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**NATIONAL COMPETITIVE BIDDING FOR**  
**THE PROCUREMENT OF VARIOUS SURVEY EQUIPMENT UNDER JMVP– II (Arth**  
**Ganga)**  
**(Two-Envelope Bidding Process with e-Procurement)**

BID REFERENCE	:	IN-IWAI-314747-CW-RFB
DATE OF COMMENCEMENT OF SALE OF BIDDING DOCUMENT	:	23.09.2022
LAST DATE FOR SALE OF BIDDING DOCUMENT	:	27.10.2022
LAST DATE AND TIME FOR RECEIPT OF BIDS	:	: 27.10.2022 at 1500 Hours
TIME AND DATE OF OPENING OF BIDS – Technical Part	:	: 27.10.2022 at 1530 Hours
OFFICER INVITING BIDS	:	: Vice Chairman & Project Director, JMVP, Inland Waterways Authority of India A-13, Sector – 1, Noida – 201 301 (UP)



**PROJECT MANAGEMENT UNIT**

**JAL MARG VIKAS PROJECT – II (ARTH  
GANGA)**

**INLAND WATERWAYS AUTHORITY OF INDIA**

(Ministry of Ports, Shipping and Waterways, Govt. of  
India)

Head Office : A-13, Sector – 1, Noida - 201 301  
Phone 0120-2544004, Fax 0120-2543976, vc.iwai@nic.in



**National Competitive Bidding**  
**Request of Bids For**  
**THE PROCUREMENT OF VARIOUS SURVEY EQUIPMENT UNDER JMVP– II**  
**(Arth Ganga)**

e-Bids are invited from interested bidders for: “**The Procurement of Various Survey Equipment Under JMVP– II** (Arth Ganga)”. The Tender Documents and other relevant details are available at IWAI website [www.iwai.nic.in](http://www.iwai.nic.in) and e-procurement site <https://eprocure.gov.in/eprocure/app>.

**Date 23.09.2022**

**VICE CHAIRMAN & PROJECT DIRECTOR (JMVP)**

**SECTION I: INVITATION FOR BIDS (IFB)**

**NATIONAL COMPETITIVE BIDDING FOR**  
**THE PROCUREMENT OF VARIOUS SURVEY EQUIPMENT UNDER JMVP– II (Arth**  
**Ganga)**

**(Two-Envelope Bidding Process with e-Procurement)**

**INVITATION FOR BIDS (IFB)**  
**E-Procurement Notice**

Date : 23.09.2022  
Credit No. : NOT APPLICABLE  
Loan No. : **8752-IN**  
IFB No. : IN-IWAI--314747-CW-RFB

1. The Government of India has received financing from the World Bank towards the cost of Jal Marg Vikas Project and it is intended that part of the proceeds will be applied to eligible payments under the contracts for the procurement of various survey equipment under JMVP– II (Arth Ganga)
2. The Inland Waterways Authority of India now invites online bids from eligible bidders for the procurement of various survey equipment under JMVP– II (Arth Ganga).
3. Bidders may Bid for one or several contracts, as further defined in the bidding document. Bidders wishing to offer discounts in case they are awarded more than one contract will be allowed to do so, provided those discounts are included in the Letter of Bid.
4. Bidding will be conducted through the National Competitive Bidding (NCB) procedures agreed with World Bank. The bidding is open to all eligible bidders as defined in the Bank's Procurement Guidelines. In addition, please refer to paragraphs 1.6 and 1.7 of the Guidelines setting forth the World Bank's policy on conflict of interest.
5. Bidding documents are available online on <https://eprocure.gov.in/eprocure/app> for a non-refundable fee as indicated below, in the form of Demand Draft/ Cashier's cheque/Certified cheque on any Scheduled/Nationalized bank payable at Noida/New Delhi in favor of IWAI Fund Jal Marg Vikas (Demand Draft to be submitted subsequently as per the procedure described in paragraph 7 below). Bidders will be required to register in the website, which is free of cost. The bidder would be responsible for ensuring that any addenda available on the website is also downloaded and incorporated.

