specification for acceptance -
  - a. Scientists from NCSCM, Chennai
  - b. Scientists from Madras University, Chennai
  - c. Experts from IIT Madras, Chennai
  - d. Manager Finance, NCSCM, Chennai

At its option, the Committee can co-opt any other subject matter specialist to facilitate the inspection. The acceptance will involve trouble-free operation for seven consecutive days. There shall not be any additional



charges for carrying out acceptance tests. No malfunction, partial or complete failure of any part of hardware or excessive heating of engines and sub-systems attached to instruments should occur. The supplier shall maintain necessary log in respect of the results of the tests to establish to the entire satisfaction of the purchaser, the successful completion of the test specified. An average uptake efficiency of 98% (*to modify as considered appropriate for each case*) for the duration of test period shall be considered as satisfactory.

- (iv) In the event of the hardware and software failing to pass the acceptance test, a period not exceeding two weeks 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 and Drawings**

- (a) Before the goods and equipment are taken over by the Purchaser, the Supplier shall supply operation and maintenance manuals together with drawings 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 and drawings 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 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 and all subsystems so necessary for operation of the equipments.. The supplier shall also indemnify the purchaser against any levies/penalties on account of any default in this regard.

### **Acceptance Certificates:**

On successful completion of acceptability test, receipt of deliverables etc, and after the purchaser is satisfied with the working on the equipments, 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.

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**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 startup 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 \_\_\_\_\_

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\*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 plant 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. PROFORMA FOR PERFORMANCE STATEMENT****(Please see ITB Clause 38.2  
and Para 4 of Section III  
Instructions to Bidders)**

(For a period of last five years)

Bid No: \_\_\_\_\_ Date of Opening: \_\_\_\_\_ Time : \_\_\_\_\_ Hours

Name of the Firm : \_\_\_\_\_

<u>Order Placed By</u> <u>(Full address of</u> <u>Purchaser)</u>	<u>Order No.</u> <u>and Date</u>	<u>Description and quantity</u> <u>of ordered equipment</u>	<u>Value of order</u>	<u>Date of completion of delivery:</u>		<u>Remarks indicating</u> <u>reasons for late</u> <u>delivery, if any</u>	<u>Has the equipment been</u> <u>satisfactorily functioning ?</u> <u>(Attach a certificate from</u> <u>the Purchaser/Consignee)</u>
				<u>As per contract</u>	<u>Actual</u>		

Signature and seal of the Bidder \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Integrated Coastal Zone Management Project

### 8. Declaration regarding Deemed Export Benefits

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

(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.) _____
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(iii)	Value of import content of supply to be made by the sub-contractor: (Breakup of list of items to be imported with value attached.)	Rs. _____ (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.*

### **9. Breakup of EXW price as required for determining eligibility for Domestic preference**

EXW Price.....

Serial No	Item	Cost
1	Local labor	
2	Cost of Raw materials procured from within India (list attached)	
3	Cost of Components from within India (list attached)	
4	Total	
5	Cost of labor, raw materials, and components from within India as a percentage of the EXW Price	

**Attach detailed list of (a) raw materials, and (b) components from within India indicating cost of each.**





### **PART 3 - Contract**



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## Section VII. General Conditions of Contract

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## Section VII. General Conditions of Contract

### Definitions

- 1.1 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 therefrom, 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 the country specified in the Special Conditions of Contract (SCC).
  - (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, 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.

**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.

**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 party<sup>6</sup>;

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<sup>6</sup> "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.

- (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 obligation<sup>7</sup>;
- (iii) “collusive practice” is an arrangement between two or more parties<sup>8</sup> 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 party<sup>9</sup>;
- (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 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 Clause 11 [Inspections and Audits by the Bank].

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<sup>7</sup> “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.

<sup>8</sup> “Parties” refers to participants in the procurement process (including public officials) attempting to establish bid prices at artificial, non competitive levels.

<sup>9</sup> “Party” refers to a participant in the procurement process or contract execution.

**Interpretation**

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.

4.1 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, CIP, FCA, CFR 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.

4.3 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.

4.4 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.

4.5 Non-waiver

(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.

#### 4.6 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.

### **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 written in the language specified in the SCC. 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 the language specified, 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.

