

BIDDING DOCUMENTS

For

**Procurement of
SUPPLY, INSTALLATION, TESTING, TRAINING AND
COMMISSIONING OF REAL TIME WATER QUALITY
MONITORING STATIONS (RTWQMS)**

ICB No: HP II/CPCB-1 /2011-12

**Project: Hydrology Project-II
(Loan: 4749-IN)**

**Central Pollution Control Board
Parivesh Bhawan, East Arjun Nagar,**

Delhi-110032

Member Secretary - CPCB

DELHI-110032

Bidding Document Issued to.....

.....

On .../.../2011

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PART 1 – Bidding Procedures

Section I. Instructions to Bidders

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Section I. Instructions to Bidders

A. General

- 1. Scope of Bid**
- 1.1 The Purchaser **indicated in the Bidding Data Sheet (BDS)**, issues these Bidding Documents for the supply of Goods and Related Services incidental thereto as specified in Section VI, Schedule of Requirements. The name and identification number of this 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.
- 2. 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.
- 3. Fraud and Corruption**
- 3.1 It is the Bank’s policy to require that Borrowers (including beneficiaries of Bank loans), as well as bidders, suppliers, and

contractors and their agents (whether declared or not), personnel, subcontractors, sub-consultants, service providers and suppliers under Bank-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts.¹ In pursuance of this policy, the Bank:

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
 - (i) “corrupt practice”² is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
 - (ii) “fraudulent practice”³ 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;
 - (iii) “collusive practice”⁴ is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
 - (iv) “coercive practice”⁵ 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;
 - (v) “obstructive practice” is
 - (aa) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to the 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

¹ *In this context, any action taken by a bidder, supplier, contractor, or a sub-contractor to influence the procurement process or contract execution for undue advantage is improper.*

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

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

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

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

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;
- (d) will sanction a firm or an individual, at any time, in accordance with prevailing Bank's sanctions procedures, 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.

3.2 In further pursurance of this policy, Bidders shall to 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 34.1 (a) (iii) of the General Conditions of Contract.

4. Eligible Bidders

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

4.2 A Bidder shall not have a conflict of interest. All bidders found to have conflict of interest shall be disqualified. Bidders may be

considered to have a conflict of interest with one or more parties in this bidding process, if they:

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

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

4.5 Government-owned enterprises in the Borrower's Country shall be eligible only if they can establish that they (i) are legally and financially autonomous, (ii) operate under commercial law, and (iii) are not a dependent agency of the Purchaser.

4.6 Bidders shall provide such evidence of their continued eligibility satisfactory to the Purchaser, as the Purchaser shall reasonably request.

5. Eligible Goods and Related Services

5.1 All the Goods and Related Services to be supplied under the Contract and financed by the Bank may have their origin in any country in accordance with Section V, Eligible Countries.

5.2 For purposes of this Clause, the term "goods" includes commodities, raw material, machinery, equipment, and industrial plants; and "related services" includes services such as insurance, installation, training, and initial maintenance.

5.3 The term "origin" means the country where the goods have been mined, grown, cultivated, produced, manufactured or processed; or, through manufacture, processing, or assembly, another commercially recognized article results that differs substantially

B. Contents of Bidding Documents

6. Sections of Bidding Documents

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

PART 1 Bidding Procedures

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

PART 2 Supply Requirements

- Section VI. Schedule of Requirements

PART 3 Contract

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

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

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

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

7. Clarification of Bidding Documents

7.1 A prospective Bidder requiring any clarification of the Bidding Documents shall contact the Purchaser in writing at the Purchaser's address **specified in the BDS**. The Purchaser will respond in writing to any request for clarification, provided that such request is received no later than 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.

- 7.2 The bidders or his official representatives are invited to attend a pre-bid meeting which will take place at the address on date and time specified in the BDS. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage. The bidders are requested to submit any questions in writing or by cable to reach the Purchaser not later than one week before the meeting. The minutes of the meeting, including the text of the questions raised (without identifying the source of enquiry) and the responses given will be transmitted without delay to all bidders who have purchased the bidding documents. Any modification of the bidding documents listed in ITB Sub-Clause 6.1 which may become necessary as a result of the pre-bid meeting shall be made by the Purchaser exclusively through the issue of an Addendum pursuant to ITB Clause 8 and not through the minutes of the pre-bid meeting. Non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder.

8. Amendment of Bidding Documents

- 8.1 At any time prior to the deadline for submission of bids, the Purchaser may amend the Bidding Documents by issuing addendum.
- 8.2 Any addendum issued shall be part of the Bidding Documents and shall be communicated in writing to all who have obtained the Bidding Documents directly from the Purchaser.
- 8.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their bids, the Purchaser may, at its discretion, extend the deadline for the submission of bids, pursuant to ITB Sub-Clause 24.2

C. Preparation of Bids

9. Cost of Bidding

- 9.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Purchaser shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

10. Language of

- 10.1 The Bid, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser, shall be

- Bid** 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.
- 11. Documents Comprising the Bid**
- 11.1 The Bid shall comprise the following:
- (a) bid Submission Form and the applicable Price Schedules, in accordance with ITB Clauses 12, 14, and 15;
 - (b) bid Security 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**.
- 12. Bid Submission Form and Price Schedules**
- 12.1 The Bidder shall submit the Bid Submission Form using the form furnished in Section IV, Bidding Forms. This form must be completed without any alterations to its format, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested.
- 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
- 13. Alternative Bids**
- 13.1 Unless otherwise **specified in the BDS**, alternative bids shall not be considered.
- 14. Bid Prices and**
- 14.1 The prices and discounts quoted by the Bidder in the Bid

Discounts

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 dis-aggregation of price components is required solely for the purpose of facilitating the comparison of bids by the Purchaser. This shall not in any way limit the Purchaser's right to contract on any of the terms offered. In quoting prices, the Bidder shall be free to use transportation through carriers registered in any eligible country, in accordance with Section V Eligible Countries. Similarly, the Bidder may obtain insurance services from any eligible country in accordance with Section V Eligible Countries. Prices shall be entered in the following manner:
 - (a) For Goods 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.

15. 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.

16. Documents Establishing the Eligibility of the

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.

Bidder

- 17. Documents Establishing the Eligibility of the Goods and Related Services**
- 17.1 To establish the eligibility of the Goods and Related Services in accordance with ITB Clause 5, Bidders shall complete the country of origin declarations in the Price Schedule Forms, included in Section IV, Bidding Forms.
- 18. Documents Establishing the Conformity of the Goods and Related Services**
- 18.1 To establish the conformity of the Goods and Related Services to the Bidding Documents, the Bidder shall furnish as part of its Bid the documentary evidence that the Goods conform to the technical specifications and standards specified in Section VI, Schedule of Requirements.
- 18.2 The documentary evidence may be in the form of literature, drawings or data, and shall consist of a detailed item by item description of the essential technical and performance characteristics of the Goods and Related Services, demonstrating substantial responsiveness of the Goods and Related Services to the technical specification, and if applicable, a statement of deviations and exceptions to the provisions of the Schedule of Requirements.
- 18.3 The Bidder shall also furnish a list giving full particulars, including available sources and current prices of spare parts, special tools, etc., necessary for the proper and continuing functioning of the Goods during the period **specified in the BDS** following commencement of the use of the goods by the Purchaser.
- 18.4 Standards for workmanship, process, material, and equipment, as well as references to brand names or catalogue numbers specified by the Purchaser in the Schedule of Requirements, are intended to be descriptive only and not restrictive. The Bidder may offer other standards of quality, brand names, and/or catalogue numbers, provided that it demonstrates, to the Purchaser's satisfaction, that the substitutions ensure substantial equivalence or are superior to those specified in the Schedule of Requirements.
- 19. Documents Establishing the Qualifications of the Bidder**
- 19.1 The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted shall establish to the Purchaser's satisfaction:
- (a) 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.

**20. Period of
Validity of Bids**

- 20.1 Bids shall remain valid for the period **specified in the BDS** after the bid submission deadline date prescribed by the Purchaser. A bid valid for a shorter period shall be rejected by the Purchaser as non-responsive.
- 20.2 In exceptional circumstances, prior to the expiration of the bid validity period, the Purchaser may request bidders to extend the period of validity of their bids. The request and the responses shall be made in writing. If a Bid Security is requested in accordance with ITB Clause 21, it shall also be extended for a corresponding period. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request shall not be required or permitted to modify its bid, except as provided in ITB Sub-Clause 20.3.
- 20.3 In the case of fixed price contracts, if the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial bid validity, the Contract price shall be adjusted as specified in the request for extension. Bid evaluation shall be based on the Bid Price without taking into consideration the above correction.

**21. Bid Security
and Bid-Securing**

- 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

Declaration

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**.

22. Format and Signing of Bid

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

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

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

D. Submission and Opening of Bids

23. Submission, Sealing and Marking of Bids

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

- (a) Bidders submitting bids by mail or by hand, shall enclose

the original and each copy of the Bid, including alternative bids, if permitted in accordance with ITB Clause 13, in separate sealed envelopes, duly marking the envelopes as “ORIGINAL” and “COPY.” These envelopes containing the original and the copies shall then be enclosed in one single envelope. The rest of the procedure shall be in accordance with ITB sub-Clauses 23.2 and 23.3.

- (b) Bidders submitting bids electronically shall follow the electronic bid submission procedures specified in the **BDS**.

23.2 The inner and outer envelopes shall:

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

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

24. Deadline for Submission of Bids

24.1 Bids must be received by the Purchaser at the address and no later than the date and time **specified in the BDS**.

24.2 The Purchaser may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Documents in accordance with ITB Clause 8, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.

25. Late Bids

25.1 The Purchaser shall not consider any bid that arrives after the deadline for submission of bids, in accordance with ITB Clause 24. Any bid received by the Purchaser after the deadline for submission of bids shall be declared late, rejected, and returned unopened to the Bidder.

26. Withdrawal, Substitution, and Modification of

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

Bids

of the withdrawal notice are required). The corresponding substitution or modification of the bid must accompany the respective written notice. All notices must be:

- (a) submitted in accordance with ITB Clauses 22 and 23 (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked “WITHDRAWAL,” “SUBSTITUTION,” or “MODIFICATION;” and
- (b) received by the Purchaser prior to the deadline prescribed for submission of bids, in accordance with ITB Clause 24.

26.2 Bids requested to be withdrawn in accordance with ITB Sub-Clause 26.1 shall be returned unopened to the Bidders.

26.3 No bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Bid Submission Form or any extension thereof.

27. Bid Opening

27.1 The Purchaser shall conduct the bid opening in public at the address, date and time **specified in the BDS**. Any specific electronic bid opening procedures required if electronic bidding is permitted in accordance with ITB Sub-Clause 23.1, shall be as **specified in the BDS**.

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.

E. Evaluation and Comparison of Bids

- 28. 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.
- 29. Clarification of Bids**
- 29.1 To assist in the examination, evaluation, comparison and post-qualification of the bids, the Purchaser may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder in respect to its Bid and that 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.

30. Responsiveness of Bids

30.1 The Purchaser's determination of a bid's responsiveness is to be based on the contents of the bid itself.

30.2 A substantially responsive Bid is one that conforms to all the terms, conditions, and specifications of the Bidding Documents without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that:

- (a) affects in any substantial way the scope, quality, or performance of the Goods and Related Services specified in the Contract; or
- (b) limits in any substantial way, inconsistent with the Bidding Documents, the Purchaser's rights or the Bidder's obligations under the Contract; or
- (c) if rectified would unfairly affect the competitive position of other bidders presenting substantially responsive bids.

30.3 If a bid is not substantially responsive to the Bidding Documents, it shall be rejected by the Purchaser and may not subsequently be made responsive by the Bidder by correction of the material deviation, reservation, or omission.

31. Nonconformities, Errors, and Omissions

31.1 Provided that a Bid is substantially responsive, the Purchaser may waive any non-conformities or omissions in the Bid that do not constitute a material deviation.

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

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

- (a) if there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of the Purchaser there is an obvious misplacement of the decimal

point in the unit price, in which case the line item total as quoted shall govern and the unit price shall be corrected;

- (b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
- (c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.

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

32. Preliminary Examination of Bids

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

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

- (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.

33. 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.

34. Conversion to

34.1 For evaluation and comparison purposes, the Purchaser shall

- Single Currency** 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**.
- 35. Domestic Preference** 35.1 Domestic preference shall not be a factor in bid evaluation, unless otherwise **specified in the BDS**.
- 36. Evaluation of Bids** 36.1 The Purchaser shall evaluate each bid that has been determined, up to this stage of the evaluation, to be substantially responsive.
- 36.2 To evaluate a Bid, the Purchaser shall only use all the factors, methodologies and criteria defined in ITB Clause 36. No other criteria or methodology shall be permitted.
- 36.3 To evaluate a Bid, the Purchaser shall consider the following:
- (a) evaluation will be done for Items or Lots, as **specified in the BDS**; and the Bid Price as quoted in accordance with clause 14;
 - (b) price adjustment for correction of arithmetic errors in accordance with ITB Sub-Clause 31.3;
 - (c) price adjustment due to discounts offered in accordance with ITB Sub-Clause 14.4;
 - (d) adjustments due to the application of the evaluation criteria **specified in the BDS** from amongst those set out in Section III, Evaluation and Qualification Criteria;
 - (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.
- 37. Comparison of Bids** 37.1 The Purchaser shall compare all substantially responsive bids to determine the lowest-evaluated bid, in accordance with ITB Clause 36.
- 38. 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.
- 39. Purchaser's Right to Accept Any Bid, and to Reject Any or All Bids** 39.1 The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders.

F. Award of Contract

- 40. Award Criteria** 40.1 The Purchaser shall award the Contract to the Bidder whose offer has been determined to be the lowest evaluated bid and is substantially responsive to the Bidding Documents, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.
- 41. Purchaser's Right to Vary Quantities at Time of Award** 41.1 At the time the Contract is awarded, the Purchaser reserves the right to increase or decrease the quantity of Goods and Related Services originally specified in Section VI, Schedule of Requirements, provided this does not exceed the percentages **specified in the BDS**, and without any change in the unit prices or other terms and conditions of the bid and the Bidding Documents.
- 42. Notification of Award** 42.1 Prior to the expiration of the period of bid validity, the Purchaser shall notify the successful Bidder, in writing, that its Bid has been accepted.
- 42.2 Until a formal Contract is prepared and executed, the notification of award shall constitute a binding Contract.
- 42.3 The Purchaser shall publish in UNDB online and in the dg Market 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.

43. Signing of Contract

- 43.1 Promptly after notification, the Purchaser shall send the successful Bidder the Agreement and the Special Conditions of Contract.
- 43.2 Within twenty-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.

44. 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	A. General
ITB 1.1	The Purchaser is: Member Secretary, Central Pollution Control Board,
ITB 1.1	<p>The name and identification number of the ICB are:</p> <p>The Supply ,Installation, Testing, Training & Commissioning of Real Time Water Quality Monitoring Stations(RTWQMS)</p> <p>ICB No: HP II/CPCB-1 /2011-12</p>
ITB 2.1	The Borrower is: Government of India (GOI)
ITB 2.1	The name of the Project is: Hydrology Project-II (Loan No: 4749-IN)
ITB 4.3	A list of firms debarred from participating in World Bank projects is available at http://www.worldbank.org/debarr
	B. Contents of Bidding Documents
ITB 7.1	<p>For <u>Clarification of bid purposes</u> only, the Purchaser's address is:</p> <p>Attention: The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex East Arjun Nagar, DELHI - 110 032, INDIA E mail: rmbhardwaj@gmail.com Telephone: 91-11-22302188</p>
ITB 7.2	Pre-bid meeting will be held at training hall of CPCB, Delhi 110032 on 14-10-2011 at 1400 hrs.
	C. Preparation of Bids
ITB 10.1	The language of the bid is: "English"

<p>ITB 11.1 (h)</p>	<p>The Bidder shall submit the following additional documents in its bid</p> <ol style="list-style-type: none"> 1. Operation during warranty and comprehensive maintenance period for 5 (five) years in accordance with para 8 of the Technical Specification. 2. Training course plan, in accordance with para 7 of the Technical Specification. 3. Operation and Maintenance Manuals, two at each site of installation. 4. Manufacturer’s certificate for equipments proposed regarding model is well proven and widely used and Manufacturers Authorization in accordance with Section IV (para 77). 5. Details and standard drawings for related works for each site, in accordance with para 11 & 12 of the Technical Specification. 6. Guarantee by the bidder that all equipment provided will be supported for a minimum period of five (5) years (Warranty two years, AMC three years) of all RTWQMS in accordance with the Technical Specification. A letter from the the manufacturer that all equipment's being provided, spares would be available for a minimum of 5 years after the commissioning of RTWQMS. 7. Past performance of the relevant RTWQMS Equipment supplied /maintained during last three years (certificates from past clients) in accordance with Section III.
<p>ITB 11.1 (i)</p>	<p><i>The Bidder shall also furnish in conformity of the Bidding documents the following in the form of literature, drawings, and data,</i></p> <ol style="list-style-type: none"> <i>a) A detailed description of equipment, essential technical and performance characteristics.</i> <i>b) A clause-by-clause Technical Responsiveness of the proposed equipment demonstrating the equipment’s substantial responsiveness as well as a statement of deviations of the provisions of Technical Specifications as in Section 3-A.</i>
<p>ITB 13.1</p>	<p>Alternative Bids shall not be considered.</p>
<p>ITB 14.5</p>	<p>The Incoterms edition is: Incoterms 2000</p>
<p>ITB 14.6 a iv</p>	<p>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><i>Where the bidder has quoted taking into account such benefits, he must give all</i></p>