- |     |  |                              |
|-----|--|------------------------------|
| (a) | Price of bidding document                        | : ₹ 5,900/- (non-refundable) |
| (b) | Date of commencement of sale of bidding document | : 23.09.2022                 |
| (c) | Last date for sale of bidding document           | : 27.10.2022                 |
| (d) | Last date and time for receipt of bids           | : 27.10.2022 at 1500 Hours   |
| (e) | Time and date of opening of bids-technical part  | : 27.10.2022 at 1530 Hours   |

6. For submission of the bids, the bidder is required to have Digital Signature Certificate (DSC) from one of the authorized Certifying Authorities, authorized by Government of India for issuing DSC. Aspiring bidders who have not obtained the user ID and password for participating in e-procurement in this Project, may obtain the same from the website: <https://eprocure.gov.in/eprocure/app>. A nonrefundable fee of \*Rs. 5,900/-(inclusive of tax) is required to be paid (to be submitted along with other documents listed in paragraph 7 below) before the opening of the bid i.e. before 27.10.2022. The mode of payment shall be in the form of DD drawn in favour of IWAI Fund, Jal Marg Vikas on any scheduled Bank payable at Noida/New Delhi. \*Tender fees of Rs. 5900/- is in total for one or multiple schedules.
7. Bids security of the amount specified in the bidding document, drawn in favour of IWAI Fund, Jal Marg Vikas on any scheduled Bank payable at Noida/New Delhi must be submitted as per the procedure described in paragraph 7 below. The Bid security will have to be in any one of the forms as specified in the bidding document and shall have to be valid for 45 days beyond the validity of the bid. Bids must be submitted online on <https://eprocure.gov.in/eprocure/app> on or before the date and time for receipt of bids, and the 'Technical Part' of bids will be opened online on the specified time and date for opening of bids, as given above. The "Financial Part" shall remain unopened in the e-procurement system until the second public Bid opening for the financial part. Any bid or modifications to bid (including discount) received outside e-procurement system will not be considered. If the office happens to be closed on the date of opening of the bids as specified, the bids will be opened on the next working day at the same time. The electronic bidding system would not allow any late submission of bids.
8. The bidders are required to submit (a) original demand drafts towards the cost of bid document and registration on e-procurement website (if not previously registered); (b) original bid security in approved form; and (c) original affidavit regarding correctness of information furnished with bid document with Vice Chairman & Project Director, JMVP, IWAI, A-13, Sector -1, Noida before the opening of the technical part of the Bid given above, either by registered post/speed post/courier or by hand, failing which the bids will be declared non-responsive and will not be opened.
9. Other details can be seen in the bidding document. The Purchaser shall not be held liable for any delays due to system failure beyond its control. Even though the system will attempt to notify the bidders of any bid updates, the Purchaser shall not be liable for any information not received by the bidder. It is the bidders' responsibility to verify the website for the latest information related to this bid.

Seal of Office & Address

**Jayant Singh,**  
**Vice Chairman & Project Director, JMVP**  
**Inland Waterways Authority of India**  
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## **PART 1 – BIDDING PROCEDURES**

## **SECTION I - INSTRUCTIONS TO BIDDERS [ITB]**



# Section I. Instructions to Bidders

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# Section I. Instructions to Bidders

## A. General

1. **Scope of Bid**
  - 1.1 The Purchaser **indicated in the Bidding Data Sheet (BDS)**, issues these Bidding Documents for the supply of Goods and Related Services incidental thereto as specified in Section VII, Schedule of Requirements. The name, identification and number of schedules (contracts) of this National Competitive Bidding (NCB) procurement are **specified 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, including if **specified in the BDS**, distributed or received through the electronic-procurement system used by the Employer) with proof of receipt;
    - (b) if the context so requires, “singular” means “plural” and vice versa; and
    - (c) “day” means calendar day.
2. **Source of Funds**
  - 2.1 The Government of India (hereinafter called “Borrower”) **specified in the BDS** has applied for or received financing (hereinafter called “funds”) from the International Bank for Reconstruction and Development or the International Development Association (hereinafter called “the Bank”) in an amount **specified in BDS** toward 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 Payment 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 Loan (or other financing) Agreement. The Loan (or other financing) Agreement prohibits a withdrawal from the loan or other financing) 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 (or other financing) Agreement or have any claim to the funds.