### **Joint Venture, Consortium or Association**

- 6.1 If the Supplier is a joint venture, consortium, or association, all of the parties shall be jointly and severally liable to the Purchaser for the fulfillment of the provisions of the Contract and shall designate one party to act as a leader with authority to bind the joint venture, consortium, or association. The composition or the constitution of the joint venture, consortium, or association shall not be altered without the prior consent of the Purchaser.

### **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.

### 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.

### Governing Law

9.1 The Contract shall be governed by and interpreted in accordance with the laws of the Purchaser's Country, unless otherwise specified in the SCC.

### 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.
- 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).
- Scope of Supply**
- 12.1 The Goods and Related Services to be supplied shall be as specified in the Schedule of Requirements.
- 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.
- 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.
- 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.

- 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 currencies in which payments shall be made to the Supplier under this Contract shall be those in which the bid price is expressed.
  - 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.
- Taxes and Duties**
- 17.1 For goods manufactured outside the Purchaser's Country, the Supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the Purchaser's Country.
  - 17.2 For goods Manufactured within the Purchaser's country, the Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser.
  - 17.3 If any tax exemptions, reductions, allowances or privileges may be available to the Supplier in the Purchaser's Country, the Purchaser shall use its best efforts to enable the Supplier to benefit from any such tax savings to the maximum allowable extent.
- Performance Security**
- 18.1 If required as specified in the SCC, the Supplier shall, within twenty-eight (28) days of the notification of contract award, 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, if required, shall be denominated in the currency(ies) of the Contract, or in a freely convertible currency acceptable to the Purchaser; 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.

**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

**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.

**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.

**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.

**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.

- Insurance** 24.1 Unless otherwise specified in the **SCC**, the Goods supplied under the Contract shall be fully insured – in a freely convertible currency from an eligible country – 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**.
- Transportation** 25.1 Unless otherwise specified in the **SCC**, responsibility for arranging transportation of the Goods shall be in accordance with the specified Incoterms.
- 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.

**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.

**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.

**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.

**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

**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 the place of the Purchaser's country 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.

**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.

**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.

**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.

**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.

**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.

**Export Restriction** 37.1 Notwithstanding any obligation under the Contract to complete all export formalities, any export restrictions attributable to the Purchaser, to the country of the Purchaser, or to the use of the products/goods, systems or services to be supplied, which arise from trade regulations from a country supplying those products/goods, systems or services, and which substantially impede the Supplier from meeting its obligations under the Contract, shall release the Supplier from the obligation to provide deliveries or services, always provided, however, that the Supplier can demonstrate to the satisfaction of the Purchaser and of the Bank that it has completed all formalities in a timely manner, including applying for permits, authorizations and licenses necessary for the export of the products/goods, systems or services under the terms of the Contract. Termination of the Contract on this basis shall be for the Purchaser's convenience pursuant to Sub-Clause 35.3.



## 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.

<b>GCC 1.1(j)</b>	The Purchaser's country is: <b>India</b>
<b>GCC 1.1(k)</b>	The Purchaser is The Director National Centre for Sustainable Coastal Management, Ministry of Environment and Forests, Chennai.
<b>GCC 1.1 (q)</b>	The Project Site(s)/Final Destination(s) is/are: As detailed in :  <b>Section VI. Schedule of Requirements- In List of Goods and Delivery Schedule</b>
<b>GCC 4.2 (a)</b>	The meaning of the trade terms shall be as prescribed by Incoterms.
<b>GCC 4.2 (b)</b>	The version edition of Incoterms shall be Latest Version of " <b>Incoterms 2010</b> "
<b>GCC 5.1</b>	The language shall be: <b>English</b>
<b>GCC 8.1</b>	For <b>notices</b> , the Purchaser's address shall be: The Director National Centre for Sustainable Coastal Management Ministry of Environment and Forests Koodal Building, Anna University Campus, Chennai-600025,Tamil Nadu, IndiaPh No : 044-22300108 Email : <a href="mailto:procurement@ncscm.org">procurement@ncscm.org</a> Web: <a href="http://www.ncscm.org">www.ncscm.org</a>
<b>GCC 9.1</b>	The governing law shall be the law of: <b>India</b>
<b>GCC 10.2</b>	<b>Settlement of Disputes</b> 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