	<p><i>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. Bids which do not conform to this provision, will be treated as non-responsive and rejected.</i></p>
ITB 14.6 (b) (i) and (c) (iii)	<p>Place of Destination: The named place of destination is the monitoring locations indicated in Schedule of Requirements (ANNEXURE I OF SECTION VI)</p>
ITB 14.6 (a) (iii) (iv) ;(b)(ii) and (c)(v)	<p>“Final destination (Project Site)”: The final destinations are indicated in Schedule of Requirements</p>
ITB 14.6 (b) (iii)	<p>In addition to the CIP price specified in ITB 14.6 (b)(i), the price of the Goods manufactured outside the Purchaser’s Country shall be quoted: FOB</p>
ITB 14.7	<p>The prices quoted by the Bidder shall not be adjustable</p>
ITB 14.8	<p>"The bid is being requested as a single lot / system and prices should be quoted for the full system as per the technical specifications and Price Schedules"</p>
ITB 15.1	<p>The Bidder is required to quote in the currency of the Purchaser’s Country the portion of the bid price that corresponds to expenditures incurred in that currency.</p>
ITB 18.3	<p>Period of time the Goods are expected to be functioning (for the purpose of spare parts): 5 Years after final acceptance.[2 year warranty+3 year AMC]</p>
ITB 19.1 (a)	<p>Manufacturer’s authorization is: required</p>
ITB 19.1 (b)	<p>After sales service is: <i>Required</i>. Bidder will need to be represented by an Agent</p>
ITB 20.1	<p>The bid validity period shall be 120 days.</p>
ITB 21.1	<p>Bid shall include a Bid Security issued by bank included in Section</p>

	IV Bidding Forms
ITB 21.2	The amount of the Bid Security shall be: Rupees Two Million Five Hundred Thousand (RS 2,500,000) or equivalent in other convertible currencies.
ITB 22.1	In addition to the original of the bid, the number of copies is: Five (total Six including original)
D. Submission and Opening of Bids	
ITB 23.1	Bidders shall not have the option of submitting their bids electronically.
ITB 23.1 (b)	Not applicable
ITB 23.2 (c)	The inner and outer envelopes shall bear the following additional identification marks: Supply, Installation, Testing, Training and Commissioning of Real Time Water Quality Monitoring Stations (RTWQMS) ICB No: HP II/CPCB-1 /2011-12
ITB 24.1	For bid submission purposes, the Purchaser's address is: The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi-110032 The deadline for the submission of bids is: Time & Date: IST.14-00 Hours on 15-11-2011
ITB 27.1	The bid opening shall take place at 14-30 hours on 15-11-2011 at . Training Hall, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi-110032
ITB 27.1	If electronic bid submission is permitted in accordance with ITB sub-clause 23.1, the specific bid opening procedures shall be:: Not applicable
E. Evaluation and Comparison of Bids	
ITB 34.1	Currency chosen for the purpose of converting to a common currency

	<p>is Indian Rupees. Source of exchange rates shall be established by State Bank of India BC selling rates Date of exchange rate is deadline for submission of bids.</p>
ITB 35.1	Domestic preference shall not be a bid evaluation factor.
ITB 36.3(a)	<p>(i) Evaluation will be done for total cost including Supply, Installation, Testing, Training and Commissioning on single responsibility basis.</p> <p>(ii) The bidders are requested to read the technical specifications and quote a lump sum price for the establishment of RTWQMS system. The Line items do not generally give a full description of the System to be supplied, installed, and operationally accepted, or the Services to be performed. The bidders shall have read the Technical Requirements and other sections of these Bidding Documents to ascertain the full scope of the RTQWMS System and provide a complete price for the system. In addition to the Complete quote for the system, bidders are requested to indicate the unit price against the items indicated in the schedule which would form the basis for any increase or decrease in the quantity of such line items. The quoted rates and prices shall be deemed to cover the full scope of these Technical Requirements, as well as overhead and profit.</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> <p>(a) Deviation in Delivery schedule: No (b) Deviation in payment schedule: No. (c) the cost of major replacement components, mandatory spare parts, and service: yes. (d) the availability in the Purchaser's Country of spare parts and after- sales services for the equipment offered in the bid; Yes (e) the projected operating and maintenance costs during the life of the equipment No. (f) the performance and productivity of the equipment offered; NO</p>
	F. Award of Contract
ITB 41.1	<p>The maximum percentage by which quantities may be increased is: 20 percentage. The maximum percentage by which quantities may be decreased is: 20</p>

	<p>percentage.</p> <p>However, the increase or decrease in the quantity of Goods and related services within the sub-items</p>
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Section III. Evaluation and Qualification Criteria

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)
5. Proforma(s)

Section III. Evaluation and Qualification Criteria

1. Domestic Preference (ITB 35.1)

If the Bidding Data Sheet so specifies, the Purchaser will grant a margin of preference to goods manufactured in the Purchaser's country for the purpose of bid comparison, in accordance with the procedures outlined in subsequent paragraphs.

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, one or more of 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. No deviation in delivery schedule

The Goods specified in the List of Goods are required to be delivered within the acceptable time range 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. Similarly no credit will be given to deliveries within the acceptable period.

- (b) No deviation in payment schedule is allowed. *The SCC stipulates the payment schedule specified by the Purchaser.*

- (c) Cost of major replacement components, mandatory spare parts, and service.

The list of items and quantities of major assemblies, components, and selected spare parts, likely to be required during the initial period of operation specified in the BDS Sub-Clause 18.3, is in the List of Goods. An adjustment equal to the total cost of these items, at the unit prices quoted in each bid, shall be added to the bid price, for evaluation purposes only. Similarly, the operation and maintenance costs and GSM/GPRS usage fees for five years shall be added to the bid price for bid evaluation only.

- (d) Availability in the Purchaser's Country of spare parts and after sales services for equipment offered in the bid.

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

- (e) Projected operating and maintenance costs.

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

- (f) Performance and productivity of the equipment. Nil

3. Multiple Contracts (ITB 36.6)

Multiple contracts to the Bidder shall not be awarded.

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.

Section III. Evaluation and Qualification Criteria

(a) Financial Capability

The Bidder shall furnish documentary evidence that it meets the following financial requirements

Financial Capability

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

- i. Capacity to have a cash flow - The bidder must provide a letter from a reputed bank stating the availability of liquid assets and/or credit facilities exclusively for this contract only, of not less than **INR 35(Thirty Five) Million**. In the case of Joint Ventures, the cumulative liquid assets of the members of joint venture will be considered.
- ii. The Minimum required annual turnover in respect of Procurement of Supply, Installation and commissioning of goods for the successful bidder in any two of the last five (5) years shall be of **INR 150(One Hundred Fifty) million**. In the case of Joint Ventures, the cumulative turnover of the members of joint venture will be considered, but each member of joint venture must at least meet 25% of this requirement.

(b) Experience and Technical Capacity

The Bidder shall furnish documentary evidence to demonstrate that it meets the Supply Requirement(s) as detailed under Section-VI Schedule of Requirements.

- (i) The bidder should be a manufacturer who must have manufactured, tested and supplied the goods, similar to the type specified in the "Schedule of Requirements" up to at least seven water quality parameters indicated in Technical Specifications in the last 3 years. Further, the bidder should be in continuous business of manufacturing relevant products similar to that specified in the schedule of requirements during the last 3 years prior to bid opening.
- (ii) In case the bidder is not the manufacturer of the equipment it offers to supply and has submitted the bid in accordance with ITB clause 19.1 (a), the bid must include the above information about the manufacturer whose goods has been offered, provided:
 - The bidder is properly authorized by the manufacturer to submit the bid
 - The manufacturer also provides a written guarantee to support the bidder throughout the period of contract, including the AMC period
 - The bidder has experience in supply, commissioning, operating and training a similar network of environmental monitoring stations comprising

at least 7 monitoring locations and a centralized data receiving station and data management system within the last three years

- (iii) The bidder must provide evidence of maintaining services for the type of equipment specified in this document from at least one centre in India for over one year. In case the bidder is unable to provide this, a detailed plan must be included in the bid documentation for the provision of the after sales service and annual comprehensive maintenance needed in this contract, along with evidence that the bidder has maintained instruments using similar technology (a sensor coupled to a datalogger) with at least similar coverage and amounting to at least 90% of the value of after-sales services in the current bid in any of the last 3 years.
- (iv) The Bidder shall furnish documentary evidence to demonstrate that he has successfully supplied, installed and commissioned the same or similar nature of equipment. The documentary evidence of supplied and installed equipment shall include:
- Name and address of Purchaser with contact details as email address/phone No
 - Contract no and date.
 - Equipments/items ordered/supplied & installed with their respective quantities.
 - Scheduled completion date and actual completion date.
 - Details of Complaint, if any, received from the purchaser about the performance of the Equipments/items.
- (c) Bids from JV partners shall comply with the following Requirements:
- (i) The bid, and in case of a successful bid the Form of Agreement, shall be signed by all the partners so as to be legally binding on all partners;
- (ii) One of the partners shall be nominated as being in charge; and this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all partners;
- (iii) The partner in charge shall be authorized to incur liabilities and receive instructions for and on behalf of any and all partners of the Joint Venture and the entire execution of the contract including payment shall be done exclusively with the partner in charge;
- (iv) **Bid and performance securities of a Joint Venture must be in the name of Joint Venture submitting the bid;**
- (v) All partners of the Joint Venture shall be liable jointly and severally for the execution of the contract in accordance with the contract terms, and a statement to this effect shall be included in the authorization mentioned

Section III. Evaluation and Qualification Criteria

- under (ii) above as well as in the Form of Bid and in the Form of Agreement (in the case of a successful bid);
- (vi) In the event of any default by any partner/partners of Joint Venture, the other partner/partners shall accept the liability and execute the contract in full;
 - (vii) Responsibilities in respect of supply of the lead firm as well as each of the Joint Venture partners shall be clearly indicated in the JV agreement;
 - (viii) The Joint Venture agreement shall not be cancelled or amended unilaterally without consent of the Purchaser and a statement to this effect should appear in the JV agreement;
 - (ix) A copy of the JV agreement entered into by the Joint Venture partners and registered shall be submitted with the bid; alternatively a letter of intent to execute a JV agreement in the event of a successful bid shall be signed by all partners and submitted with the bid together with a copy of proposed agreement;
 - (x) The partner in-charge should be responsible for supply of at least upto 40% of the total requirement. The other partners shall be responsible for not less than 25% of the total requirement.
 - (xi) Reports on the financial standing of each partner including profit and loss statements, balance sheets and auditor's reports for the past 5 years, and an estimated financial projection for the next two years shall be furnished along with the bid;
 - (xii) A firm can submit only one bid in the same bidding process, either individually as a bidder or as a partner of a Joint Venture. A bidder who submits or participates in more than one bid will cause all the bids in which the bidder has participated to be disqualified.
 - (xiii) Bids from agents are not acceptable in the case of JV and such bids will be treated as non-responsive.
 - (xiv) The bidder or their associates with a Service Partner in India, (any authorized agency in India) should have well trained technical personnel on its regular rolls as per following details. To establish this, the bidder shall enclose the curriculum vitae of following persons:

Sl. No.	Responsibility	No. of Persons	Minimum Qualification	Experience
1.	In-charge Monitoring Station	1	M.Sc. / Graduate in WQ.	5 Years
2.	Scientific Assistant Technical Assistant	1	B.Sc./BE Diploma in Electrical Electronics	3 Years

Section III. Evaluation and Qualification Criteria

PROFORMA -1

**FOR PERFORMANCE STATEMENT
(FOR A PERIOD OF LAST THREE YEARS)**

Bid No. **ICB No: HP II/CPCB-1 /2011-12**

Name of the Firm.....

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

Signature and seal of the Bidder

.....

.....

PROFORMA - 2

QUALIFICATION REQUIREMENTS

All the bidders submitting their bids against this bid must submit the qualification requirements along with the information in the following formats together with the relevant documentation:

**FINANCIAL BUSINESS AND TECHNICAL CAPABILITY
FORMAT -A**

Name and address of Bidder

Phone:

Telex:

Fax:

1. Latest Balance Sheet filed with-----on-----
(Attach audited copies of annual accounts of past 3 years. Indigenous bidders to attach copy of accounts audited under section 44 AB of Income Tax Act. In case the accounts are not required to be audited, the information in this statement should be attested by a Chartered Accountant or Manager of a reputable Bank.

2. Latest Profit & Loss Statement from-----to-----filed
with-----on----- (Attach an audited copy)

3. Financial position (in the respective currency)

- a) Cash & Bank balances
- b) Fixed Assets Gross and Net
- c) Current Assets
- d) Current Liabilities
 - Bank cash credit
 - Loans
 - Others (including sundry creditors)
- e) Provisions
- f) Contingent Liability (include claims not acknowledged, pl. specify)
- g) Inventories
- h) Share Capital
 - Free Reserves
 - Other reserves (Please specify)
- i) Terms loans from financial institute & Banks
- j) Working Capital
- k) Net worth
- l) Debtors & advances considered good more than 6 months
less than 6 months

Section III. Evaluation and Qualification Criteria

4. Total liabilities
 - a) Current Ratio
Current Assets to
Current liabilities
 - b) Acid Test Ratio
 - c) Total liability to Net worth

5. Net Sales (in respective currency)
 - a) Current period
 - b) During the last financial year
 - c) During the year before last financial year

6. Net Profit before Tax
 - a) Current period
 - b) During last financial year
 - c) During the year before the last financial year

The profit and loss statements have been certified through-----
-----by-----

7. Bidders' Financial arrangements (check appropriate item)
 - a) Own Resources
 - b) Bank Credits
 - c) others (specify)

8. Certificate of Financial Soundness from bankers of Bidders.

9. Income Tax clearance [for Bidders from India only]
 - a) Please enclose copies of following documents:
 - a) Details of Income Tax registration; and
 - b) Last Income Tax clearance certificate

10. Sales:

Category	value of current orders to be executed in respective currency	Value anticipated sales for next financial year in respective currency
a)	Govt. Department	
b)	Commercial	

11. Licensed capacity to manufacture

Description of equipment	Size cap.	Licensed capacity	No. of Units Manufactured		
			Current Yr	Last Yr	2nd Last Yr

12. List, if any of bidder's rate contract with the following organizations:

	Organization	Yes/No	If Yes, date contract finalized
a.	Directorate General of Supplies and Disposal, Government of India		
b.	Central equipment Stores Purchase Organization for state Governments		
c.	Others		

13. Describe Quality Control Organization, if any, and give the organization Chart.

- Are goods offered subject to batch test, random sampling or full 100% test for quality?
- Are tests carried out by factory employees or by a separate testing agency?
- Are independent Quality Control Organization checks made and certificates issued?

Section III. Evaluation and Qualification Criteria

**CAPABILITY STATEMENT OF PERSONNEL, EQUIPMENT,
PLANT AND PAST PERFORMANCE
(Format - B)**

1. Name and address of the bidder
2. Classifications)
Circle what is applicable
3. Plant:
a) Location
4. Equipments

- Phone :
- 1) Manufacturer
 - 2) Authorized Agent
 - 3) Dealer
 - 4) Others, please specify

- a) Type of relevant equipment manufactured and supplied during last 3 years

Name of equipment	Capacity/ Size	Nos. Manufactured	Projects to which supplies are made	No. of orders on hand

- b) Type of relevant equipment manufactured, supplied, installed and commissioned during last 3 years.

Name of equipment	Capacity/ Size	Nos. Manufactured	Projects to which supplied ,installed and commissioned	No. of orders on hand

5. a) Types of equipment supplied during last 3 years other than those covered under 4 above.

Name of equipment	Capacity/ Size and model	Nos. Manufacturers and Country of origin	Total Nos. supplied in India	Projects to which supplies are made	No. of orders on hand

b) Type of relevant equipment supplied, installed and commissioned during last 3 years other than those covered under 4 (a) and (b) above

Name of equipment	Capacity/ Size and model	Nos. Manufacturers and Country of origin	Total Nos. supplied in India	Projects to which supplies are made	No. of orders on hand

6. Details of testing facilities available

- a. List testing-equipment available
- b. Give details of tests which can be carried out on items offered.
- c. Details of the testing organization available.

7. Nearest service center to buyer :

Location.....Phone
No.....

8. Names of two buyers to whom similar equipment are supplied installed and commissioned in the past and to whom reference may be made by the purchaser regarding the bidder's technical and delivery ability :

- 1. -----
- 2. -----

9. Workload as percentage of total capacity for the current and forthcoming financial year on quarterly basis.....

Section III. Evaluation and Qualification Criteria

PROFORMA - 3

(Name of the Project)
(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, Purchaser will not compensate us.
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: Rs. _____
(exchange rate one 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.) _____
---	---

(iii) Value of import content of supply to be made by the sub-contractor: Rs. _____
(exchange rate one 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) _____

PROFORMA-4
Service Support Details

The bidder may provide the proposed method of service support during the warranty periods including the helpdesk function, downtime management etc.

Performa for Service Support Details

Name of Service Stations	Destination Address and District	Phone No. /Mobile phone No.	Telex/Fax No.	Office Working Days and Hours	Number of Service Engineers	Number of service Staff	Value of Minimum Stock Available at all times

Signature and Seal of the Manufacturer/Bidder

Section IV. Bidding 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

[The Bidder shall fill in this Form in accordance with the instructions indicated below].

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. JV's Party legal name: <i>[insert JV's Party legal name]</i>
3. JV's Party Country of Registration: <i>[insert JV's Party country of registration]</i>
4. JV's Party Year of Registration: <i>[insert JV's Party year of registration]</i>
5. JV's Party Legal Address in Country of Registration: <i>[insert JV's Party legal address in country of registration]</i>
6. JV's Party Authorized Representative Information Name: <i>[insert name of JV's Party authorized representative]</i> Address: <i>[insert address of JV's Party authorized representative]</i> Telephone/Fax numbers: <i>[insert telephone/fax numbers of JV's Party authorized representative]</i> Email Address: <i>[insert email address of JV's Party authorized representative]</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 2, above, in accordance with ITB Sub-Clauses 4.1 and 4.2. <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.