**3. Corrupt & Fraudulent Practices**

- 3.1 The Bank requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Section VI.
- 3.2 In further pursuance of this policy, Bidders shall permit and shall cause its agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers and to permit the Bank to inspect all accounts, records and other documents relating to the submission of the application, bid submission (in case prequalified), and contract performance (in the case of award), and to have them audited by auditors appointed by the Bank.

**4. Eligible Bidders**

- 4.1 A Bidder may be a firm that is a private entity, or a government owned entity subject to ITB 4.5.
- 4.2 A Bidder shall not have a conflict of interest. Any Bidder found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this bidding process, if the Bidder:
  - a. directly or indirectly controls, is controlled by or is under common control with another Bidder; or
  - b. receives or has received any direct or indirect subsidy from another Bidder; or
  - c. has the same legal representative as another Bidder; or
  - d. has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the bid of another Bidder, or influence the decisions of the Purchaser regarding this bidding process; or
  - e. Participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which such Bidder is involved. However, this does not limit the inclusion of the same subcontractor in more than one bid; or
  - f. any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the goods/equipment that are the subject of the bid; or
  - g. any of its affiliates has been hired (or is proposed to be hired) by the Purchaser or Borrower for the Contract implementation; or
  - h. would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the BDS ITB 2.1 that it provided or were provided by any of its affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or
  - i. has a close business or family relationship with a professional staff of the Borrower (or of the project implementing agency, or of a recipient of a part of the loan) who: (i) are directly or indirectly

involved in the preparation of the bidding documents or specifications of the contract, and/or the bid evaluation process of such contract; or (ii) would be involved in the implementation or supervision of such contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Bank throughout the procurement process and execution of the contract.

- 4.3 A Bidder may have the nationality of any country, subject to the restrictions pursuant to ITB 4.7. A Bidder shall be deemed to have the nationality of a country if the Bidder is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed sub-contractors or sub-consultants for any part of the Contract including related Services.
- 4.4 A Bidder that has been sanctioned by the Bank in accordance with the above ITB 3.1, including in accordance with the Bank's Guidelines on Preventing and Combating Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants ("Anti-Corruption Guidelines"), shall be ineligible to be prequalified for, bid for, or 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 have determined. The list of debarred firms and individuals is available at the electronic address **specified in the BDS**.
- 4.5 Bidders that are Government-owned enterprises or institutions in the Purchaser's Country may participate only if they can establish that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not dependent agencies of the Purchaser. To be eligible, a government-owned enterprise or institution shall establish to the Bank's satisfaction, through all relevant documents, including its Charter and other information the Bank may request, that it: (i) is a legal entity separate from the government (ii) does not currently receive substantial subsidies or budget support; (iii) operates like any commercial enterprise, and, inter alia, is not obliged to pass on its surplus to the government, can acquire rights and liabilities, borrow funds and be liable for repayment of its debts, and can be declared bankrupt; and (iv) is not bidding for a contract to be awarded by the department or agency of the government which under their applicable laws or regulations is the reporting or supervisory authority of the enterprise or has the ability to exercise influence or control over the enterprise or institution.

- 4.6 A Bidder shall not be under suspension from bidding by the Purchaser as the result of the operation of a Bid-Securing Declaration.
- 4.7 Firms and individuals may be ineligible if so indicated in Section V and (a) as a matter of law or official regulations, 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 goods or the contracting of works or services required; or (b) 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 or contracting of works or services from that country, or any payments to any country, person, or entity in that country.
- 4.8 A bidder shall provide such evidence of eligibility satisfactory to the Purchaser, as the Purchaser shall reasonably request.

**5. Eligible Goods and Related Services**

- 5.1 All the Goods and Related Services to be supplied under the Contract and financed by the Bank may have their origin in any country in accordance with Section V, Eligible Countries.
- 5.2 For purposes of this Clause, the term "goods" includes commodities, raw material, machinery, equipment, and industrial plants; and "related services" includes services such as insurance, installation, training, and initial maintenance.
- 5.3 The term "origin" means the country where the goods have been mined, grown, cultivated, produced, manufactured or processed; or, through manufacture, processing, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its components.