	<p>appointed subsequently, the Presiding Arbitrator shall be appointed by the Chairman of the Institution of Engineers (India), Tamil Nadu State Centre, Chennai.</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), Chennai 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 Chairman of the Institution of Engineers (India), Tamil Nadu State Centre, Chennai, both in cases of the Foreign supplier as well as Indian supplier, shall appoint the arbitrator. A certified copy of the order of the Chairman of the Institution of Engineers (India), Tamil Nadu State Centre, Chennai 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 Chairman of the Institution of Engineers (India), Tamil Nadu State Centre, Chennai.</p> <p>(g) Except otherwise agreed by the Parties, Arbitrator should give a decision in writing within 120 days of receipt of notification of dispute</p>

<b>GCC 13.1</b>	<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></p> <p>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"><li>(i) Two Copies of Supplier's invoice showing contract number, goods description, quantity, unit price and total amount;</li><li>(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;</li><li>(iii) Two Copies of packing list identifying contents of each package;</li><li>(iv) Insurance certificate;</li><li>(v) Manufacturer's/Supplier's warranty certificate;</li><li>(vi) Inspection certificate issued by the nominated inspection agency if any, and the Supplier's factory inspection report; and</li><li>(vii) Certificate of origin.</li></ul> <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>
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	<p>(b) <u>For Goods from within India:</u></p> <p>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"> <li>(i) Two Copies of the Supplier invoice showing contract number, goods description, quantity, unit price, total amount;</li> <li>(ii) Delivery note, Railway receipt, or Road consignment note or equivalent transport document or acknowledgement of receipt of goods from the Consignee;</li> <li>(iii) Two Copies of packing list identifying contents of each package;</li> <li>(iv) Insurance Certificate;</li> <li>(v) Manufacturer's/Supplier's warranty certificate;</li> <li>(vi) Inspection certificate issued by the nominated inspection agency if any, and the Supplier's factory inspection report; and</li> <li>(vii) Certificate of origin.</li> </ul> <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.
GCC 16.1	<p>GCC 16.1 Payment shall be made in the currency specified in the Contract in the following manner:</p> <ul style="list-style-type: none"> <li>(a) <i>Payment for Goods supplied from abroad :</i> <ul style="list-style-type: none"> <li>(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.</li> </ul> </li> </ul>

	<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 : (i) Packing list and (ii) 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) <i>Payment for Goods supplied from India:</i></p> <p>(i) <i>Advance Payment:</i> Ten (10) % of the total contract price shall be paid within thirty (30) days of signing of Contract and upon submission of claim / against a simple receipt and a bank guarantee for the 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 Delivery:</i> Eighty (80)% 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>(iii) <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) 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</p>

	<p>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.</p> <p><i>The Bank guarantee submitted towards performance guarantee will be released only after receipt of the above referred bank guarantee for performance of AMC obligations.</i></p> <p>(d) Reimbursement of Local Taxes such as Sales tax, octroi etc. will be at actuals based on documentary evidence of payment within 30 days of submission of bill with documents.</p> <p>(e) (i) Where payments are to be effected through Letter of Credit (LC), the same shall be subject to the latest Uniform Customs and Practice for Documentary Credit, of the International Chamber of Commerce;</p> <p>LC will be irrevocable and will be confirmed at Supplier's cost if requested specifically by the Supplier;</p> <p>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>Subject to (iii) above, all bank charges arising in India will be to the Purchaser's account, and all bank charges in the Supplier's country shall be to the Supplier's account.</p> <p>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 60days.</p> <p>The interest rate that shall be applied is 8 % <i>per annum</i></p>