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,*

Section IV. Bidding Forms

including that of all parties that comprise the Bidder, if the Bidder is a JV, 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 bidders are requested to read the technical specifications and quote a lump sum price for the establishment of RTWQMS system. The Line items do not generally give a full description of the System to be supplied, installed, and operationally accepted, or the Services to be performed. The bidders shall have read the Technical Requirements and other sections of these biddings Documents to ascertain the full scope of the RTWQMS System and provide a complete price for the system. In addition to the complete quote for the system, bidders are requested to indicate the unit price against the items indicated in the schedule which would form the basis for any increase or decrease in the quantity of such line items. The quoted rates and prices shall be deemed to cover the full scope of these Technical Requirements, as well as overhead and profit.

The Price Schedules under the package shall include:

The supply shall include all packing, transportation, insurance, custom clearance, port clearance and handling, inland transportation, inland transit insurance and delivery to site, installation, testing and commissioning of equipment and provision of training of CPCB official.

- A) Operation & Maintenance of RTWQMS for a period of five years (two years warranty, three years O&M) from the date of commissioning of the station, which can be extended up to three years at the mutually agreed rates and terms and conditions.
- B) Insurance: Bidder shall bear the cost of insuring the equipment and facilities against any theft, fire and other applicable provisions during tenure of contract period with a copy of Insurance Cover to CPCB.
- C) On-line transfer of RTWQMS data to CPCB Web.

Total Price	
-------------	--

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

- (a) In case of discrepancy between unit price and total Price, the unit price shall prevail.
- (b) The detailed operation & maintenance manuals (2 nos) for each unit of supplied Equipment shall be provided.
- (c) Rates quoted should be inclusive of all taxes.
- (d) An exterior material shall be of non corrosive material with expected life time of minimum of 10 years.

Section IV. Bidding Forms

Table 2 Price Schedule: Goods Manufactured Outside the Purchaser's Country, already imported

(Group C bids, Goods already imported)
Currencies in accordance with ITB Sub-Clause 15

Date: _____

ICB No: _____

Alternative No: _____

Page N° _____ of _____

1	2	3	4	5	6	7	8	9	10	11	12
Line Item N°	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 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)
1.	Real Time Water Quality Monitoring System as per the details of TS			1							

2.	Central Receiving Station at CPCB as per the details of TS										
										Total Bid Price	

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

- (a) In case of discrepancy between unit price and total Price, the unit price shall prevail.
- (b) The detailed operation & maintenance manuals (2 nos) for each unit of supplied Equipment shall be provided.
- © Rates quoted should be inclusive of all taxes.
- (d) An exterior material shall be of non corrosive material with expected life time of minimum of 10 years.

Section IV. Bidding Forms

Table 3 Price Schedule: Goods Manufactured in the Purchaser's Country

Purchaser's Country _____		(Group A and B bids) Currencies in accordance with ITB Sub-Clause 15						Date: _____ ICB No: _____ Alternative No: _____ Page N° _____ of _____	
1	2	3	4	5	6	7	8	9	10
Line Item N°	Description of Goods	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price EXW	Total EXW price 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 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)
1.	RealTime Water Quality Monitoring System as per details of TS		1						
2.	Central Receiving Station at CPCB as per the details of TS								
								Total Price	

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

- (a) In case of discrepancy between unit price and total Price, the unit price shall prevail.
- (b) The detailed operation & maintenance manuals (2 nos) for each unit of supplied Equipment shall be provided.
- © Rates quoted should be inclusive of all taxes.

(d) An exterior material shall be of non corrosive material with expected life time of minimum of 10 years.

Price Schedule-1(a): Goods Manufactured Outside the Purchaser's Country, to be Imported

(Note: -Unit rates are used for any additional units that may be required as per ITB 41.1)

(Group C bids, goods to be imported)						Date: _____ ICB No: HP II/CPCB-1 /2011-12		
Currencies in accordance with ITB Sub-Clause 15								
1	2	3	4	5	6	7	8	9
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity	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]</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>
	RTWQMS							

1	Data logger and transmission system with built in display, suitable signal conditioning, for analog/digital sensors, serial (RS-232 interface) SDI-12 interface, and PCMCIA/USB port, software, cables, GPS, etc.			One				
2	GSM/GPRS transmitters			One				
3	Sensor package to include all 10 sensors indicated in specifications (sensors to be provided individually or collectively)			One				
4	Battery Charging System for remote stations (battery, regulator, solar panel)			One				
5	Single Point Grounding System			One				
6	Floating Platform/Buoy			One				
7	Enclosures			One				

Section IV. Bidding Forms

	Data Center Equipment/Software							
8	Data collection and Data base server w/ most recent WINDOWS Server Edition, Virus/Firewall Software (Server 1)			One				
9	Data Collection Software with SQL Database (PostGreSQL, SQL Server, or similar) to be installed on Server 1			One				
10	Real-time Quality Control Software to provide alarms by SMS and text messages based on user controlled thresholds to be installed on Server 1 or Server 3			One				
11	Quality Assurance and Application Server w/ most recent WINDOWS Server Edition, Time Series, Virus/Firewall Software (Server 2)			One				

12	Web Accessible Remote Station and Computer Maintenance Log Software to be Installed on Server 2			One				
13	Time Series Software to be installed on Server 2			One				
14	Web Server w/ most recent WINDOWS Server Edition, WEB Server, Data Dissemination/visualization software, Virus/Firewall Software (Server 3)			One				
15	Web Server Software to be installed on Server 3. (Apache, IIS, or similar)			One				
16	Web Based Data Dissemination/Visualization Software to be installed on Server 3			One				
17	UPS for Computer Systems			One				
18	Computer Server Rack			One				
19	Network Router with Hardware with Firewall			One				

Section IV. Bidding Forms

20	Network Switch (HUB)			One					
21	Color Laser Printer with 10 sets of high capacity toner cartridge			One					
22	Automatic Tape Backup (rack mount) with 10 TB of media			One					
23	42" LCD Monitor			One					
								Total Price	

Name of Bidder *[insert complete name of Bidder]*

Signature of Bidder *[signature of person signing the Bid]* Date *[Insert Date]*

Section IV. Bidding Forms

1	Data logger and transmission system with build in display, suitable signal conditioning, for analog/digital sensors, serial (RS-231 interface) SDI-12 interface, and PCMCIA/USB port, software, cables, etc.			One							
2	GSM/GPRS transmitters			One							
3	Sensor package to include all 10 sensors indicated in specifications (sensors to be provided individually or collectively)			One							
4	Battery Charging System for remote stations (battery, regulator, solar panel)			One							
5	Single Point Grounding System			One							

6	Floating Platform/Buoy			One							
7	Enclosures			One							
	Data Center Equipment/Software										
8	Data collection and Data base server w/ most recent WINDOWS Server Edition, Virus/Firewall Software (Server 1)			One							
9	Data Collection Software with SQL Database (PostgreSQL, SQL Server, or similar) to be installed on Server 1			One							

Section IV. Bidding Forms

10	Real-time Quality Control Software to provide alarms by SMS and text messages based on user controlled thresholds to be installed on Server 1 or Server 3			One											
11	Quality Assurance and Application Server w/ most recent WINDOWS Server Edition, Time Series, Virus/Firewall Software (Server 2)			One											
12	Web Accessible Remote Station and Computer Maintenance Log Software to be Installed on Server 2			One											
13	Time Series Software to be installed on Server 2			One											

14	Web Server w/ most recent WINDOWS Server Edition, WEB Server, Data Dissemination/vi sualization software, Virus/Firewall Software (Server 3)			One							
15	Web Server Software to be installed on Server 3. (Apache, IIS, or similar)			One							
16	Web Based Data Dissemination/V isualization Software to be installed on Server 3			One							
17	UPS for Computer Systems			One							
18	Computer Server Rack			One							
19	Network Router with Hardware with Firewall			One							
20	Network Switch (HUB)			One							

Section IV. Bidding Forms

21	Color Laser Printer with 10 sets of high capacity toner cartridge			One							
22	Automatic Tape Backup (rack mount) with 10 TB of media			One							
23	42" LCD Monitor			One							
										Total Bid Price	

Name of Bidder *[insert complete name of Bidder]*

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

Section IV. Bidding Forms

1	Data logger and transmission system with build in display, suitable signal conditioning, for analog/digital sensors, serial (RS-231 interface) SDI-12 interface, and PCMCIA/USB port, software, cables, etc.			One					
2	GSM/GPRS transmitters			One					
3	Sensor package to include all 10 sensors indicated in specifications (sensors to be provided individually or collectively)			One					
4	Battery Charging System for remote stations (battery, regulator, solar panel)			One					
5	Single Point Grounding System for field stations			One					
6	Floating Platform/Buoy			One					
7	Enclosures			One					

	Data Center Equipment/Software								
8	Data collection and Data base server w/ most recent WINDOWS Server Edition, Virus/Firewall Software (Server 1)			One					
9	Data Collection Software with SQL Database (PostGreSQL, SQL Server, or similar) to be installed on Server 1			One					
10	Real-time Quality Control Software to provide alarms by SMS and text messages based on user controlled thresholds to be installed on Server 1 or Server 3			One					
11	Quality Assurance and Application Server w/ most recent WINDOWS Server Edition, Time Series, Virus/Firewall Software (Server 2)			One					

Section IV. Bidding Forms

12	Web Accessible Remote Station and Computer Maintenance Log Software to be Installed on Server 2			One					
13	Time Series Software to be installed on Server 2			One					
14	Web Server w/ most recent WINDOWS Server Edition, WEB Server, Data Dissemination/visualization software, Virus/Firewall Software (Server 3)			One					
15	Web Server Software to be installed on Server 3. (Apache, IIS, or similar)			One					
16	Web Based Data Dissemination/Visualization Software to be installed on Server 3			One					
17	UPS for Computer Systems			One					
18	Computer Server Rack			One					
19	Network Router with Hardware with Firewall			One					
20	Network Switch (HUB)			One					

21	Color Laser Printer with 10 sets of high capacity toner cartridge			One					
22	Automatic Tape Backup (rack mount) with 10 TB of media			One					
23	42" LCD Monitor			One					
									Total Price

Name of Bidder *[insert complete name of Bidder]*

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

Price Schedule 4 - Related Services

Currencies in accordance with ITB Sub-Clause 15				Date: _____
				ICB No: HP II/CPCB-1 /2011-12
1	2	3	4	5
Service N°	Description of Services (excludes inland transportation and other services required in the Purchaser's country to convey the goods to their 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 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	Installation, Testing, Calibration, and Commissioning of RTWQMS including civil works	LS		
2	Training of CPCB personnel in all activities	LS		
3	Operation of CPCB Data Center, including Data Collection, Data Storage, Data Validation, Data Dissemination and servicing of all software/hardware	LS		
4	Cost of GSM/GPRS Data Transmission during installation, testing & calibration and warranty period	LS		
5	Maintenance Manuals, maintenance database and SOP(two numbers) at each site	LS		
6	O&M of the system during the two years of warranty following the final acceptance of the system	LS		
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-5: Post Warranty Related Services

		Maximum all-inclusive costs (for costs in [insert: currency])			
		Post-Warranty Service Period			
Component No.	Component	Y 3	Y 4	Y 5	Sub-total for <i>[insert: currency]</i>
1.	Hardware Maintenance (Post-Warranty Period)				
1.1	Central Receiving Station				
1.2	RTWQMS				
2.	Software Licenses & Updates				
3.	Technical Services				
3.1	Operating & maintenance staff [to be detailed]				
3.2	Telecommunication costs (GSM/GPRS)				
3.3	Licenses, Fees Web				

Section IV. Bidding Forms

		Maximum all-inclusive costs (for costs in [insert: currency])			
		Post-Warranty Service Period			
Component No.	Component	Y 3	Y 4	Y 5	Sub-total for [insert: currency]
4.	[Identify other recurrent costs as may apply]				
	Annual Subtotals:				
Cumulative Subtotal schedule-6(to [insert: currency] entry for [insert: line item] in the Recurrent Cost Summary Table)					

NOTE:

The cost of Post Warranty Related Services shall be included in the bid evaluation, using a discounted NPV (Net Present Value), calculated using a discount rate of 10%

Schedule No. 6. Grand Summary

Item	Description	Total Price ¹	
		Foreign	Local
	Total Price Schedule No. 1.		
	Total Price Schedule No. 2.		
	Total Price Schedule No. 3.		
	Total Price Schedule No. 4.		
	Total Price Schedule No. 5.(Discounted NPV)		
	TOTAL (to Bid Form)		
	In Words		
	In Figures		
	Name of Bidder		
	Signature of Bidder(with 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, ICC Publication No. 458.

[signature(s)]

Note:

- (i) The Bid Security of a JV must define as “bidder” all JV partners and list them in the following manner:

‘a joint venture consisting of “.....”, “.....”, “.....”.
- (ii) If the institutions issuing the security are located outside the Purchaser’s country, it shall have a correspondent financial institution located in the purchaser’s country, to make it enforceable (Note 30 PGL).

Manufacturer's Authorization

*[The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are 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 27 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]*

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

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

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 January 2011, 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 countries as specified in BDS referring to ITB 4-3 are excluded from this bidding.

PART 2 – Supply Requirements

Section VI. Schedule of Requirements

Contents

1. List of Goods and Delivery Schedule	89
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Details of Monitoring Stations

All Material will be delivered & physically checked at RTWQMS listed below. Installation, testing, commissioning, supply of mandatory spares at each site would be at the cost of the Bidder. Bidders are advised to visit the respective site to get more details such as width of river, depth of flow, type of flow along with the bank/ structure details to work out the installation arrangements of the equipment at the sites.

Tentative List of sites where Real Time Water Quality Monitoring Stations(RTWQMS) equipment to be installed.

Place	NO.
1. Wazirabad, Delhi	1
2. Okhla Barrage, Delhi	1
3. Garden Reach, Kolkata	1
4. Gandhi Ghat, Patna (floating platform)	1
5. Varanasi, downstream	1
6. Varanasi, Upstream	1
7. Allahabad, Upstream	1
8. Jajmau Bridge Kanpur	1
9. Kannauj, downstream	1
10. Upper Ganga Barrage	1

Details of sites are given in Annexure I of this Section. (Section VI Schedule of Requirements)

1. List of Goods and Delivery Schedule

Line Item N°	Description of Goods	Quantity	Physical Unit	Final (Project Site) Destination as specified in BDS	Delivery Period (as per Incoterms)
1	Real Time Water Quality Monitoring Stations (RTWQMS) Equipment Consisting Of:				
1.1	Data logger and transmission system with build in display, suitable signal conditioning, for analog/digital sensors, serial (RS-231 interface) SDI-12 interface, and PCMCIA/USB port, software, cables, etc. as specified	10	each	Refer to Annexure I at the end of this Section VI.	The deliveries shall be completed within 6 months from the date of signing of contract
1.2	GSM/GPRS transmitters	10	each	--do-	-do-
1.3	Sensor package to include all 10 sensors indicated in specifications (sensors to be provided individually or collectively)	10	each	-do-	-do-
1.4	Battery Charging System for remote stations (battery, regulator, solar panel)	10	each	-do-	-do-
1.5	Single Point Grounding System for field stations	10	each	-do-	-do-

1.6	Floating Platform/Buoy	1	each	-do-	-do-
1.7	Enclosures	9	each	-do-	-do-
2.	Data Center Equipment to be located at the CPCB Office in Delhi				
2.1	Data collection and Data base server w/ most recent WINDOWS Server Edition, Virus/Firewall Software (Server 1)	1	each	To be located at CPCB offices in Delhi	The deliveries shall be completed within 6 months from the date of
2.2	Data Collection Software with SQL Database (PostGreSQL, SQL Server, or similar) to be installed on Server 1	1	each	-do-	-do-
2.3	Real-time Quality Control Software to provide alarms by SMS and text messages based on user controlled thresholds to be installed on Server 1 or Server 3	1	each	-do-	-do-
2.4	Quality Assurance and Application Server w/ most recent WINDOWS Server Edition, Time Series, Virus/Firewall Software (Server 2)	1	each	-do-	-do-
2.5	Web Accessible Remote Station and Computer Maintenance Log Software to be Installed on Server 2	1	each	-do-	-do-
2.6	Time Series Software to be installed on Server 2	1	each	-do-	-do-
2.7	Web Server w/ most recent WINDOWS Server Edition, WEB Server, Data Dissemination/visualization software, Virus/Firewall Software (Server 3)	1	each	-do-	-do-

2.8	Web Server Software to be installed on Server 3. (Apache, IIS, or similar)	1	each	-do-	-do-
2.9	Web Based Data Dissemination/Visualization Software to be installed on Server 3	1	each	-do-	-do-
2.10	UPS for Computer Systems	1	each	-do-	-do-
2.11	Computer Rack	1	each	-do-	-do-
2.12	Network Router with Hardware with Firewall	1	each	-do-	-do-
2.13	Network Switch (HUB)	1	each	-do-	-do-
2.14	Color Laser Printer with 10 sets of high capacity toner cartridge	1	each	-do-	-do-
2.15	Automatic Tape Backup System with 10TB of storage media (rackmount)	1	each	-do-	-do-
2.16	42" LCD Monitor	1	each	-do-	-do-

Note: 1. Delivery of the equipment should be done at the field sites to be specified by CPCB.