## **B. Contents of Bidding Document**

**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
- Section VI Bank Policy-Corrupt and Fraudulent Practices

## **PART 2 Supply Requirements**

- Section VII. Schedule of Requirements

## **PART 3 Contract**

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

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

6.3 Unless obtained directly from the Purchaser, the Purchaser is not responsible for the completeness of the document, responses to requests for clarification, minutes of pre-bid meeting (if any), or Addenda to the Bidding Document in accordance with ITB 8. In case of any contradiction, documents obtained directly from the Purchaser shall prevail.

6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Documents and to furnish with its Bid all information or documentation as is required by the Bidding Documents.

## **7. Clarification of Bidding Documents**

7.1 The electronic bidding system **specified in the BDS** provides for online clarifications. A prospective Bidder requiring any clarification on the Bidding Documents may notify the Purchaser online. Clarifications requested through any other mode shall not be considered by the Purchaser. The Purchaser will respond to any request for clarification, provided that such request is received no later than fifteen (15) days prior to the deadline for submission of bids. Description of clarification sought and the response of the Purchaser shall be uploaded for information of all Bidders without identifying the source of request for clarification. 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 22.2. It is the bidder's

responsibility to check on the e-procurement system, for any addendum/ amendment/ corrigendum to the bidding document.

- 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. The addendum will appear on the e-procurement system under “Latest Corrigendum” and email notification is also automatically sent to those bidders who have started working on the tender, or as **otherwise specified in BDS**.
- 8.2 Any addendum thus issued shall be part of the Bidding Documents and shall be deemed to have been communicated to all the bidders.
- 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 22.2

## **C. Preparation of Bids**

- 9. Cost of Bidding**
- 9.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Purchaser shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
- 10. Language of Bid**
- 10.1 The Bid, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser, shall be written in English language. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages into English language, in which case, for purposes of interpretation of the Bid, such translation shall govern.
- 11. Documents Comprising the Bid**
- 11.1 The Bid shall comprise two Parts, namely the Technical Part and the Financial Part. These two Parts shall be submitted simultaneously.
- 11.2 **The Technical Part** shall contain the following:
- (a) Letter of Bid – Technical Part, in accordance with ITB Clause 12;
  - (b) Bid Security, in accordance with ITB Clause 19.1, if required;
  - (c) Alternative bids – Technical Part, if permissible, in accordance with ITB 13, the Technical Part of any Alternative Bid;
  - (d) written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB Clause 20.2;



- (e) documentary evidence in accordance with ITB Clause 17 establishing the Bidder's qualifications to perform the contract if its bid is accepted;
- (f) documentary evidence in accordance with ITB 17 establishing the Bidder's eligibility to bid;
- (g) documentary evidence in accordance with ITB Clause 16, that the Goods and Related Services to be supplied by the Bidder are of eligible origin;
- (h) documentary evidence in accordance with ITB Clauses 16, that the Goods and Related Services conform to the Bidding Documents;
- (i) Manufacturer's authorization form; and
- (j) any other document **required in the BDS.**

11.3 The **Financial Part** shall contain the following:

- (a) Letter of Bid – Financial Part: prepared in accordance with ITB 12 and ITB 14;
- (b) Price Schedules: completed prepared in accordance with ITB 12 and ITB 14;
- (c) Alternative Bid - Financial Part; if permissible in accordance with ITB 13, the Financial Part of any Alternative Bid; and
- (d) any other document **required in the BDS.**

11.4 The Technical Part shall not include any financial information related to the Bid price. Where material financial information related to the Bid price is contained in the Technical Part, the Bid shall be declared non-responsive.

11.5 The Bidder shall furnish in the Letter of Bid, information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid.

## **12. Process of Bid Submission**

- 12.1 The Letter of Bid – Technical Part, Letter of Bid – Financial Part, and Price Schedules shall be prepared using the relevant forms furnished in Section IV, Bidding Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under ITB 20.2. All blank spaces shall be filled in with the information requested.
- 12.2 Entire Bid including the Letter of Bid and filled-up Price Schedules shall be submitted online on e-procurement system specified in ITB 7.1. Details and process of online submission of the tender and relevant documents are given in the website mentioned above. Scanned copies of documents listed in clauses 11 and 12.3 should also be uploaded on this website.
- 12.3 **Submission of Original Documents:** The bidders are required to separately submit (i) original demand drafts towards the cost of bid document and registration on e-procurement website (if not previously registered) (as per RFB); (ii) original bid security in approved form; and (iii) original affidavit regarding correctness of information furnished with bid document, with the office **specified in the BDS**, before the opening of the technical part of the Bid, either by registered/speed post/courier or by hand, failing which the bids will be declared non-responsive and will not be opened. Hard copy of rest of the bid is not to be submitted.