GCC 17.3	In the case of deemed export benefits, the purchaser will issue only the Project Authority/Payment and other certificates in terms of the Import export policy or central excise/customs 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.
GCC 18.1	<p>Performance Security to the Purchaser shall be for an amount of 10 % of the contract value, valid up to 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>The Performance Security shall be in the form of <b>a bank Guarantee or demand draft or FDR.</b></p> <p>The Performance security shall be denominated in the currency of the payment of the contract in accordance with their portions of the Contract Price.</p>
GCC 18.4	Discharge of the Performance Security shall take place: <b>not later than 60 days following the date of completion of the supplier's performance obligations including obligations for the Warranty period</b> and on receipt of BG for AMC.
GCC 23.2	The packing, marking and documentation within and outside the packages shall be: The instrument should be safely packed and duly labeled such as name of the Project, contract number, name of supplier, country of origin, Name of commodity, year of supply, Net weight and warning 'USE NO HOOKS' and the word 'PROPERTY OF National Centre for Sustainable Coastal Management, Ministry of Environment and Forests, Chennai', etc. Apart from this railway receipt of the goods, copy of insurance is also required.
GCC 24.1	The insurance shall be paid in an amount equal to 110 percent of the 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.

<b>GCC 25.1</b>	The Supplier is required under the Contract to transport the Goods to a specified place of final destination within the Purchaser's country, defined as the Project Site, transport to such place of destination in the Purchaser's country, including insurance and storage, as shall be specified in the Contract, shall be arranged by the Supplier, and related costs shall be included in the Contract Price.
<b>GCC 26.1</b>	The inspections and tests shall be: <i>Manufacturer's test certificate should be enclosed along with the supply.</i>
<b>GCC 26.2</b>	The Inspections and tests shall be conducted at: <b>Final destination as defined in GCC 28.3.</b>
<b>GCC 27.1</b>	The liquidated damage shall be: <b>0.5 %</b> per week or part thereof.
<b>GCC 27.1</b>	The maximum amount of liquidated damages shall be: <b>10%</b> of the contract price.
<b>GCC 28.3</b>	The period of validity of the Warranty shall be as per GCC 27.3  For purposes of the Warranty, the place(s) of final destination(s) shall be:  As specified in:  <b>Section VI. Schedule of Requirements- In List of Goods and Delivery Schedule</b>
<b>GCC 28.5</b>	The period for repair or replacement shall be: 30 days.
<b>GCC 31.1</b>	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) *[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]*  
ICB 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)<sup>10</sup> 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]*,<sup>11</sup> 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 (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

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

<sup>10</sup> 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.

<sup>11</sup> Dates established in accordance with Clause 18.4 of the General Conditions of Contract ("GCC"), taking into account any warranty obligations of the Supplier under Clause 16.2 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]*  
ICB 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)<sup>12</sup> 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<sup>13</sup>]*.

This Guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision,

ICCPublicationNo.758, except that the supporting statement under Article 15(a) is hereby excluded.

*[signature(s) of authorized representative(s) of the bank]*

<sup>12</sup> 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.

<sup>13</sup> 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."

#### 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. .... dated .....20.... 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 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.

Guarantors

Signature and seal of

.....  
.....

Date: .....20.....

NOTE:

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

## Invitation for Bids (IFB)

## International Competitive Bidding

### Integrated Coastal Zone Management Project

Credit no. # 4765 - 0 IN

#### Procurement of Scientific & Technical Equipments and Related Services

ICB No.: NPMU/G-35

Date: 31.12.2013

1. This Invitation for Bids follows the General Procurement Notice for this Project that was published in UNDB online, Issue # 774 of April 30, 2010
2. The Government of India has received a credit from the International Development Association toward 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 Laboratory Equipments & Instruments and Related Services.
3. The Director, National Centre for Sustainable Coastal Management, Ministry of Environment and Forests, Koodal Building, Anna University Campus, Chennai-6000025, Tamil Nadu, India now invites sealed bids from eligible and qualified bidders for Purchase of Scientific & Technical Equipments and Related Services indicated in the Table below to be installed and commissioned at location as detailed in Section VI-Schedule of Requirements in "List of Goods and Delivery Schedule". The bidder may submit the bid for any or all the Lots of equipments specified below -

Lot No.	Description of the Instrument	Unit	Quantity	Bid Security (INR/ US Dollar or equivalent in a freely convertible currency)
1	2	3	4	5
1.	Stable Isotope Ratio Mass Spectrometer With Carbonate, Water and Gas preparation devices	Set	1	INR 3,00,000.00/ US\$ 5,000
2.	High Resolution Inductively Coupled Plasma Mass Spectrometer (HR-ICP-MS)	Set	1	INR 4,00,000.00/ US\$ 6,600
3.	Wave length Dispersive X-ray Fluorescence Spectrometer (WDXRFS)	Set	1	INR 1,50,000.00/ US\$ 2,500
4.	Automated nutrient analyzer for seawater application	Set	2	INR 1,00,000.00/ US\$ 1,600
5.	LOW ENERGY HPGE GAMMA SPECTROMETRY SYSTEM	Set	1	INR 1,25,000.00/ US\$ 2,100
6.	100% HPGE GAMMA SPECTROMETRY SYSTEM	Set	1	INR 1,50,000.00/ US\$ 2,500