2. List of Related Services

Service	Description of Service	Quantity	Physical Unit	Place where Services shall be performed	Final Completion Date(s) of Services
1.	Installation, Testing, Calibration, and commissioning of RTWQMS including civil works	1	Job	Refer to Annexure I	To be completed within 6 months from the date of signing of contract
2.	Training of CPCB personnel in all activities	1	Job	CPCB Offices and in the field	-do-
3.	Operation of CPCB Data Center, including Data Collection, Data Storage, Data Validation, Data Dissemination and servicing of all software/hardware	1	Job	CPCB Office in Delhi	-do-
4.	Cost of GSM/GPRS Data Transmission	1	Job	CPCB Office in Delhi	-do-
5.	Maintenance Manuals, maintenance database and SOP(2 Nos) at each site	1	Job	CPCB Offices in Delhi	-do-
6.	O&M of the system during the two years of warranty following the final acceptance of the system	1	Job	Remote Stations and Data Center	

3. Technical Specifications

1. BACKGROUND

CPCB has planned for installation of Real Time Water Quality Monitoring Network across Ganga Basin for ten parameters viz. pH, turbidity, conductivity, temperature, Dissolved Oxygen Dissolved ammonia, Bio-chemical Oxygen demand (BOD), Chemical Oxygen Demand (COD), nitrates and chlorides consisting of 10 number of stand alone unmanned remote water monitoring stations/system with GSM/GPRS modem and other communication modes for transmission of data to a central receiving station to be located at CPCB central office at Delhi. The Water Monitoring Stations shall provide real time data through GSM/GPRS network at scheduled interval and as and when requested by the users. Each Water Monitoring Station should be connected and capable of transmitting data to central receiving station at **CPCB Head Quarter**, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, DELHI - 110 032, INDIA and other Zonal Offices/ State Pollution Control Boards/ Ministry of Water Resources through Central Receiving Station. Basic Network Architecture is shown in Annexure-II.

Central receiving station will have capability to receive, analyze and archive the data received from ten unmanned Remote stations.

2. OVERALL REQUIREMENTS OF REAL TIME WATER QUALITY MONITORING SYSTEMS TO BE SUPPLIED

- The network will start with 10 stations and the architecture should be modular to accommodate additional stations as per need. Nine stations will be fixed stations. One station will be a rapid-deploy floating platform, such as a buoy.
- All the remote stations should be operational in a real time mode and central station should be able to access any remote station.
- The remote stations should be field operational and tolerant to extreme environmental conditions in India, in high or low temperatures, high humidity coastal conditions and high temperature.
- The remote stations should be rugged and should not require manual intervention for at least 5 years except routine calibration, battery replacements and the relocation of rapid deploy (portable station) on an as needed basis. This is expected to be twice per year. Option of manual intervention may be incorporated in equipment installed at remote site.
- The communication between Remote and Central Receiving station must be two-way communication system utilizing GPRS.
- Remote station should have built in GPS receiver for automatic position determination.
- A Central Receiving Station to be located at the CPCB will receive, process, archive and visualize data collected and transmitted by several remote stations
- Central Receiving station must have the capability to remotely configure all remote stations.

- The Central Receiving Station will serve through WEB dissemination to all Zonal Offices and State Pollution Control Boards. Bidder will provide WEB software to distribute the data and products to authorized users with highly secured mode.
- WEB dissemination shall be advanced capable of producing tables, plots, maps, and download of data.
- Central Receiving Station shall be able to process data and correct data through a Quality Control Process

3.0 TECHNICAL SPECIFICATIONS OF RTWQMS

There are two different types of remote stations required. The first will be a fixed station that will be mounted on a bridge or within a barrage. There will be nine fixed stations. The other type of station will be a rapid deploy floating platform. There will be one of these platforms as specified in Annexure I. It is desirable that the floating platform be able withstand the monsoonal flows, otherwise the platform will need to be deployed to the closest bridge and provide measurements from the bridge during monsoon season, and then redeployed at the end of the monsoon season.

The Remote Station for Water Quality Monitoring Network will include an advanced data acquisition system (i.e. data logger). The data acquisition system shall be appropriate for unattended, remote operation for continuous measurement of **ten** parameters and location as determined with an onboard GPS.

The RTWQMS shall comprise of the following:

S.No	Particulars	Physical unit
1.	Data logger and transmission system with build in display, suitable signal conditioning, for analog/digital sensors, serial (RS-231 interface) SDI-12 interface, and PCMCIA/USB port, software, cables, etc	Ten
2.	GSM/GPRS transmitters	Ten
3.	Sensor package to include all 10 sensors indicated in specifications (sensors to be provided individually or collectively)	Ten
4.	Battery Charging System for remote stations (battery, regulator, solar panel)	Ten
5.	Single Point Grounding System	Ten
6.	Floating Platform/Buoy	One
7.	Enclosures	Nine

3.1 General Specifications of Water Quality Monitoring Stations:

On bridge mounted structures, the structure (or sensor package) will need to be moved laterally up to twice per year to keep the instrument package in the low water channel. All sites will need the capability to move the sensor package vertically to keep the sensor package between 0.5-5 m below the surface of the water.

3.1.1 Data Collection System:

Data Acquisition	
Display	Easily readable display in bright sunlight. Display will allow viewing data from each sensor, as well as data from the charging system.
Keyboard	To facilitate viewing of data as well as data downloads.
Sensor Inputs	Accommodate all sensors prescribed as well as additional inputs to be used for expansion for at least 4 more sensors.
Programming	Ethernet, USB, RS/ 232
Local Data Retrieval	USB portable flash drive and PC download. Unit shall allow local data retrieval (download) without use of a PC or other external device other than the portable storage media.
System Data Storage	All parameters, every 15 minutes, for one year, Non-volatile memory
Telemetry	GSM/ GPRS compatible with Telecommunications System in India and as available at each station
Network Connection	Ethernet, RJ45 or via modem
Integrated GPS	On-board GPS to provide precise location and elevation of the station. This information will be recorded by the data collection platform with the option of transmitting the parameters
Operating Temperature	0 to 60°C
Operating Humidity	5 to 95% non-condensing
Power Input	12 VDC Nominal
Alarm Output	Alarms based on a single sensor, and/ or group of sensors, and/ or algorithms calculated by the data acquisition system. Alarms shall be transmitted through the GPRS network.
Tampering Alarms	System shall send alarms based on missing data, power supply malfunction, and door alarms.

3.1.2 Data Communication System:

Data communication will be provided with GSM/GPRS and allow for bi-directional communication. The communication system will allow for the station to report based on an alarm, as well as reporting through interrogation from the Central Data Collection System located at the CPCB.

Data Communication	
Telemetry	GSM/ GPRS Compatible and Fully Functional at each Measurement Station
Data Transfer	Bi-directional communication via GPRS or similar
Power	Compatible with Station Power Supply (12V DC)
Operating Temperature	-5 to 60°C
Operating Humidity	5 to 95% non-condensing
Power	12 VDC Nominal
Signal Output	Compatible with Data Acquisition System
Accessories	Appropriate antenna (x-yagi or omni) with required connectors and cabling

3.1.3 Sealed Maintenance Free Battery Systems

The stations will be equipped with maintenance free batteries sufficient enough to operate the station for 48 hours without external charge. In the event of lack of charge during the daylight hours the data collection system shall report a fault (alarm) to the Central Data Collection System. The supplier shall provide the calculations of load and battery capacity to justify the number of batteries and the number of hours of autonomous operation.

3.1.4 Photo-Voltaic, Solar Regulator/Battery Charging System

The system will be provided with an external charging system. It is not anticipated that there will be external commercial power available, so the use of a solar array (or other system) will need to be considered to charge the battery system, and thus powering the station. The solar charging system shall be designed to provide charge to the system on a continuous basis, regardless of cloud cover and season. The supplier shall provide the calculations to justify the size of the charging system (i.e. number of solar panels or other devices).

3.1.5 Enclosures

The enclosure at each fixed RTWQMS shall accommodate data logger sensor cards, battery and regulator, transmitter unit, over voltage protection device etc, the enclosure shall provide protection from dust, humidity, precipitations, sunlight and environmental pollution. The material for the enclosure shall be of steel plate or resistant plastic, of protection IP 68 (NEMA 4) or better with safety lock of good quality. The enclosure shall be customized for cable entry openings or mounting bracelets for tripods or towers. Fixed stations shall require an enclosure of the bidders choosing that will protect the equipment as well as provide both lateral and vertical movement of the sensor package. The enclosure will need to account for the instrument package as well as the charging system. Since the repair/replacement of the equipment is the responsibility of the bidder, the bidder will need to provide an appropriate solution for a building/enclosure. At one station a floating platform/buoy will be used, which will serve as the enclosure at that site.

Station and Enclosure	
Weather Proof Enclosure	The enclosure type will depend on one of the two different types of installation (fixed and rapid deploy) that are specified. It will be up to the supplier to provide a well thought out design that can provide station maneuverability and flexibility as even bridge mount stations may need to be moved on an annual basis because of the changing river course during low flow.
Micro-siting	Supplier will work with the client to determine the most suitable site. By no means will the client be responsible for the placement of the equipment. The client will gain the necessary permission to use the property or land needed for the station.
Accessories	All components needed for the station shall be included in the bidders offer.
Security	The bidder shall be responsible for replacing any equipment or infrastructure lost due to theft or vandalism, so it is important that the supplier have a well thought out plan to prevent equipment loss. In some instances the supplier may want to enlist the local population to help provide security. Enclosure shall have a safety lock of good quality.

3.2 Specification for Sensors on Water Quality Platforms:

The stations will collect the following parameters:

1. pH
2. Turbidity
3. Conductivity
4. Temperature
5. Dissolved Oxygen (DO)
6. Dissolved Ammonia
7. Bio-Chemical Oxygen Demand (BOD)
8. Chemical Oxygen Demand (COD)
9. Nitrates
10. Chlorides

The sensors shall be capable of working in fresh, polluted or sea water.

3.2.1 Specification for pH:

pH	
Measuring Range	0.0 to 14 units of pH
Accuracy	≤ 0.01 units of pH
Resolution	≤ 0.01 units of pH
Precision	≤ 0.03 units of pH
Response Time	≤ 60 seconds
Operating Temperature	0 to 40°C
Operating Humidity	5 to 95% non-condensing
Power	12 VDC Nominal
Signal Output	Compatible with Data Acquisition System
Cleaning	Self-Cleaning (Automatic)

3.2.2 Specification for Turbidity:

Turbidity	
Measuring Range	0 to 1000 NTU
Accuracy	≤ 3 % of certified reference standard
Resolution	≤ 0.1 NTU
Response Time	≤ 60 seconds
Operating Temperature	0 to 40°C
Operating Humidity	5 to 95% non-condensing
Power	12 VDC Nominal
Signal Output	Compatible with Data Acquisition System
Cleaning	Self-Cleaning (Automatic)

3.2.3 Specification for Conductivity:

Conductivity (EC)	
Measuring Range	0.0 to 5000 $\mu\text{S/cm}$
Accuracy	± 0.1% of full scale
Resolution	≤ 0.01 $\mu\text{S/cm}$
Precision	≤ 3 $\mu\text{S/cm}$
Response Time	≤ 60 seconds
Operating Temperature	0 to 40°C
Operating Humidity	5 to 95% non-condensing
Power	12 VDC Nominal
Signal Output	Compatible with Data Acquisition System
Cleaning	Self-Cleaning (Automatic)

3.2.4 Specification for Water Temperature:

Temperature	
Measuring Range	0 to 40°C
Accuracy	≤ 0.1 C
Resolution	≤ 0.1 C
Precision	≤ 0.1 C
Response Time	≤ 60 seconds
Operating Temperature	0 to 40°C
Operating Humidity	5 to 95% non-condensing
Power	12 VDC Nominal
Signal Output	Compatible with Data Acquisition System
Cleaning	Self-Cleaning (Automatic)

3.2.5 Specification for Dissolved Oxygen:

Dissolved Oxygen (DO)	
Measuring Range	0 to 20 mg/L
Accuracy	≤ 1% of Full Scale
Resolution	≤ 0.01 mg/L
Precision	≤ 0.02 mg/L
Response Time	≤ 60 seconds
Operating Temperature	0 to 40°C
Operating Humidity	5 to 95% non-condensing
Power	12 VDC Nominal
Signal Output	Compatible with Data Acquisition System
Cleaning	Self-Cleaning (Automatic)

3.2.6 Specification for Dissolved Ammonia:

Ammonia (NH ₄)	
Measuring Range	0.0 to 100 mg/L
Accuracy	≤ 3% of full scale
Resolution	≤ 0.1 mg/L
Precision	≤ 0.3 mg/L
Response Time	≤ 60 seconds
Operating Temperature	0 to 40°C
Operating Humidity	5 to 95% non-condensing
Power	12 VDC Nominal
Signal Output	Compatible with Data Acquisition System
Cleaning	Self-Cleaning (Automatic)

3.2.7 Specification for BOD:

Biological Oxygen Demand (BOD)	
Measuring Range	0.0 - 50 mg/l
Resolution	≤ 1 mg/L
Accuracy	≤ 10 mg/L
Response Time	≤ 60 seconds
Operating Temperature	0 to 40°C
Operating Humidity	5 to 95% non-condensing
Power	12 VDC Nominal
Signal Output	Compatible with Data Acquisition System
Cleaning	Self-Cleaning (Automatic)

3.2.8 Specification for COD

Chemical Oxygen Demand (COD)	
Measuring Range	0.0 to 500 mg/l
Accuracy	± 2% + 5 mg/L of certified reference standard
Resolution	≤ 1 mg/L
Response Time	≤ 60 seconds
Operating Temperature	0 to 40°C
Operating Humidity	5 to 95% non-condensing
Power	12 VDC Nominal
Signal Output	Compatible with Data Acquisition System
Cleaning	Self-Cleaning (Automatic)

3.2.9 Specification for Nitrates:

Nitrates (NO₃)	
Measuring Range	1 to 50 mg/L
Accuracy	± 2% + 0.5 mg/L of certified reference standard
Resolution	≤ 0.1 mg/L
Precision	≤ 0.25 mg/L
Response Time	≤ 60 seconds
Operating Temperature	0 to 40°C
Operating Humidity	5 to 95% non-condensing
Power	12 VDC Nominal
Signal Output	Compatible with Data Acquisition System
Cleaning	Self-Cleaning (Automatic)

3.2.10 Specification for Chlorides:

Chloride (CL ⁻)	
Measuring Range	0 to 1000 mg/L
Resolution	≤ 0.1 mg/L
Precision	≤ 1 mg/L
Response Time	≤ 60 seconds
Operating Temperature	0 to 40°C
Operating Humidity	5 to 95% non-condensing
Power	12 VDC Nominal
Signal Output	Compatible with Data Acquisition System
Cleaning	Self-Cleaning (Automatic)

4. OVERVIEW AND SPECIFICATION FOR CENTRAL RECEIVING STATION

The **Central Receiving Station** will have three servers running Windows Server (latest edition) software will be established at the CPCB. CPCB has made a room available to house the Central Receiving Station. CPCB shall be responsible for upgrading the room with air conditioning and mains power. The bidder shall be responsible for power conditioning. The servers will all be rack-mounted and reside in a single computer cabinet. The bidder shall provide two computer specialists that are trained on the operation of the computers as well as the operation of the software. These two computer specialists will be available to CPCB to make modifications to the database, as well as dissemination products. These specialists shall also operate and maintain the computer systems keeping them updated with the latest version of software as well as operating system upgrades.

The Central Receiving Station at CPCB, New Delhi shall comprise of the following:

S.No	Particulars	Physical unit
1.	Data collection and Data base server w/ most recent WINDOWS Server Edition, Virus/Firewall Software (Server 1)	One
2.	Data Collection Software with SQL Database (PostGreSQL, SQL Server, or similar) to be installed on Server 1	One
3.	Real-time Quality Control Software to provide alarms by SMS and text messages based on user controlled thresholds to be installed on Server 1 or Server 3	One
4.	Quality Assurance and Application Server w/ most recent WINDOWS	One

	Server Edition, Time Series, Virus/Firewall Software (Server 2)	
5.	Web Accessible Remote Station and Computer Maintenance Log Software to be Installed on Server 2	One
6.	Time Series Software to be installed on Server 2	One
7.	Web Server w/ most recent WINDOWS Server Edition, WEB Server, Data Dissemination/visualization software, Virus/Firewall Software (Server 3)	One
8.	Web Server Software to be installed on Server 3. (Apache, IIS, or similar)	One
9.	Web Based Data Dissemination/Visualization Software to be installed on Server 3	One
10.	UPS for Computer Systems	One
11.	Computer Server Rack	One
12.	Network Router with Hardware with Firewall	One
13.	Network Switch (HUB)	One
14.	Color Laser Printer with 10 sets of high capacity toner cartridge	One
15.	Automatic Tape Backup (rack mount) with 10 TB of media	One
16.	42" LCD Monitor	One

4.1 DATA MANAGEMENT AND QUALITY CHECKS

Data shall be collected and validated according to National Water Quality Criteria/Standards using the methodologies included in the publication of American Public Health Association on Water and Waste Water Examination(20th Edition). All analyzers shall have current US EPA reference or equipment method designation and shall be of the latest design.

Successful bidder shall submit a Standard Operating Procedure for the RTWQMS to the CPCB. This Standard Operating Procedure shall be approved by the CPCB. The Standard Operating procedure shall contain the following.

- Operating procedures for all analyzers and sensors
- Calibration procedures
- Calibration schedules
- Maintenance procedures
- Maintenance schedules
- Data Transmission procedures
- Data validation procedures

This is different and separate from the training documentation. Data obtained from these calibration checks and copies of associated Quality Assurance and calibration documentation, shall be submitted to the Board along with the Water Quality Data.

Upon 24 hour notice from the CPCB once per year, Successful Bidder shall agree to submit to an audit of calibrations, conducted, using pre-approved methodologies, by a third party. Third party audit will be designated by the CPCB. The bidder shall be responsible for up to Rs 100000 per year for the audits. The results of these audits shall be made immediately available to both (Bidder & Purchaser).