## **13. Alternative Bids**

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

## **14. Bid Prices and Discounts**

- 14.1 The prices and discounts quoted by the Bidder in the Letter of Bid – Financial Part and in the Price Schedules shall conform to the requirements specified below.
- 14.2 All schedules (contracts) and items must be listed and priced separately in the Price Schedules.
- 14.3 The price to be quoted in the Letter of Bid – Financial Part, in accordance with ITB 12.1, shall be the total price of the bid, excluding any discounts offered.
- 14.4 The Bidder shall quote any discounts and indicate the methodology for their application in the Letter of Bid – Financial Part in accordance with ITB 12.1.
- 14.5 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 nonresponsive and shall be rejected, pursuant to ITB 31. 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.

- 14.6 If so specified in ITB 1.1, bids are being invited for individual schedules (contracts) or for any combination of schedules (packages). Unless otherwise **specified in the BDS**, prices quoted shall correspond to 100 % of the items specified for each schedule and to 100% of the quantities specified for each item of a schedule. Bidders wishing to offer discounts for the award of more than one Contract shall specify in their bid the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted in accordance with ITB 14.4 provided the bids for all schedules (contracts) are submitted and opened at the same time.
- 14.7 The terms EXW and other similar terms shall be governed by the rules prescribed in the current edition of Incoterms, published by The International Chamber of Commerce, **as specified in the BDS**.
- 14.8 Prices shall be quoted as specified in the Price Schedule included in Section IV, Bidding Forms. The dis-aggregation of price components is required solely for the purpose of facilitating the comparison of bids by the Purchaser. This shall not in any way limit the Purchaser's right to contract on any of the terms offered. In quoting prices, the Bidder shall be free to use transportation through carriers registered in any eligible country, in accordance with Section V Eligible Countries. Similarly, the Bidder may obtain insurance services from any eligible country in accordance with Section V Eligible Countries. Prices shall be entered in the following manner:
- (a) **For Goods:**
- (i) the price of the Goods quoted EXW (ex-works, ex-factory, ex-warehouse, ex-showroom, or off-the-shelf, as applicable), including all duties, and GST and other taxes already paid or payable on the components and raw material used in the manufacture or assembly of the Goods;
  - (ii) any GST and other taxes which will be payable in India 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 the Related Services, other than inland transportation and other services required to convey the Goods to their final destination, whenever such Related Services are specified in the Schedule of Requirements:
  - (i) the price of each item comprising the Related Services (inclusive of any applicable taxes).

#### 14.9 Deemed **Export Benefits**

Bidders may like to ascertain availability of tax/duty exemption benefits, available for contracts financed under World Bank Credits/ Loans. They are solely responsible for obtaining such benefits, which they have considered in their bid and in case of failure to receive such benefits for reasons whatsoever, the Purchaser will not compensate the bidder.

Where the bidder has quoted taking into account such benefits, it must give all information required for issue of necessary Certificates in terms of the Government of India's relevant Notification along with its bid as per form stipulated in Section IV Bidding Forms. Where the Purchaser issues such Certificates, such taxes and duties will not be reimbursed separately.

If the Bidder has considered the Deemed Export Benefits in its bid, the Bidder shall confirm and certify that the Purchaser will not be required to undertake any responsibilities of the deemed export scheme or the benefits available during contract execution except issuing the required certificates. Bids which do not conform to this provision or any condition by the Bidder which makes the bid subject to availability of deemed export benefits or compensation on withdrawal of or any variations in the deemed export benefits scheme will make the bid non responsive and hence liable to rejection.

### **15. Currencies of Bid& Payment**

- 15.1 The Bidder shall quote the Price in Indian Rupees only.