4. Bidding will be conducted through the International Competitive Bidding (ICB) 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 Director, National Centre for Sustainable Coastal Management, Ministry of Environment and Forests, Koodal Building, Anna University Campus, Chennai-600025, Tamil Nadu and inspect the Bidding Documents at the address given below from 10.00 AM to 5.00 PM during the period of sale of bid documents.

6. The Invitation for Bids (IFB) and the bidding documents are available at the Project website <http://www.ncscm.org>. Interested bidders can download the bidding documents and commence preparation of bids to gain time. The downloaded bidding document can be submitted along with non-refundable fee (through a demand draft) mentioned in the Table towards the cost of the bidding documents. However, in case of any discrepancy between the documents downloaded by the prospective bidder and the bidding documents (hard copy) available from the Project office, the latter shall prevail.

The facility to download the bidding documents will be available from Dt. **02/01/2014** to Dt. **17/02/2014** up to 17.00Hrs.

(a)	Price of bidding document (non-refundable)	Rs. 2,100.00 (Including VAT)
(b)	Postal charges, inland	Rs. 500.00
(c)	Postal charges, overseas	Rs. 2,000.00
(d)	Date of commencement of sale of bidding document	<b>02/01/2014</b>
(e)	Last date for sale of bidding document	<b>17/02/2014</b>
(f)	Last date and time for receipt of bids	<b>18/02/2014</b> up to 10.00 Hrs
(g)	Date and Time of opening of bids	<b>18/02/2014</b> at 10.30 Hrs
(h)	Place of opening of bids	<b>National Centre for Sustainable Coastal Management, Ministry of Environment and Forests, Koodal Building, Anna University Campus, Chennai-600025, Tamil Nadu, India</b>
(i)	Address for Communication	<b>National Centre for Sustainable Coastal Management, Ministry of Environment and Forests, Koodal Building, Anna University Campus, Chennai-600025, Tamil Nadu, India Phone: 914422300108 Fax: 91 44 2220 0158</b>

A complete set of Bidding Documents in English may be purchased by interested bidders on submission of a written Application to the address below and upon payment of a non-refundable fee as mentioned above in shape of Demand Draft on any Scheduled bank payable at Chennai in favour of National Centre for Sustainable Coastal Management or in cash in Indian Rupees.

The Schedules of Requirements for all the Lots 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 Lot.

7. A clarification meeting will be held on **20.01.2014** at 11.30 Hrs in the Office of The Director, National Centre for Sustainable Coastal Management, Ministry of Environment and Forests, Koodal Building, Anna University Campus, Chennai-600025, Tamil Nadu to clarify the issues and to answer questions on any matter that may be raised at that stage as stated in Clause 7.2 of 'Instructions to Bidders' - Data Sheet of the bidding document.

8. Bids must be delivered to the address below on or before the schedule mentioned above. Electronic bidding will not be permitted. Late bids will be rejected. Bids will be opened in the presence of the bidders' representatives, who choose to attend in person at the address given below at schedule of opening mentioned above. All bids must be accompanied by a Bid Security for the Lot in INR or US Dollar or an equivalent amount in a freely convertible currency, as mentioned in the Table above under Column 5 in favor of National Centre for Sustainable Coastal Management, payable at Chennai.

9. The address (es) referred to above is:

The Director  
National Centre for Sustainable Coastal Management  
Ministry of Environment and Forests  
Koodal Building, Anna University Campus  
Chennai-600025, Tamil Nadu, India  
Phone: +91 44 22300108  
Fax: 91 44 2220 0158  
Web-Site: [www.ncscm.org](http://www.ncscm.org)  
e-mail: [procurement@ncscm.org](mailto:procurement@ncscm.org)