4.2 Specification of Hardware for Central Receiving Station

All three servers will be located in a single computer cabinet to be supplied by the bidder. The cabinet will be equipped with a KVM switch and monitor that will provide access to the three servers.

4.2.1 Data Collection and Database Server (Servers 1)

The purpose of this server will be to collect data from the remote stations and store the data in a SQL database. This server will be a “high available” model with redundant power supplies and RAID 5 disk technology. The data collection process shall be able to support data collection from 500 stations simultaneously with latency in collecting and processing data not greater than 1 minute. This server shall also be capable of sending out alarms via email or text message based on problems experienced at the remote stations as well as performance problems with the four servers at the Data Center. Data collection server shall also be able to manage the remote stations, such as being able to remotely configure any of the stations.

Specifications

1. The servers will be fixed in a (800x1000mm) rack with casters and glass door. The architect of the servers should be 100% redundancy with heat beat / status being reported to the administrator on Email/SMS in case of the failure event.
2. ISO 9000 and 14000 certified manufacturer for all components
3. Model - Will be specified as the latest available at the time of delivery with manuals, will have a minimum of bays to accommodate the hot swap disk bays, one diskette, and one DVD Reader/Writer.
4. Processor- 2x Intel XEON 2.00GZ, 24M Cache
5. Rack Mountable- Rack Mountable Server with rack mounting kit
6. No. of processors- 2 numbers (Dual Processor)
7. Memory- 16 GB RAM / Scalable to 32 GB min, (1000 MHz minimum)
8. HDD- Hard drive capacity of a minimum of 900 GB, with RAID 5, hotplug SCSI 10 K RPM minimum
9. Controller - Integrated RAID Controller with 1GB Cache minimum

10. Networking- 2 x 10/100/1000 MBPS Ethernet controller
11. Ports - Two USB ports and 1 serial
12. Bus Slots- According to the requirements of the function of the hardware/software
13. Systems Management - LAN connectivity to provide for remote console and management / diagnostics independent of the hardware and OS Remote power cycling of server (power on and off), and other maintenance activities recommended by manufacturer.
14. DVD Writer, DVD RW Drive
15. Power Supply- Redundant Hot Pluggable power supply, Wattage as indicated by the computer system.
16. Software - Installation and configuration utilities, System Administration Software.
17. Operating System- Win Server (latest available version), with media and manual, Antivirus for Win Server Antivirus should provide comprehensive Virus protection for Windows based network. It must provide Virus protection at the Gateway for all inbound and Outbound HTTP, SMTP & FTP Traffic across the network (with hardware Firewall).
18. Keyboard/Monitor/mouse – To be provided by KVM specified later

4.2.2 Data processing Work Station Computer – Server 2

This server will run applications such as the Quality Control process and other applications as required by the CPCB. This Server will come with Quality Control process software which will take data from the database server and modify the data as needed. The data will then be returned to the Database Server with appropriate flags indicating that the data was changed. The Quality Control software can be time series software such as Aquatic Informatics, Kisters, Hydstra, or similar software. This workstation shall also handle ancillary activities which are at this time not defined.

Specifications

1. The servers will be fixed in a (800x1000mm) rack with casters and glass door. The architect of the servers should be 100% redundancy with heat beat / status being reported to the administrator on Email/SMS in case of the failure event.
2. ISO 9000 and 14000 certified manufacturer for all components
3. Model - Will be specified as the latest available at the time of delivery with manuals
4. Processor- Intel XEON 2.00GZ, 24M Cache
5. Rack Mountable- Rack Mountable Server with rack mounting kit
6. No. of processors- 1 numbers

7. Memory- 4 GB RAM
8. HDD- Hard drive capacity of a minimum of 1 TB, with RAID 1
9. Networking- 2 x 10/100/1000 MBPS Ethernet controller
10. Ports - Two USB ports and 1 serial
11. Bus Slots- According to the requirements of the function of the hardware/software
12. Systems Management - LAN connectivity to provide for remote console and management / diagnostics independent of the hardware and OS Remote power cycling of server (power on and off), and other maintenance activities recommended by manufacturer.
13. DVD Writer, DVD RW Drive
14. Power Supply- Redundant power supply
15. Software - Installation and configuration utilities, System Administration Software.
16. Operating System- Win Server (latest available version), with media and manual, Antivirus for Win Server Antivirus should provide comprehensive Virus protection for Windows based network.
17. Keyboard/Monitor/mouse – To be provided by KVM specified later

4.2.3 Web Enabled Servers – Server 3

This server will provide the dissemination portal to the CPCB. The server will have the capability to support both the Intranet as well as the Internet simultaneously. The eventual configuration will be decided and may be modified by CPCB during the course of the contract. The Web Server will provide data analysis, data display, report generation and data visualization. The Web Server and Data Collection System shall be able to serve 200 users simultaneously.

Specifications

1. The servers will be fixed in a (800x1000mm) rack with casters and glass door. The architect of the servers should be 100% redundancy with heat beat / status being reported to the administrator on Email/SMS in case of the failure event.
2. ISO 9000 and 14000 certified manufacturer for all components
3. Model - Will be specified as the latest available at the time of delivery with manuals
4. Processor- Intel XEON 2.00GZ, 24M Cache
5. Rack Mountable- Rack Mountable Server with rack mounting kit
6. No. of processors- 1 numbers or better
7. Memory- 4 GB RAM

8. HDD- Hard drive capacity of a minimum of 1 TB, with RAID 1
9. Networking- 2 x 10/100/1000 MBPS Ethernet controller
10. Ports - Two USB ports and 1 serial
11. Bus Slots- According to the requirements of the function of the hardware/software
12. Systems Management - LAN connectivity to provide for remote console and management / diagnostics independent of the hardware and OS Remote power cycling of server (power on and off), and other maintenance activities recommended by manufacturer.
13. DVD Writer, DVD RW Drive
14. Power Supply- Redundant power supplies
15. Software - Installation and configuration utilities, System Administration Software.
16. Operating System- Win Server (latest available version), with media and manual, Antivirus for Win Server Antivirus should provide comprehensive Virus protection for Windows based network.
17. Keyboard/Monitor/mouse – To be provided by KVM specified later

4.2.4 Router, USB Adapter, and Notebook Card

Specifications:

IP Sharing Method: NAT (Network Address Translation)

Firewall: NAT, SPI (Stateful Packet Inspection)

Clients: Up to 253 total

Wireless Clients: Up to 16 total

DHCP Server: Supported

User Interface: HTTP (Web Browser)

Wired Networking Standards: WAN: IEEE 802.3, IEEE 802.3u,
10/100Base-Tx

LAN: IEEE 802.3, IEEE 802.3u, 10/100Base-Tx

Protocols Supported: TCP/IP, UDP, CSMA/CD, DHCP, AppleTalk®, IPX/SPX,
NetBEUI

ISP Protocols Supported: Static, Dynamic, PPPoE, PPTP

VPN Support: PPTP/ IPSec pass-through (Single)

Power Supply: Input: 240VAC 50Hz

4.2.5 Computer Switch

24 port Giga switch

Rack Mounted

For the connection of all computer nodes to the network

4.2.6 UPS

APC or any standard manufactures make of proper size to provide backup to all servers. Shall use sealed maintenance free batteries only. State the size you will be providing complete with the calculations of power draw from the servers that will be on the UPS. The UPS shall provide 2 hours Power back to Hot redundant servers, web servers and data processing computer.

4.2.7 Computer Cabinet/Rack

The bidder will provide one computer rack (or more) of sufficient capacity to hold all three servers, UPS, disk drives, KVM, and any other equipment. Rack system will be typical 19" computer rack(s) with glass door

4.2.8 Printer:

Printer: Color Laser

Automatic Duplex (two sided copying)

Accommodates two paper trays simultaneously for A3 and A4 paper sizes (automatic use of both trays)

Network connectivity

10 sets of high capacity toner cartridges

4.2.9 Backup System - Offline

Backup system capable of backing up all three servers. Tape or similar equivalent with enough media for 10TB of backup. System shall be automatic without need for operator tending to manually change tapes during backup.

Backup system will work over the network at a minimum.

4.2.10 42 inch LED screen/monitor for visualization of data

Specifications

One 42" widescreen LED 1080p HDTV to be integrated for display of multiple simultaneous products. Software and drives will be included to make this display fully functional for automated or controlled product display.

220V – 50Hz

4 HDMI inputs

Aspect ratio 16:9

4.2.11 Keyboard/Mouse/Video

Specifications

1. Rack mounted and will include a rack kit
2. Support up to 10 devices
3. 19" monitor minimum

5. Specification of Software for Central Receiving Station

The bidder will provide software to communicate between the Central Receiving Station and the remote stations. The communication interface should be an easy to use GUI.

The bidder will provide a database management system for the storage of both raw and corrected data that will both be accessible through the intranet/internet, through the web server. The database will be PostGreSQL, SQL Server, or similar.

The bidder will provide time series analysis software for the quality control of posted water quality measurements. The software shall write the corrected values to the database. The data base shall keep the original data as well as the corrected data. Both data sets shall be accessible through the Web Server.

Software Management:

- Software capable for requesting, downloading, editing, processing and representation and management of data.
- The software integrates the entire data request commands made to the stations in real time data or data saved in the memory.
- Software allows the user to change and/or modify the configuration of the stations, enables to perform tasks such as date and time synchronisation with the computer and adds new measuring channels specifying the different sampling and storage periods, as well as the statistical calculations to be stored.

Window for enquiry and configuration of each station

- Name, number and abbreviation of the station
- Location, Latitude, Longitude coordinates
- Connection type and telephone, if any.
- Configuration of channels, parameter and calculations
- Photography which represents the actual station ("Associate image")

Hands on Operations

The following parameters of stations must be configurable for each station.

- Allow the Setting of Date/Time of the station.
- Real time data request from each channel.

- Downloading of data stored in the station
- Downloading the station's configuration of PC
- Downloading of PC's configuration to the stations
- Updating the station's Firmware

Data Analysis

- Data enquiry over several days
- Comparison of readings between stations
- Daily statistics enquiry
- Strip charts of the daily statistics.
- Comparison between the daily statistics of various stations
- Comparison between parameters from the same station or from different stations

Visualization of Data

- Enquiry of data in table form
- Enquiry of data in graph form
- Enquiry of data in map form
- Enquiry of picture of remote data station
- Enquiry of Maintenance activities selectable by station and period of time
- Temporary graphs composition window

Additional Features

- Printing of various reports and graphs.
- Zoom in and Zoom out facility with automatic graph scale Resizing
- Registers all the events like Information messages, error messages.
- Information of the communications resources used by the PC at that moment
- Exportation of readings to text files (.txt) in CSV format and MS-EXCEL.

6. WEB PLATFORM

The Web Software Platform must be able for web posting of the data available on the central server at CPCB Headquarter, Delhi, in such a way that all authorized persons with an internet connection (ADSL) would have the possibility to access to the information of all the water quality monitoring terminals. The user can customize the way to display up to ten parameters. The user can play the role as administrator and define other user's access rights. Considering data transmission from the remote terminals to the Central Server is carried out via GPRS cellular network, data can be updated, for example, every 5 minutes or 10 minutes, or 15 minutes, as programmed by the CPCB Officials. The Web Enabled Software must have following features:

1. Only authorized users can access the web enabled data

2. The format for administrator for issue of user id and password should be provided.
3. Log of user accessing the web enabled data with complete detail of data accessed and downloaded should be maintained.
4. The authorized user should have access to current data and historical data.
5. User should have provision for full graphical plotting of the time series of the data and comparison of data from historical data of the station.
6. In graphical representation should have full attributes, which should be displayed by positioning cursor on the map.
7. The selected station by clicking on the map must show the geographical information and status of the stations, for example Name of station, Station ID, Latitude, Longitude, Height (msl) etc.
8. On selecting a station, the complete menu of the data should be displayed.
9. Data can be selected both in Tabular and graphical format
10. The graphical display for all eight parameters should be available
11. The graphical plot of water quality data analysis are available for the user
12. Links to perform data downloads for any period of record, by station, group of stations, sensor, or group of sensors.

7. TRAINING

Training will be comprised of two components. The first component will be on-site training which will combine training at the SPCB offices as well as field training at a local water quality monitoring site. The second component will be multi-media training which will serve to provide training on a continuous basis as needed by the CPCB. Both training components will specifically address the CPCB network. The CPCB shall have rights to reproduce the training material. The training subject will include, but not be limited to the following:

1. Inspection of the equipment.
2. Principles and operation of all sensors.
3. Programming and operation of remote data collection system (data logger) and GPRS.
4. Operation and maintenance of remote station. This will include calibration of equipment and other Quality Assurance standards required to assure high quality measurement, data collection, and telemetry of data back to the CPCB offices.
5. Troubleshooting procedures for equipment at the remote stations.
6. Hazards at the remote stations, including any hazards of handling materials (if applicable).
7. Description of hardware and software modules at the Data Center.
8. In depth training on the operation and maintenance of the computer systems. This will include start-up and shut-down procedures, as well as system backups.
9. In depth training on the operation and maintenance of all software components.

10. Manual download procedures at the remote stations and transfer/upload to Data Center.
11. Quality Control software training.
12. Web Server and web products training.

1.1 On-site Training

The bidder will provide in-depth training to CPCB technical personnel (10 persons) for at least 10 working days. The bidder shall provide printed training material of the training presentation, along with supporting documents for each of the 10 trainees.

The Bidder shall furnish the schedule and program of the training to the Board within 30 days after the notification of award in such a manner that proper training is imparted to Board staff members.

1.2 Multi-media training material

A thorough multimedia training course will be provided by the bidder. The training courses will be available on the Data Center web server as well as provided on 10 thumb drives. There will be four modules as part of the multi-media training package. The modules will cover at a minimum the following material.

Module 1: Data station installation, configuration, operation, maintenance and troubleshooting. This will include the data collection system, data communication system, sensors, and all components related to the remote data stations.

Module 2: Data receive station installation, configuration, operation and maintenance. This will include the data collection system hardware and software. In depth training on how stations are added or removed from the network will be included in the training, along with troubleshooting.

Module 3: Data receive station installation, configuration, operation and maintenance. This will include the data collection system hardware and software. In depth training on how stations are added or removed from the network will be included in the training, along with troubleshooting.

Module 4: Web server installation, configuration, operation, maintenance and troubleshooting. This will include in depth training on the configuration of the web server including the addition/subtraction of data stations/sensors, as well as the configuration of web products, such as tabular data reports, graphics, map interfaces, and alarms as specified.

8. WARRANTY, MAINTENANCE, AND OPERATION

There will be a two-year warranty period that will include comprehensive operation and maintenance of the 'system' that will begin at the time the 'system' is commissioned. The 'system' shall be commissioned after all components become operational, and data is being accurately collected at the data center. The cost for the warranty will be included in the bid, while the three-year annual maintenance charge be itemized in the bid and accounted for separately.

1. The maintenance services to be provided by the Contractor [Bidder] under this contract shall be for entire system, in accordance with the terms and conditions laid down in the contract, of the RTWQMS equipment / system, all accessories and attachments of the equipment/system installed at Remote Stations and the equipment system and the software installed at Central Station, CPCB, New Delhi including providing of all required consumables, additional spare parts, repair of the defective equipment or units/parts thereof and imparting training to the officers of the CPCB in the operation and maintenance of RTWQMS & Central Receiving Station.
2. Contractor shall maintain his primary office in Delhi equipped with all requisite infrastructural facilities at his own cost and notify its office and residential addresses to the Engineer-in-charge, to handle the complaints.
3. The Agency shall notify Contractor of any errors and malfunctions, which occur and noticed when equipment are in use, by fax/telephone/e-mail/special messenger directly or through his Service Engineer(s) at his office address during normal working hours or at their residence after normal office hours and/or on holidays.
4. Contractor shall provide maintenance services to the in-charge at Central Receiving Station, Delhi and correct the defect(s) reported by the in-Charge, within a period of 48 hrs on receipt of the complaint.
5. Contractor shall provide maintenance services to the RTWQMS at remote stations and correct the defect(s) reported by CPCB, within a period of 72 hrs on receipt of the complaint. If a station stops transmitting, data shall be recovered by on-site download and added to the database at the receive station. It is important that no data be lost.
6. Contractor shall ensure proper functioning of all equipment installed at the Stations/Central Receiving Station, Delhi. This includes the transmission of all data from all station, and receipt of that data at the Data Center in Delhi.
7. Contractor shall be responsible for preventative as well as emergency maintenance. Preventative maintenance shall occur at the recommended interval of the equipment supplier, or once a year, whichever is more frequent.
8. Contractor shall keep a record of all activities at each station as well as the central receiving station in Delhi. These records shall include all maintenance visits (preventative and emergency), actions taken, spot checking of equipment, and periods of outage. These records shall be kept in a database and shall be retrievable by the Agency on an as-needed basis. The interface to the database shall be web based. Furthermore, the Contractor shall prepare a complete maintenance report citing all maintenance performed during the quarter. This report is due no later than 10 days after the end of the quarter. The report shall also indicate the number of hours of sensor/station/receive station outage, as well as actions taken. A complete equipment inventory shall be part of this report, which will include the location of all pieces of equipment that possess a serial number. This includes the location of all spare sensors and data collection systems.
9. Upon receipt of notification of defect in the system from CPCB, if Contractor fails to take immediate corrective measures to rectify the defect, within the stipulated maximum response time stated above, the Contractor is liable to pay

penalty for unsatisfactory performance of maintenance services, in accordance with the criteria laid down below:

- a. A remote site shall be treated as faulty if it fails to respond or transmits erroneous data (either partially or totally) for three hours. The decision of in-Charge about errors in data shall be final and binding. If a remote site continues to remain “fail” for more than 6 hours in excess of the maintenance time schedule of 72 hours, Contractor is liable to pay penalty @ Rs. 20000/- per Day/ remote site starting from the time and date of the failure. The Day for the purpose of penalty shall be taken as failure period of 24 hours or part thereof for a particular remote site. This provision is for data loss only, and not data interruption. An example of data interruption is if the GPRS transmission fails, even though the data logger is actively collecting data. Data loss is when the data logger is not storing data, or the station has otherwise failed to operate.