**16. Documents  
Establishing the  
Eligibility and  
conformity of  
the Goods and  
Related  
Services**

- 16.1 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.
- 16.2 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 VII, Schedule of Requirements.
- 16.3 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 Section VII Schedule of Requirements.
- 16.4 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.
- 16.5 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 Section VII Schedule of Requirements.

**17. Documents  
Establishing the  
Eligibility  
&Qualifications  
of the Bidder**

- 17.1 To establish Bidder's eligibility in accordance with ITB 4, Bidders shall complete the Letter of Bid – Technical Part, included in Section IV, Bidding Forms.
- 17.2 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 the Bidder meets each of the qualification criterion Criteria specified in Section III, Evaluation and Qualification;
- (b) (i) that, if **required in the BDS**, a Bidder that does not manufacture or produce the Goods it offers to supply shall submit the Manufacturer's Authorization using the form included in Section IV, Bidding Forms to demonstrate that it has been duly authorized by the manufacturer or producer of the Goods to supply these Goods in the Purchaser's Country;
- (ii) Supplies for any particular item in each schedule of the bid should be from one manufacturer only. Bids from agents offering supplies from different manufacturers for the same item of the schedule in the bid will be treated as non-responsive.
- (iii) that, if **required in the BDS**, 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;
- (c) Bids from Joint Ventures are not acceptable.

## 18 Period of Validity of Bids

- 18.1 Bids shall remain valid for the period **specified in the BDS** after the bid submission deadline date prescribed by the Purchaser in accordance with ITB 22.1. A bid valid for a shorter period shall be rejected by the Purchaser as non-responsive.
- 18.2 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 19, 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 18.3.
- 18.3 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 determined as follows:
  - (a) In the case of fixed price contracts, the Contract price shall be the bid price adjusted by the factor **specified in the BDS** for each week or part of the week that has elapsed from the

expiration of the initial bid validity to the date of notification of award to the successful bidder.

- (b) In the case of adjustable price contracts, no adjustment shall be made.
- (c) In any case, bid evaluation shall be based on the bid Price without taking into consideration the applicable correction from those indicated above.

## **19 Bid Security**

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

19.2 Not used.

19.3 The Bid Security shall be in the amount **specified in the BDS** and denominated in Indian Rupees or a freely convertible currency, and shall:

- (a) at the bidder's option, be in the form of either a certified check, demand draft, letter of credit, or a bank guarantee from a Nationalized /Scheduled Bank in India, or another security specified **in the BDS**;
- (b) be substantially in accordance with one of the forms of Bid Security included in Section IV, Bidding Forms, or other form approved by the Purchaser prior to bid submission;
- (c) be payable promptly upon written demand by the Purchaser in case the conditions listed in ITB Clause 19.7 are invoked;
- (d) be submitted in its original form; copies will not be accepted;
- (e) remain valid for a period of 45 days beyond the original validity period of the bids, or beyond any period of extension of bid validity, if so, requested under ITB Clause 18.2.

19.4 If a Bid Security is required in accordance with ITB Sub-Clause 19.1, any bid not accompanied by a substantially responsive Bid Security shall be rejected by the Purchaser as non-responsive.

19.5 The Bid Security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's signing the contract and furnishing the Performance Security pursuant to ITB Clause 44.

19.6 The Bid Security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the contract and furnished the required performance security.

19.7 The Bid Security may be forfeited :

(a) if a Bidder

- (i) withdraws its bid during the period of bid validity specified by the Bidder in the Letter of Bid (Technical Part and/or Financial Part), except as provided in ITB Sub-Clause 18.2;  
or
- (ii) does not accept the correction of errors in pursuant to ITB 35,  
or

(b) if the successful Bidder fails to:

- (i) sign the Contract in accordance with ITB Clause 43;  
or
- (ii) furnish a Performance Security in accordance with ITB Clause 44.

19.8 Not used.

19.9 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 18.2, or does not accept the correction of errors pursuant to ITB 35; 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 ineligible to be awarded a contract by the Purchaser for a period of time **as stated in the BDS**.

## **20 Format and Signing of Bid**

20.1 The Bidder shall prepare the Bid as per details given in ITB 21.

20.2 The bid shall be signed by a person duly authorized to sign on behalf of the Bidder. The authorization shall consist of a written confirmation **as specified in the BDS** and shall be uploaded along with the bid.



20.3 Not used.

20.4 Corrections if any in the bid can be carried out by editing the information before electronic submission on e-procurement portal.

### **D. Online Submission of Bids**

#### **21 Preparation of Bids**

21.1 Bids, both Technical and Financial Parts, shall be submitted online on the e-procurement system specified in BDS 7.1. Detailed guidelines for viewing bids and submission of online bids are given on the website. The Invitation for Bids under this Project is published on this website. Any citizen or prospective bidder can logon to this website and view the Invitation for Bids and can view the details of goods for which bids are invited. A prospective bidder can submit its bid online; however, the bidder is required to have enrolment/registration in the website, and should have valid Digital Signature Certificate (DSC) in the form of smart card/e-token obtained from any authorised certifying agency of Government of India (for class of DSC **specified in BDS**). The bidder should register in the website using the relevant option available. Then the Digital Signature registration has to be done with the e-token, after logging into the website. The bidder can then login the website through the secured login by entering the password of the e-token & the user id/ password chosen during registration. After getting the bid schedules, the Bidder should go through them carefully and submit the specified documents, along with the bid, otherwise the bid will be rejected.

21.2 The completed bid comprising of documents indicated in ITB 12, should be uploaded on the e-procurement portal along with scanned copies of requisite certificates as are mentioned in different sections in the bidding document and scanned copy of the bid security.

21.3 All the documents are required to be signed digitally by the bidder. After electronic on-line bid submission, the system generates a unique bid identification number which is time stamped as per server time. This shall be treated as acknowledgement of bid submission.

21.4 Physical, Email, Telex, Cable or Facsimile bids will be rejected as non-responsive.

#### **22 Deadline for Submission of Bids**

22.1 Bids must be uploaded online no later than the date and time **specified in the BDS**.

22.2 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.

**23 Late Bids**

23.1 The electronic bidding system would not allow any late submission of bids after due date & time as per server time.

**24 Withdrawal, Substitution, and Modification of Bids**

24.1 Bidders may modify their bids by using appropriate option for bid modification on the e-procurement portal, before the deadline for submission of bids. For this bidder need not make any additional payment towards the cost of bid document. For bid modification and consequential re-submission, the bidder is not required to withdraw his bid submitted earlier. The last modified bid submitted by the bidder within the bid submission time shall be considered as the bid. For this purpose, modification/withdrawal by other means will not be accepted. In online system of bid submission, the modification and consequential re-submission of bids is allowed any number of times. A bidder may withdraw his bid by using appropriate option for bid withdrawal, before the deadline for submission of bids, however, if the bid is withdrawn, re-submission of the bid is not allowed (or allowed **if specified in BDS**).

24.2 Bids requested to be withdrawn in accordance with ITB Sub-Clause 24.1 shall not be opened.

24.3 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 Letter of Bid (Technical Part and/or Financial Part) or any extension thereof.

### **E. Public Opening of Technical Parts of Bids**

**25 Public Opening of Technical Parts of Bids**

25.1. The Purchaser shall publicly open Technical Parts of all bids received by the deadline, at the date, time and place **specified in the BDS**, in the presence of Bidder's designated representatives and anyone who chooses to attend, and this could also be viewed by the bidders online. The Financial Parts of the bids shall remain unopened in the e-procurement system, until the subsequent public opening, following the evaluation of the Technical Parts of the Bids. In all cases, original documents submitted as specified in ITB 12.3 shall be first scrutinized, and Bids that do not comply with the provisions of ITB 12.3 will be declared non-responsive and will not be opened. Thereafter, bidder's names, and such other details as the Purchaser may consider appropriate will be notified online as Technical Part bid opening summary.

In the event of the specified date of bid opening being declared a holiday for the Purchaser, the bids will be opened at the appointed time and location on the next working day.

- 25.2 The electronic summary of the bid opening will be generated and uploaded online. The Purchaser will also prepare minutes of the Bid opening, including the information disclosed and upload the same for viewing online. Only Technical Parts of Bids, alternative bids - Technical Parts if permitted in ITB 13 that are opened at Bid opening shall be considered further for evaluation.