The maximum limit of the total penalty in a year on this account shall be limited to the 50% of the value of maintenance contract for corresponding year.

- b. The Contractor shall ensure satisfactory receipt of data at the Central Receiving Station, Delhi. If still no data is received at Central Receiving Station, Delhi, it will be treated as “fail” and if such a failure continues for more than 2 hours in excess of maintenance time of 48 hours, the contractor is liable to pay a penalty at the rate of Rs. 20000/- per Day. Total number of failure period for the case of Central Receiving Station shall be computed in the same manner as for Remote Stations under clause-2.1 above. However non-receipt of data at Central Receiving Station, Delhi due to any failure shall not be treated as valid ground to avoid penalty.

The maximum limit of the total penalty in a year on this account shall be limited to the 50% of the value of maintenance contract for corresponding year.

- c. The authority to decide and review the penalty shall be Scientist –D in charge of the Central Receiving Station, Delhi.
- d. The total penalty in a year shall be limited to the value of maintenance contract for the corresponding year.
- e. All the charges of GSM / GPRS Service provider shall be borne by the Contractor.

9. INSPECTION AND TESTS

The following inspections and tests shall be performed:

9.1 Testing and Inspection

It is the bidder’s responsibility to ensure that the equipment is sufficiently tested prior to shipment and installation. During final acceptance testing, the bidder will have to demonstrate full functionality and performance of all system components according to specifications. Prior to final acceptance, all expenditures related to unsatisfactory performance of the equipment, such as the costs of repairs, additional site visits, shipping costs etc., will be at the bidder’s expenses.

The costs for all tests and for all inspections to be made under the contract shall be borne by the bidder and shall be deemed to be included in the contract price with the exception of the Purchaser's costs for witnessing tests.

9.2 Factory Acceptance Test

Prior to system shipment, the bidder shall conduct a Factory Acceptance Test (FAT). The FAT shall be conducted at the bidder's facilities and shall demonstrate "end-to-end" performance of the system components. In order to avoid delays, the factory acceptance testing shall not be witnessed. However, the bidder is required to write a FAT report that will describe the test layout, the individual testing results for each station / component, as well as any problems found. All deficiencies revealed by testing shall be rectified by the bidder at his own expenses and to the approval of the Purchaser. Rectified components shall be subject to re-testing.

No pre dispatch inspection is envisaged for equipment of foreign origin and bidder shall furnish factory test/inspection reports as furnished below of the manufacturer along with the dispatch documents. However, the CPCB reserves the right to appoint at its cost, any inspection agency (other than suggested by Bidder) which will be binding on the Bidder.

- Performance Test Certificate
- Certificate of Traceability (if applicable)
- Verification of System Completeness
- Product Certificate

CPCB's right to inspect, test, where necessary, reject the Equipment after the Equipment's arrival in India shall in no way be limited or waived by reason of the Equipment having previously been inspected, tested and passed by the Board prior to the Equipment's shipment from the country of origin.

9.3 Receiving Inspection

The system is to be inspected in-country, after clearing customs, to ensure that 100 percent of the shipment is received and delivered. The bidder is to arrange for this receiving inspection as well as for customs clearance and delivery to appropriate storage facilities near Delhi to be provided and maintained by the bidder.

9.4 Site Installation and Acceptance Tests

The bidder will install all the equipment and will undertake site tests at each RTWQMS for each lot of equipment included in the Schedule of Requirements. The exact locations for installation by bidder shall be decided by the CPCB in consultation with the bidder. A list of proposed stations is provided in Annexure I.

After final configuration and programming, the bidder will conduct an "end-to-end" operational test for each of these stations. A formal check list shall be followed and the results of the tests shall be recorded. The CPCB's personnel will be trained in conducting the same site acceptance tests. A Site Acceptance Test will be passed if all sensors and data collection platforms obtain and store correct values for a period of 24 hours.

9.5 Operational Test (OT)

Operational Tests shall be conducted at two stages of project implementation. In each case, any operational problems related to the remote stations are to be fixed before approval can be received for the system OT. The first OT must be conducted immediately after the first lot of remote stations has been installed by the bidder. All hardware and software components of this real time network have to be tested. The OT will be considered to be successful if all components as a whole have been operating without problems during at least 72 hours period.

The final OT shall be test for “end-to-end” performance of the entire system for a period of one week. The bidder shall demonstrate and document that the system correctly generated 95% of all expected data (normally scheduled data collections and transmissions) for the one week period. The bidder will produce a report documenting the quantities of data expected / received and indicating the success / failure of the OT. The OT will be repeated until the 98% success level is achieved or a specific waiver of the requirement (minimum 95%) is obtained.

All equipment failures will be counted except those that can be specifically determined to be “acts of God”. Failure of stations due to acts of God (natural disasters or other incidents) will not count against the 95%. Equipment needed for testing shall be provided by the bidder.

9.6 Final Acceptance

When the system has passed the Final OT, the bidder can apply for Final Acceptance. When Final Acceptance is given, the system will be officially considered to be under Warranty.

10. DOCUMENTATION

1. The bidders shall submit literature/brochures of the products and components being offered. Failure to provide these documents along with bid will be deemed as NON-RESPONSIVE and are liable to be REJECTED.
2. The manufacturer should provide detailed manuals for operation, servicing and maintenance of all equipment and software provided under this contract. Separate hard & soft copies of manuals must be provided for each station
3. The copies of software listings may be provided in the form of CD ROMs or other suitable media. All manuals should be given in printed form also.

11. SITE PREPARATION

CPCB has provided details of the sites which will allow the **Bidder** to perform site inspection before the installation of the RTWQM equipment, or at any time the bidder so desires. The location of antenna and sensors will be decided depending on the site and river flow conditions. The **Bidder** should complete the required works at the site in advance to proper installation of the equipment.

12. SYSTEM DESIGN AND REVIEW

After award of contract a detailed design review meeting will be conducted where full technical details of the system will be mutually discussed between CPCB and Bidder.

SECTION 3-A
TECHNICAL RESPONSIVENESS FORM
RELATED TO PROCUREMENT OF REAL TIME WATER QUALITY
MONITORING STATIONS
REF BID NO.: ICB No: HP II/CPCB-1 /2011-12

The minimum technical specification requirements for the RTWQMS to be installed at all locations are given in Section-VI (Technical Specifications) of bid document. However, the actual technical proposal can have higher or better technical performance parameters and the minimum specifications proposed should not be taken as a constraint on the upper side. The technical specifications given in Section-VI (Technical Specifications) of bid documents are descriptive.

The bidder shall submit a detailed item-wise compliance / non-compliance statement referring Para-wise to the requirements given in this document. The compliance statement shall be supported by original brochure(s) of the equipment or sub component from the manufacturer. In case the original brochure is silent on any part of tender specification, it shall be supported by an undertaking by the manufacturer, if claimed complied.

Silence on any part of the technical specification or failure / omission to provide any such details will be treated as **non-responsive**.

Summary of Instructions

Particulars of Manufacturer and local agent cum representative are to be given along with Address.

All entry boxes shall be filled-in accurately and comprehensively. Quantitative fields shall be filled in accurately. It is not acceptable to use Yes, No, Compliant or similar evading words. Following format is designed to help the Bidder to understand the requirements of the equipment being procured. The Bidder must describe in the format how his bid responds to the technical requirements/specifications of the equipment. One or two responses (e.g. "Yes", "No" "will comply" or similar evading words) are normally not sufficient to confirm the responsiveness with the technical requirements, hence elaborate responses are sought. **Even if any one of the following technical requirements of equipment is not as per the minimum criteria mentioned, the bids would be declared "non-responsive" and would not further be considered for evaluation purposes.**

Related pamphlets and information shall be enclosed with the bid and be unambiguously associated with instruments as offered in the bid

Negligence to comply with the instructions and requirements as stated above makes the bid liable to be rejected.

Entries requiring special attention:

The bidder's experience with the offered equipment should be clearly reflected. The proposed maintenance interval and the recommended spares as offered in the bid shall be based on instrument deployment history. The training proposal shall be based on experience in similar cases. Moreover, it shall consider the educational level and specialization of the trainees.

Model	WQ Equipment Model	-----make and model
Address	WQ Equipment Manufacturer Name Place Tel: Fax: E-mail: WWWeb:	Local Agent for WQ Equipment manufacturer: Name Place Tel: Fax: E-mail: WWWeb:

S.No.	Feature	Manufacturer	As per Technical Specification	As offered for bidder	Remarks
A	General Information				
0.1	Number produced of offered modal first year that more than units were sold in a single year				
0.2	Brochure of RTWQMS				
0.3	Photo of RTWQMS				
0.4	Brochure of Display System (RTWQMS)				
0.5	Photo of Display System (RTWQMS)				
0.6	Demo software on 3.5'' disk/CD				
B	Parameter				
1.0	pH, mV				
0.1	Measuring Range		0.0 to 14 units of pH		
0.2	Accuracy		≤ 0.01 units of pH		

0.3	Response Time		≤ 60 seconds		
0.4	Operating Temperature		0 to 40° C		
0.5	Operating Humidity		5 to 95% non-condensing		
0.6	Power		12 VDC Nominal		
0.7	Cleaning		Self-Cleaning (Automatic)		
2.0	Turbidity				
0.1	Measuring Range		0 to 1000 NTU		
0.2	Accuracy		≤ 3% of certified reference standard		
0.3	Resolution		≤ 0.1 NTU		
0.4	Response Time		≤ 60 seconds		
0.5	Operating Temperature		0 to 40° C		
0.6	Operating Humidity		5 to 95% non-condensing		
0.7	Power		12 VDC Nominal		
0.9	Cleaning		Self-Cleaning (Automatic)		
3.0	Conductivity				
0.1	Measuring Range		0.0 to 5000 μS/cm		
0.2	Accuracy		± 0.1 % of full scale		
0.3	Resolution		≤ 0.01 μS/cm		
0.4	Response Time		≤ 60 seconds		
0.5	Operating Temperature		0 to 40° C		
0.6	Operating Humidity		5 to 95% non-condensing		
0.7	Power		12 VDC Nominal		
0.8	Cleaning		Self-Cleaning (Automatic)		

4.0	Temperature				
0.1	Measuring Range		0 to 40 °C		
0.2	Accuracy		≤ 0.1 C		
0.3	Resolution		≤ 0.1 C		
0.4	Response Time		≤ 60 seconds		
0.5	Operating Temperature		0 to 40° C		
0.6	Operating Humidity		5 to 95% non-condensing		
0.7	Power		12 VDC Nominal		
0.9	Cleaning		Self-Cleaning (Automatic)		
5.0	Dissolved Oxygen				
0.1	Measuring Range		0 to 20 mg / L		
0.2	Accuracy		≤ 1% of full Scale		
0.3	Resolution		≤ 0.01 mg / L		
0.4	Response Time		≤ 60 seconds		
0.5	Operating Temperature		0 to 40° C		
0.6	Operating Humidity		5 to 95% non-condensing		
0.7	Power		12 VDC Nominal		
0.8	Cleaning		Self-Cleaning (Automatic)		
6.0	Dissolved Ammonia				
0.1	Measuring Range		0.0 to 100 mg/L		
0.2	Accuracy		≤ 3% of full scale		
0.3	Resolution		≤ 0.1 mg / L		
0.5	Response Time		≤ 60 seconds		
0.6	Operating Temperature		0 to 40° C		

0.7	Operating Humidity		5 to 95% non-condensing		
0.8	Power		12 VDC Nominal		
0.10	Cleaning		Self-Cleaning (Automatic)		
7.0	BOD				
0.1	Measuring Range		0.0-50 mg/L		
0.2	Resolution		≤ 1 mg/L		
0.3	Response Time		≤ 60 seconds		
0.4	Operating Temperature		0 to 40° C		
0.5	Operating Humidity		5 to 95% non-condensing		
0.6	Power		12 VDC Nominal		
0.7	Cleaning		Self-Cleaning (Automatic)		
8.0	COD				
0.1	Measuring Range		0.0 to 500 mg/L		
0.2	Accuracy		± 2% + 5 mg/L of certified reference standard		
0.3	Resolution		≤ 1 mg/L		
0.4	Response Time		≤ 60 seconds		
0.5	Operating Temperature		0 to 40° C		
0.6	Operating Humidity		5 to 95% non-condensing		
0.7	Power		12 VDC Nominal		
0.8	Cleaning		Self-Cleaning (Automatic)		
9.0	Nitrate				
0.1	Measuring Range		1 to 50 mg/L		
0.2	Accuracy		± 2% + 0.5 mg/L of		

			certified reference standard		
0.3	Resolution		$\leq 0.1 \text{ mg / L}$		
0.4	Response Time		$\leq 60 \text{ seconds}$		
0.5	Operating Temperature		0 to 40° C		
0.6	Operating Humidity		5 to 95% non-condensing		
0.7	Power		12 VDC Nominal		
0.8	Cleaning		Self-Cleaning (Automatic)		
10.0	Chloride				
0.1	Measuring Range		0 to 1000 mg/L		
0.2	Resolution		$\leq 0.1 \text{ mg / L}$		
0.3	Response Time		$\leq 60 \text{ seconds}$		
0.4	Operating Temperature		0 to 40° C		
0.5	Operating Humidity		5 to 95% non-condensing		
0.6	Power		12 VDC Nominal		
0.7	Cleaning		Self-Cleaning (Automatic)		
11	Data Acquisition				
.1	Display		Displays sensor data, Operational function		
.2	Sensor inputs		Accommodate all sensors prescribed in the specification		
.3	Programming		Ethernet, USB, RS-232		
.4	Data Retrieval		USB and/or PC Download, and GPRS network		
.5	System Data Storage		All parameters, 15 minutes, for		

			one year, non-volatile memory		
.6	Telemetry		GSM/GPRS compatible with Telecommunications System in India and as available at each station		
.7	Network connection		Ethernet,RJ45 via modem		
.8	GPS Integrated with Data Logger		Integrated GPS for time correction and location		
.9	Operating Temperature		0 to 50 °C		
.10	Operating Humidity		5 to 95 % non-condensing		
.11	Power		12 VDC Nominal		
12	Data Communication				
.1	Telemetry		GSM/GPRS Compatible and fully Functional at each Measurement Station		
.2	Operating Temperature		-5 to 60°C		
.3	Operating Humidity		5 to 95 % non-condensing		
.4	Power		12 VDC Nominal		
.5	Accessories		Connectors and cabling		
13	Station Siting				
.1	Bridge mounted stations lateral adjustment		Lateral adjustment of sensor maximum of three times per year		
.2	Vertical adjustment of sensor package		Vertical adjustment of sensor package with changing water elevations		

14	Power Supply				
.1	Station Autonomy (Data Logger, GPRS, Sensors, 15 minute data sampling, one hour transmissions)		Battery only operation (without charge) for 48 hours		
.2	Load Calculation (15 minute data collection, hourly GPRS transmission)		Load calculation provided in bid		
.3	Solar Panels		Wattage of Solar panels meets load calculation and included in bid		
	Central Receive Station (Data Center)				
15	Server 1 Hardware and Software (Data Collection and Database Server)				
.1	Computer Type		Rack mount with mounting kit		
.2	Manufacture Certification		ISO 9000 and 14000		
.3	Processor		64-bit 2x-XEON 2.0 GHz, 24M cache minimum		
.4	Number of processors		2		
.5	Memory		16 GB RAM		
.6	Disk Redundancy		RAID 5 Hot Plug		
.7	Disk Capacity for Data		900 GB or greater hot plug		
.8	Ports		2 USB one Serial		
.9	Devices		DVD RW		
.10	Power Supply		(2) Redundant under full power		
.11	Operating System		Windows Server 2008 or most current		
.12	Database		PostgreSQL or similar		

.13	Alarm Software		Notification of remote station and computer network malfunction		
16	Server 2 Hardware and Software (Application Server)				
.1	Computer Type		Rack mount with mounting kit		
.2	Manufacture Certification		ISO 9000 and 14000		
.3	Processor		XEON 2.0 GHz, 24M cache minimum		
.4	Number of processors		1		
.5	Memory		4 GB RAM		
.6	Disk Redundancy		RAID 1		
.7	Disk Capacity for Data		1 TB		
.8	Ports		2 USB one Serial		
.9	Devices		DVD RW		
.10	Power Supply		(2) Redundant under full power		
.11	Operating System		Windows Server 2008 or most current		
.12	Time Series Software		Aquatic Informatics, Kisters, or similar		
.13	Maintenance Software		Electronic searchable relational based log of remote station and data center maintenance		
17	Server 3 Hardware and Software (Web Server)				
.1	Computer Type		Rack mount with mounting kit		
.2	Manufacture Certification		ISO 9000 and 14000		

.3	Processor		XEON 2.0 GHz, 24M cache minimum		
.4	Number of processors		1		
.5	Memory		4 GB RAM		
.6	Disk Redundancy		RAID 1		
.7	Disk Capacity for Data		1 TB or greater		
.8	Ports		2 USB one Serial minimum		
.9	Devices		DVD RW		
.10	Power Supply		(2) Redundant under full power		
.11	Operating System		Windows Server 2008 or most current		
.12	Web Server Software		Apache (Open Source)		
.13	Alarm Software		Notification of remote station and computer network malfunction		
.14	Visualization Software		Please provide brochure describing the features of the software		
18	KVM Switch				
.1	Mounting		Rack mounted with kit		
.2	Connectivity		Provides connectivity to at least 5 devices		
19	UPS				
.1	Mounting		Rack mounted with kit		
.2	Power		40 minutes for all three servers		
20	Router/Firewall				

.1	Interface		HTTP		
.2	Mounting		Rack mounted with kit		
.3	IP Sharing		NAT		
.4	Clients		250 minimum		
21	HUB				
.1	Ports		24 Minimum		
.2	Mounting		Rack Mounted with kit		
22	Printer				
.1	Trays		Dual		
.2	Printing		Automatic Duplex		
.3	Type		Color Laser		
23	Monitor				
.1	Dimension		42 "		
.2	Type		LED		
.3	HDMI Inputs		4		
.4	Mount		Wall and base mounts		
24	Offline High Storage Backup				
.1	Storage Capacity		10 TB		

ANNEXURE - I

Summary of Sites to Receive Real-Time Continuous Monitoring Water Quality Stations

LOCATION

The location of RTWQMS shall be at Delhi (2), Haridwar, Kannauj, Kanpur, Allahabad, Varanasi(2), Patna and Kolkata.

GENERAL GUIDELINES

The site of RTWQMS operation shall be manned by the staff of the Bidder on 24X7 patterns. In addition the Bidder would arrange for a security of the site and equipment through appointment for security agency (providing **at least one security guards**) **throughout the day**.

Wazirabad Barrage, Delhi (Location photograph-1)

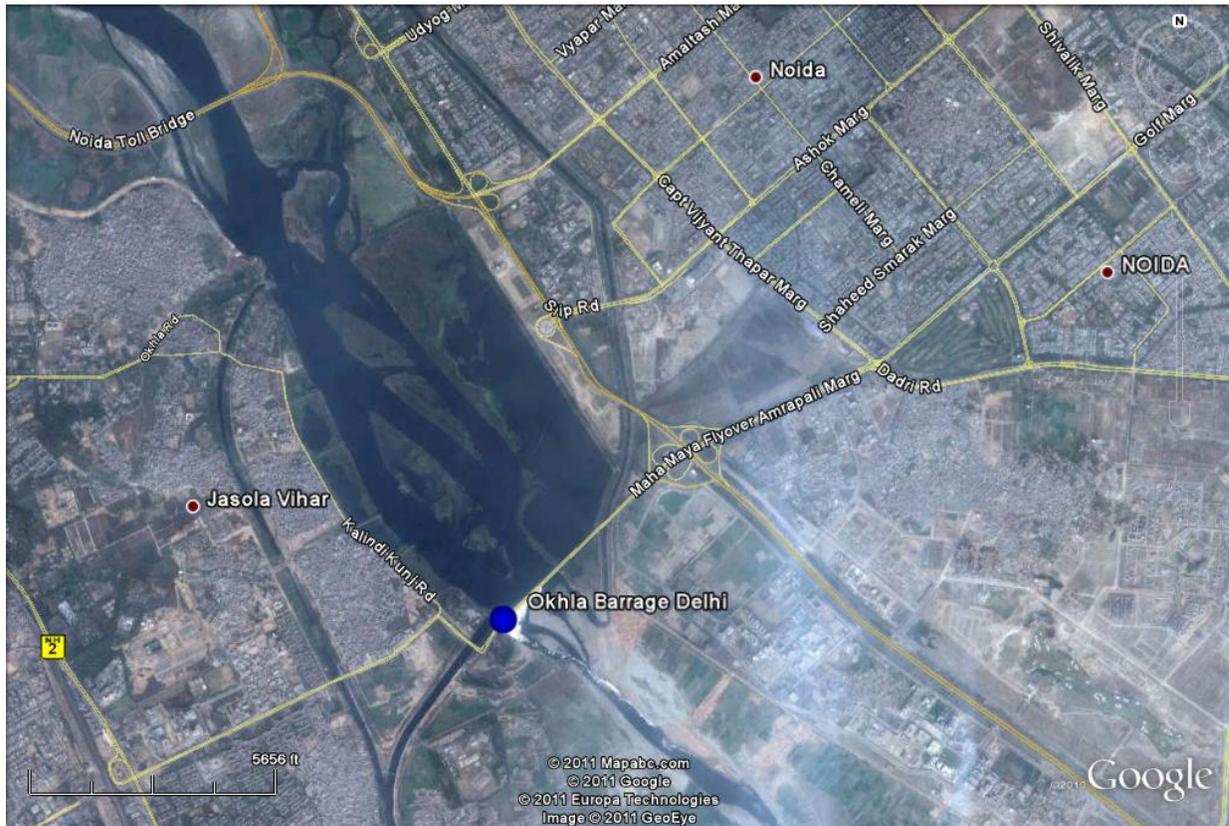
28.71324° Latitude 77.23192° Longitude



The Wazirabad site in Delhi is one of fixed stations. This station will be located at the intake point of Delhi Jal Board. The intake platform (d/s side) is suggested as the location for the instrumentation.

Okhla Barrage, Delhi (Location photograph-2)

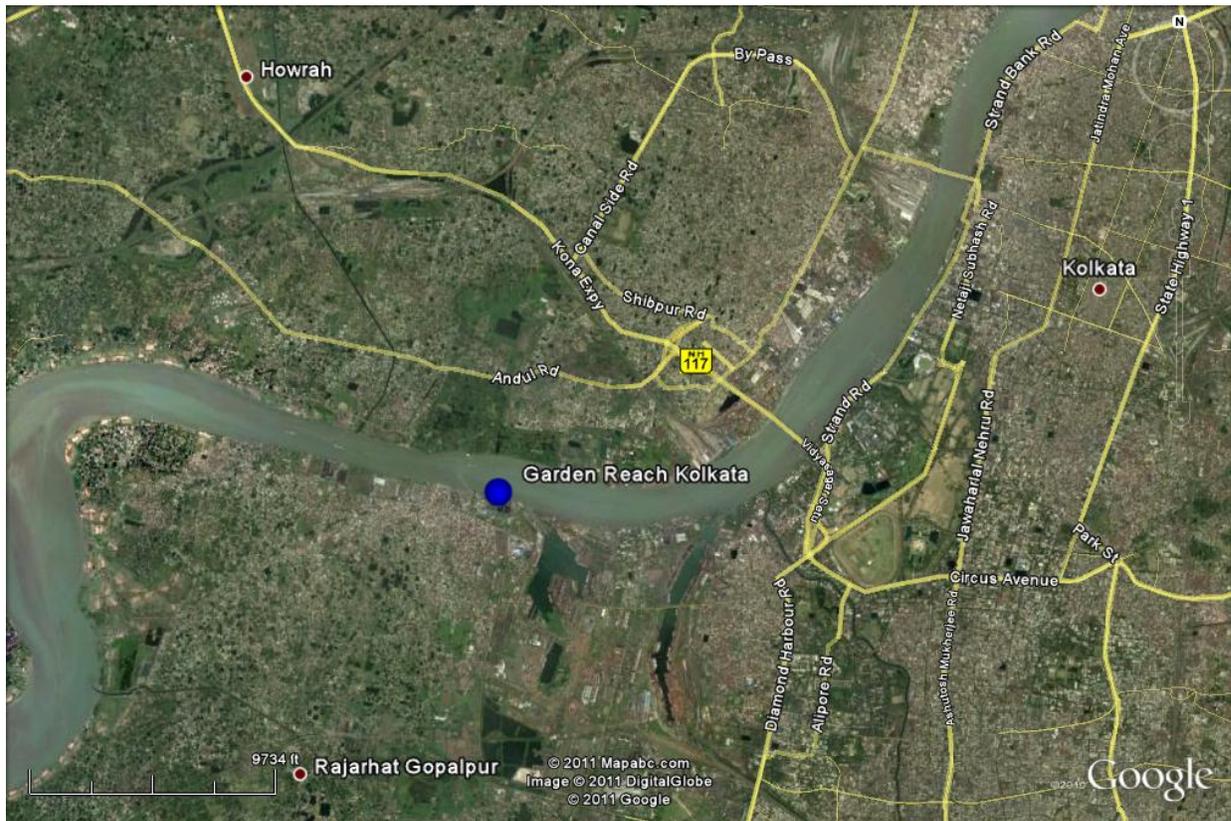
28.545607° Latitude 77.311800° Longitude



The Okhla Barrage site in Delhi is one of fixed stations. This station will be located within the Okhla Barrage alongside a wall near the outlet works.

Garden Reach, Kolkata (Location photograph-3)

22.55068° Latitude 88.29337° Longitude



The Garden Reach site is one of fixed stations. This station will be located alongside the dock seen in the picture above.

Gandhi Ghat Patna (Location photograph-4)

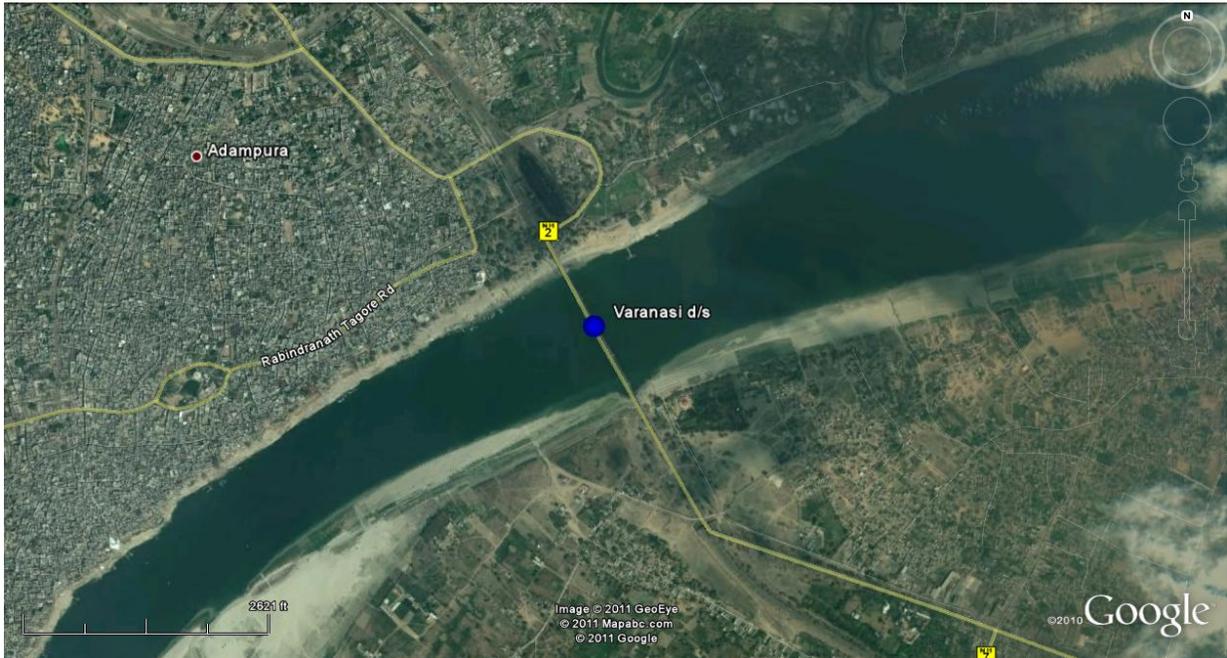
25.622399° Latitude 85.172523° Longitude



The Gandhi Ghat site is in Patna, and will be located the only site that will employ a rapid-deploy floating platform/buoy. There is a floating restaurant close by. The floating platform/buoy may need to be moved during extremely high flow to protect the unit, though it will be the desire of CPCB to keep the station operating as much as possible. The batteries, solar panels, and all other equipment related to data collection will need to be integrated into the floating platform/buoy. The same exact sensor deployed at the other nine sites will be used at this site.

Varanasi d/s (Location photograph-5)

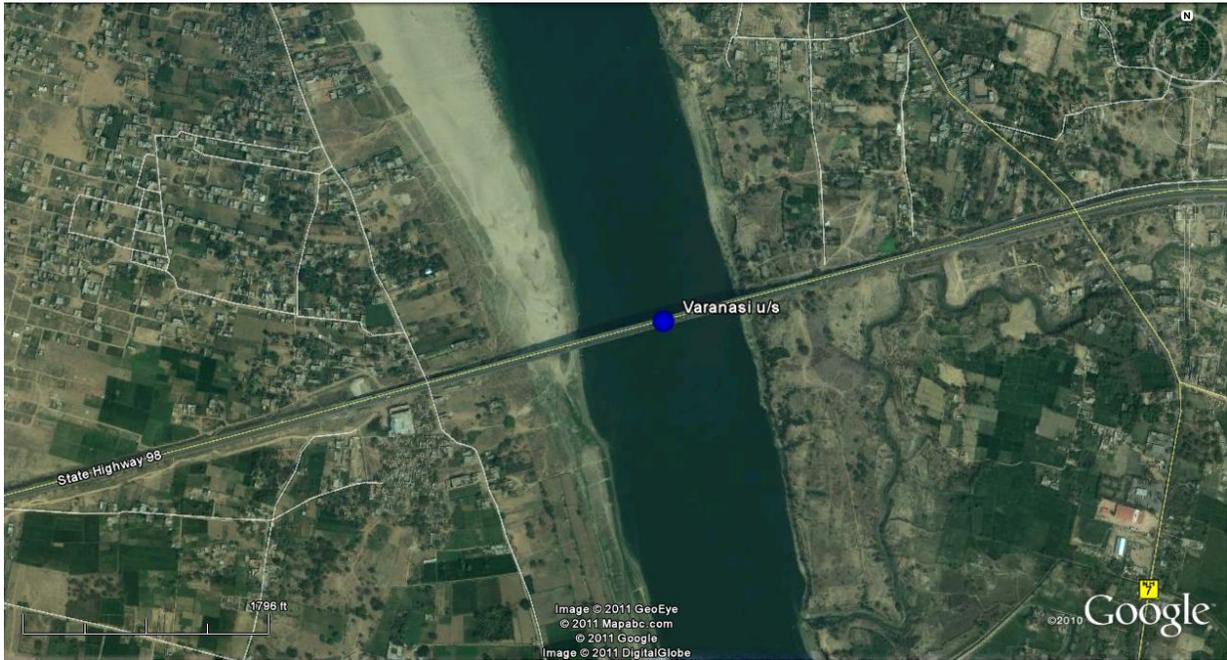
25.322414° Latitude 83.034520° Longitude



This site will be a portable bridge mount installation in the event the station has to be moved along the bridge as the low water channel shifts.

Varanasi u/s (Location photograph-6)

25.255747° Latitude 83.027717° Longitude



This site will be a portable bridge mount installation in the event the station has to be moved along the bridge as the low water channel shifts.

Allahabad u/s (Location photograph-7)

25.437923° Latitude 81.885484° Longitude



This site will be a portable bridge mount installation in the event the station has to be moved along the bridge as the low water channel shifts.

Jajmau bridge d/s Kanpur (Location photograph-8)

26.435743° Latitude 80.409716° Longitude



The Jajmau Bridge Kanpur site is shown in the picture above. This site will be a portable bridge mount installation in the event the station has to be moved along the bridge as the low water channel shifts.

Kannauj d/s (Location photograph-9)

27.011618° Latitude 79.987098° Longitude



This site will be a portable bridge mount installation in the event the station has to be moved along the bridge as the low water channel shifts.

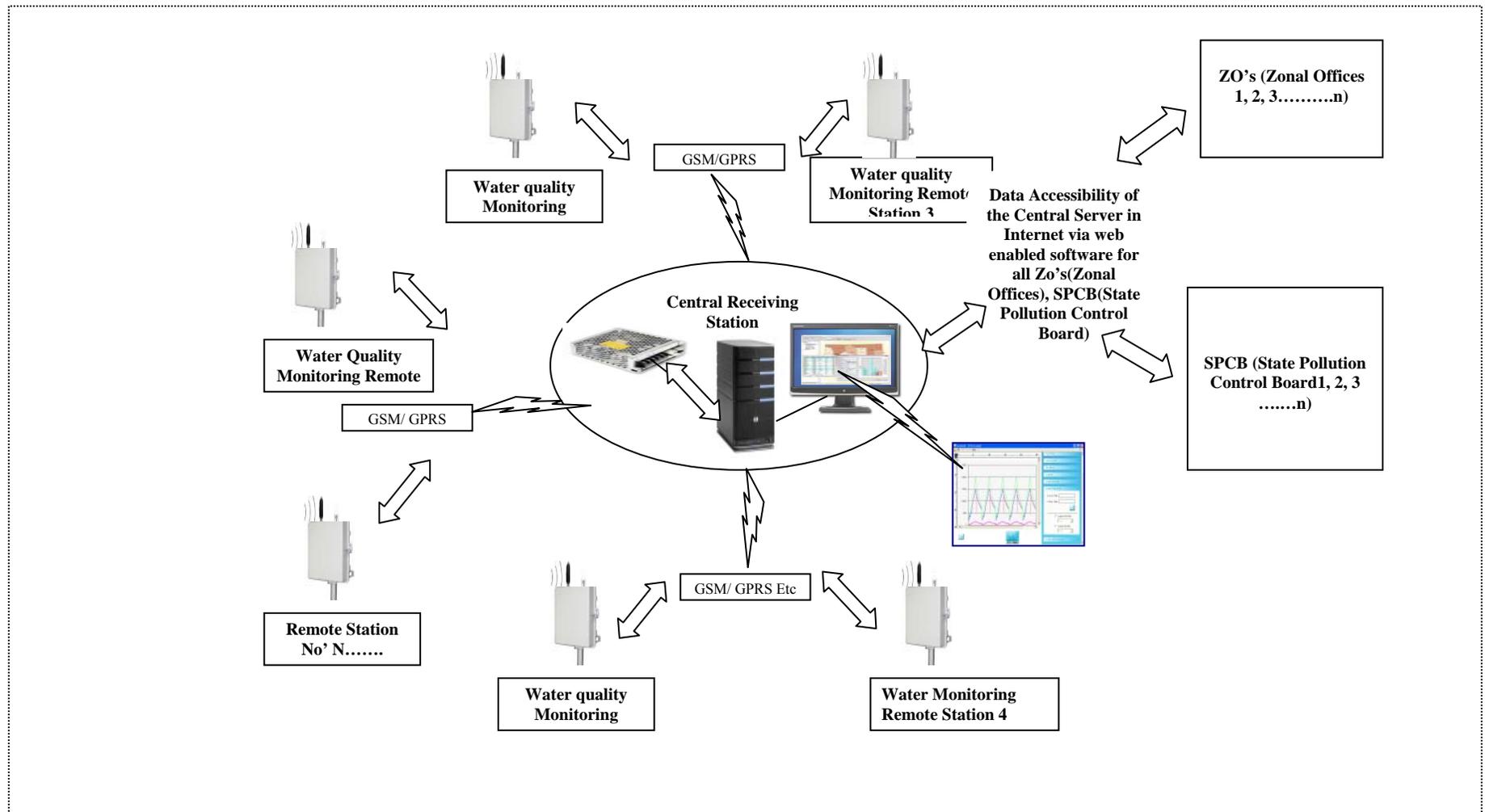
Upper Ganga Barrage (Location photograph-10)

29.95854° Latitude 78.17847° Longitude



This station will be located alongside the wall of the intakes to the Haridwar bathing area seen in the picture above.

ANNEXURE – II



PART 3 - Contract

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”⁶ is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
- (ii) “fraudulent practice”⁷ is any act or omission, including a misrepresentation, that knowingly or

⁶ “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.

⁷ a “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.

recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;

- (iii) “collusive practice”⁸ is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
- (iv) “coercive practice”⁹ 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;
- (v) “obstructive practice” is
 - (a) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
 - (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].

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.

Interpretation

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

4.2 Inco terms

- (a) Unless inconsistent with any provision of the Contract, the meaning of any trade term and the rights and obligations of parties there under shall be as prescribed

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

⁹ a “party” refers to a participant in the procurement process or contract execution.

by Inco terms.

- (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 Nonwaiver

- (a) Subject to GCC Sub-Clause 4.5(b) below, no relaxation, forbearance, delay, or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect, or restrict the rights of that party under the Contract, neither shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.
- (b) Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, dated, and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.

4.6 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

14.1 The Supplier shall supply all the Goods and Related Services

Responsibilities	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.

GCC 1.1(j)	The Purchaser's country is: India
GCC 1.1(k)	The Purchaser is: Member Secretary, Central Pollution Control Board
GCC 1.1 (o)	The Project Site(s)/Final Destination(s) is/are: As mentioned in Annexure I of Section VI Schedule of Requirement. and drawings (photographs/images) showing the locations of the proposed RTWQM stations (Figure- photographs/images 1to 10). <i>All the secured sites managed by Govt. agencies or industrial establishments shall be finalized after getting the approval for bidding (ICB)</i>
GCC 4.2 (a)	The meaning of the trade terms shall be as prescribed by Incoterms 2000.
GCC 4.2 (b)	The version edition of Incoterms 2000 shall be English
GCC 5.1	The language shall be: English
GCC 8.1	For <u>notices</u> , the Purchaser's address shall be: Member Secretary, CPCB, Parivesh Bhawan, CBD-cum-Office Complex East Arjun Nagar, DELHI - 110 032, INDIA Tel No:22302188 E mail:rmbhardwaj@gmail.com
GCC 9.1	The governing law shall be the law of: India
GCC 10.2	<p>The rules of procedure for arbitration proceedings pursuant to GCC Clause 10.2 shall be as follows:</p> <p>“Clause 10.2 (a) shall be retained in the case of a Contract with a foreign Supplier/bidder and clause 10.2 (b) shall be retained in the case of a Contract with a national of the Purchaser's country.”</p> <p>(a) Contract with foreign Supplier:</p>

GCC 10.2 (a)—Any dispute, controversy or claim arising out of or relating to this Contract, or breach, termination or invalidity thereof, shall be settled by arbitration in accordance with the UNCITRAL Arbitration Rules as at present in force.

(b) Contracts with Supplier national of the Purchaser's country:

The dispute settlement mechanism to be applied pursuant to GCC Clause 10.2 shall be as follows:

(a) In case of Dispute or difference arising between the Purchaser and a domestic supplier relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Arbitration and Conciliation Act, 1996. The arbitral tribunal shall consist of 3 arbitrators one each to be appointed by the Purchaser and the Supplier. The third Arbitrator shall be chosen by the two Arbitrators so appointed by the Parties and shall act as Presiding arbitrator. In case of failure of the two arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the arbitrator appointed subsequently, the Presiding Arbitrator shall be appointed by the Delhi Chapter.

(b) In the case of a dispute with a Foreign Supplier, the dispute shall be settled in accordance with provisions of UNCITRAL (United Nations Commission on International Trade Law) Arbitration Rules. The Arbitral Tribunal shall consist of three Arbitrators one each to be appointed by the Purchaser and the Supplier. The third Arbitrator shall be chosen by the two Arbitrators so appointed by the Parties, and shall act as presiding arbitrator. In case of failure of the two arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the arbitrator appointed subsequently, the Presiding Arbitrator shall be appointed by the President of the Institution of Engineers (India), Delhi Chapter.

(c) If one of the parties fails to appoint its arbitrator in pursuance of sub-clause (a) and (b) above, within 30 days after receipt of the notice of the appointment of its arbitrator by the other party, then the President of the Institution of Engineers (India), Delhi Chapter, both in cases of the Foreign supplier as well as Indian supplier, shall appoint the arbitrator. A certified copy of the order of the President of the Institution

	<p>of Engineers (India), Delhi chapter making such an appointment shall be furnished to each of the parties.</p> <p>(d) Arbitration proceedings shall be held at __New Delhi, India, and the language of the arbitration proceedings and that of all documents and communications between the parties shall be English.</p> <p>(e) The decision of the majority of arbitrators shall be final and binding upon both parties. The cost and expenses of Arbitration proceedings will be paid as determined by the arbitral tribunal. However, the expenses incurred by each party in connection with the preparation, presentation etc. of its proceedings as also the fees and expenses paid to the arbitrator appointed by such party or on its behalf shall be borne by each party itself.</p> <p>(f) Where the value of the contract is Rs. 10 million and below, the disputes or differences arising shall be referred to the Sole Arbitrator. The Sole Arbitrator should be appointed by agreement between the parties; failing such agreement, by the appointing authority namely the President of the Institution of Engineers (India), Delhi Chapter.</p>
<p>GCC 13.1</p>	<p>Details of Shipping and other Documents to be furnished by the Supplier are :</p> <p>(a) For Goods supplied from abroad :</p> <p>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 Consignee with a copy to the Insurance Company and purchaser:</p> <p>(i) 4 Copies of Supplier's invoice showing contract number, goods description, quantity, unit price and total amount;</p> <p>(ii) Original and 4 copies of the negotiable, clean, on-board bill of lading marked freight prepaid and 4 copies of non-negotiable bill of lading;</p> <p>(iii) 4 Copies of packing list identifying contents of</p>

	<p>each package;</p> <ul style="list-style-type: none"> (iv) Insurance certificate; (v) Manufacturer's/Supplier's warranty certificate; (vi) Inspection certificate issued by the nominated inspection agency if any, and the Supplier's factory inspection report; and (vii) Certificate of origin. <p>The above documents shall be received by the Consignee & Purchaser at least one week before arrival of Goods at the port or place of arrival and, if not received, the Supplier will be responsible for any consequent expenses.</p> <p>(b) For Goods from within India:</p> <p>Upon delivery of the goods to the consignee, the supplier shall notify the purchaser and mail the following documents to the Purchaser :</p> <ul style="list-style-type: none"> (i) 4 Copies of the Supplier invoice showing contract number, goods description, quantity, unit price, total amount; (ii) Delivery note, acknowledgment of receipt of goods from the Consignee (iii) Insurance Certificate; (iv) Manufacturer's/Supplier's warranty certificate; (v) Inspection Certificate issued by the nominated inspection agency if any, and the Supplier's factory inspection report; and (vi) Certificate of Origin. <p>The above documents shall be received by the Purchaser before arrival of the Goods (except where it is handed over to the Consignee with all documents) and if not received, the supplier will be responsible for</p>
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	<p>any consequent expenses.</p> <p><u>Packing Instructions:</u> The Supplier will be required to make separate packages for each site. Each package will be marked on three sides with proper paint/indelible ink with the following :</p> <p>Project; (ii) Contract No.; (iii) Country of Origin of Goods; (iv) Supplier's Name; (v)Packing List Reference</p>
GCC 15.1	<p>The prices charged for the Goods supplied and the related Services Performed shall not be adjustable. This is fixed price contract.</p>
GCC 16.1	<p>The method and conditions of payment to be made to the Supplier under this Contract shall be as follows:</p> <p>Payment for Goods supplied from abroad:</p> <p>Payment of foreign currency portion shall be made in the currency specified in the contract in the following manner.</p> <p>(i) Advance Payment: Ten (10) percent of the Contract Price (excluding civil works, installation and turnkey charges) shall be paid within thirty (30) days of signing of the Contract, and upon submission of claim and a bank guarantee for equivalent amount valid until the Goods are delivered and in the form provided in the bidding documents or another form acceptable to the Purchaser.</p> <p>(ii) On Shipment: Sixty (60) percent of the Contract Price (excluding civil works, installation and turnkey charges) shall be paid on receipt of the Goods and upon submission of the documents specified in GCC Clause 13.</p> <p>(iii) On Installation:- Ten (10) percent of the contract price shall be paid after final inspection of Specification Committee & after successful installation & commissioning report at the site by the consignee</p> <p>(iv) On Training- Ten (10) percent of the contract cost after successful to the designated staff along with all manuals related to running operation & maintenance of equipment.</p> <p>(v) On final Acceptance: Remaining Ten (10) percent of the Contract Price of Goods received shall be paid within thirty (30) days of receipt of the Goods, installed, tested, commissioned and upon submission of claim supported by the final acceptance certificate issued by the Purchaser.</p>

	<p>Payment of local currency portion shall be made in INR within thirty (30) days of presentation of claim supported by a certificate from the Purchaser declaring that the Goods have been delivered and that all other contracted Services have been performed [for civil works, installation & turnkey charges].</p> <p>Payment for Goods and Services supplied from within Purchaser's country:</p> <p>Payment for Goods and Services supplied from within the Purchaser's country shall be made in INR, as follows:</p> <p>(i) Advance Payment: Ten (10) percent of the Contract Price (excluding civil works, installation and turnkey charges) shall be paid within thirty (30) days of signing of the Contract against a simple receipt and a bank guarantee for the equivalent amount and in the form provided in the bidding documents or another form acceptable to the Purchaser.</p> <p>(ii) On Delivery: Sixty (60) percent of the Contract Price (excluding civil works, installation and turnkey charges) shall be paid on receipt of the Goods and upon submission of the documents specified in GCC Clause 13.</p> <p>(iii) On Installation:- Ten (10) percent of the contract price shall be paid after final inspection of Specification Committee & after successful installation & commissioning report at the site by the consignee</p> <p>(iv) On Training- Ten (10) percent of contract price after successful to the designated staff along with all manuals related to running operation & maintenance of equipment.</p> <p>(v) On final Acceptance: Remaining Ten (10) percent of the Contract Price of Goods received shall be paid within thirty (30) days of receipt of the Goods, installed, tested, commissioned and upon submission of claim supported by the final acceptance certificate issued by the Purchaser.</p>
GCC 16.5	<p>The payment-delay period after which the Purchaser shall pay interest to the bidder shall be thirty (30) days. The interest rate that shall be applied is London Inter-Bank On-Lending Rate (LIBOR) plus 2% for foreign currency; and 5% for local currency.</p>
GCC 18.1	<p>A Performance Security shall be required. The amount of the Performance Security shall be: 10% of the contract value.</p>

GCC 18.3	The Performance Security shall be in the form of Bank Guarantee and the Performance security shall be denominated in the currencies of payment of the Contract, in accordance with their portions of the Contract Price.
GCC 18.4	Discharge of the Performance Security shall take place: 90 days after the completion of performance obligations under the contract including warranty obligations and submission of performance security for the AMC .
GCC 23.2	The packing, marking and documentation within and outside the packages shall be: The Supplier will be required to make separate packages for each site of installation. Each package will be marked on three sides with proper paint/indelible ink with the following : (i) Project; (ii) Contract No.; (iii) Country of Origin of Goods; (iv) Supplier's Name; (v)Packing List Reference number.
GCC 24.1	The insurance coverage shall be as specified in the Incoterms.
GCC 25.1	Responsibility for transportation of the Goods shall be as follows: The Bidder shall be responsible, at his costs, for loading, transporting, shipping and unloading of the equipments to be supplied under the contract from the point of manufacture to the delivery at his storage facility. The transportation of equipments to field locations as specified places of final destination within the Purchaser's country for installation after the Receiving inspection shall also be the responsibility of the bidder. The bidder shall also be responsible for any storage of the equipments including insurance, and security during any interim period between supply and transportation to field locations for installation. The related all costs shall be included in the contract price. The Bidder shall provide such packing of the equipments as is required to prevent its damage or deterioration during transit to its final destination.
GCC 26.1	The inspections and tests shall be as specified in the "Schedule of Requirements: Inspections and Tests" of the bid document.
GCC 26.2	The inspections and tests shall be conducted at locations as specified in the "Schedule of Requirements: Inspections and Tests" of the bid document.
GCC 27.1	The liquidated damage shall be:Half percent (0.5 %) of contract amount per week
GCC 27.1	The maximum amount of liquidated damages shall be: Ten percent(10 %) of contract amount

GCC 28.3	<p>The period of validity of the Warranty shall be:</p> <p>The warranty period shall be 24 months from date of acceptance of the equipments or 27 months from the date of shipment, whichever occurs earlier.</p> <p>For purposes of the Warranty, the place(s) of final destination(s) shall be as specified in sub-clause GCC 1.1 (o) and in SCC referring to GCC 1.1 (o)</p>
GCC 28.5	<p>The period for repair or replacement shall be: 03 days.</p>

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)¹⁰ 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]*,¹¹ and any demand for payment under it must be received by us at this office on or before that date.

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

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

¹⁰ *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.*

¹¹ *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)]*¹² *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]*¹³.

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

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

¹² 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.

¹³ 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."

Invitation for Bids (IFB)

Country : **India**
Project : **India: Hydrology Project Phase-II**
Loan Number : **4749 – IN**
IFB Title : **International Competitive Bidding (ICB) for Supply, Installation, Testing, Training and Commissioning of Real time Water Quality Monitoring Stations**

IFB No. ICB No: HP II/CPCB-1 /2011-12

Date: 5-09-2011

1. This Invitation for Bids follows the General Procurement Notice for this Project that appeared in Development Business, of July-24,2004
2. The Government of India has received loan from the International Bank for Reconstruction and Development toward the cost of Hydrology project-II and it intends to apply part of the proceeds of this loan to payments under the Contract for International Competitive Bidding (ICB) for Supply, Installation, Testing, Training & Commissioning of Real time Water Quality Monitoring Stations .
3. The Member Secretary, Central Pollution Control Board now invites sealed bids from eligible and qualified bidders for Real Time Water Quality Monitoring Stations.
4. Bidding will be conducted through the international competitive bidding procedures specified in the World Bank's Guidelines: IBRD Loans and IDA Credits, and is open to all bidders from Eligible Source Countries as defined in the Guidelines.
5. Interested eligible bidders may obtain further information from Member Secretary, CPCB, Delhi and inspect the bidding document at the address given below from 1200 hours IST to 1500 hours IST on any working day from 12-09-2011 to 14-11-2011.
6. Qualification requirements are given in Section III of Bidding documents.
7. 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 nonrefundable fee of Indian Rupees Three Thousands (Rs.3000.00) or equivalent in a convertible currency by demand draft / Banker's cheque in favour of Member Secretary, Central

Pollution Control Board payable at Delhi. The bid documents may be sent by Speed Post or courier service if requested so on receipt of the cost of the bid document plus Rs.200 for National or Rs. 1000 for International destination. The CPCB office shall not be held responsible for any postal delays, if, any, in the delivery of the document or non-receipt of the same.

8. Bids must be delivered to the address below at or before 1400 hrs (IST) on 15-11- 2011. 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 below at 1430 hrs (IST) on 15-11-2011. All bids must be accompanied by a Bid Security of INR. Two Million and Five Hundred Thousand only (2.5 Million) or its equivalent in a freely convertible currency by demand draft/Bank cheque in favor of Member Secretary, Central Pollution Control Board payable at Delhi.
9. A pre-bid meeting with potential bidders will be held on 14-10-2011 at IST 1400 hrs in training hall of CPCB office to clarify the issues and to answer questions on any matter that may be raised at that stage as stated in Clause ITB 7.2 of 'Instructions to Bidders' of the bidding document.
10. The bid document can also be downloaded from CPCB website (www.cpcb.nic.in) and the cost of the bid document shall be deposited in Indian Rupees Three Thousands (Rs.3000.00) or equivalent in a convertible currency by demand draft/ Banker's cheque in favour of Member Secretary, CPCB payable at Delhi, India at the time of submission of bid. In the event of such downloaded bids submitted without cost of bid document would be declared " non-responsive" and would not be considered further for bid evaluation process.
11. The address referred to above is:

Member Secretary
Central Pollution Control Board,
Parivesh Bhawan, CBD-cum-Office Complex
East Arjun Nagar,
DELHI - 110 032, INDIA
Tel No:91-11-22302188
E-mail:rmbhardwaj@gmail.com