## **E. Evaluation of Bids – General Provisions**

- 26 Confidentiality**
- 26.1 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 information on Contract Award is communicated to all Bidders in accordance with ITB 42.
- 26.2 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.
- 26.3 Notwithstanding ITB Sub-Clause 26.2, 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.
- 27 Clarification of Bids**
- 27.1 To assist in the examination, evaluation, comparison of the bids and post-qualification of the Bidders, 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, 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, including any voluntary increase or decrease, 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 35.
- 27.2 If a Bidder does not provide clarifications of its bid by the date and time set in the Purchaser's request for clarification, its bid may be rejected.

- 28 Deviations, Reservations, Omissions**
- 28.1 During the evaluation of bids, the following definitions apply:
- (a) “Deviation” is a departure from the requirements specified in the Bidding Documents;
  - (b) “Reservation” is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Documents; and
  - (c) “Omission” is the failure to submit part or all of the information or documentation required in the Bidding Documents.
- 29 Nonconformities, Errors and Omissions**
- 29.1 Provided that a Bid is substantially responsive, the Purchaser may waive any nonconformities or omissions in the Bid which do not constitute a material deviation, reservation or omission.
- 29.2 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 or substance of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.
- 29.3 Provided that a Bid is substantially responsive, the Purchaser shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component in the manner specified **in the BDS.**

## **G. Evaluation of Technical Parts of Bids**

- 30 Evaluation of Technical Parts**
- 30.1 In evaluating the Technical Parts of each Bid, the Purchaser shall use the criteria and methodologies listed in ITB 31, ITB 32, and Section III, Evaluation and Qualification Criteria. No other evaluation criteria or methodologies shall be permitted.
- 31 Determination of Responsiveness**
- 31.1 The Purchaser’s determination of a bid’s responsiveness is to be based on the contents of the bid itself as defined in ITB 11.
- 31.2 A substantially responsive Bid is one that meets the requirements of the Bidding Documents without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that:
- (a) If accepted, would

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

31.2.1 Bids from Agents, without proper authorization from the manufacturer as per Section IV, shall be treated as non-responsive.

31.3.1 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.

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

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

## **32 Qualification of the Bidders**

32.1 The Purchaser shall determine, to its satisfaction, whether all eligible Bidders, whose Bids have been determined to be substantially responsive to the bidding document, meet the Qualification Criteria specified in Section III, Evaluation and Qualification Criteria.

32.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 17. The determination shall not take into consideration the qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates,

subcontractors (other than specialized subcontractors if permitted in the bidding document), or any other firm(s) different from the Bidder.

- 32.3 If a Bidder does not meet the qualifying criteria specified in Section III, Evaluation and Qualification Criteria, its Bid shall be rejected by the Purchaser and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.
- 32.4 Only Bids that are both substantially responsive to the bidding document, and meet all Qualification Criteria shall have the Financial Parts of their Bids opened at the second public opening

### **H. Public Opening of Financial Parts of Bids**

#### **33 Public Opening of Financial Parts**

- 33.1 Following the completion of the evaluation of the Technical Parts of the Bids, and the Bank has issued its no objection (if applicable), the Purchaser shall notify in writing those Bidders who have failed to meet the Qualification Criteria and/or whose Bids were considered non-responsive to the requirements in the bidding document, advising them of the following information:
  - (a) their Technical Part of Bid failed to meet the requirements of the bidding document;
  - (b) their Financial Part of the Bid shall not be opened; and
  - (c) notify them of the date and time for public opening of the Financial Parts of the Bids. Financial Parts of the bids shall not be opened earlier than seven (7) days from the communication of technical evaluation results to the bidders.
- 33.2 The Purchaser shall, simultaneously, notify in writing those Bidders whose Technical Parts have been evaluated as substantially responsive to the bidding document and met the Qualification Criteria, advising them of the following information:
  - (a) their Bid has been evaluated as substantially responsive to the bidding document and met the Qualification Criteria;
  - (b) their Financial Part of Bid will be opened at the public opening of Financial Parts;
  - (c) notify them of the date and time of the second public opening of the Financial Parts of the Bids, as **specified in the BDS**.

- 33.3 The opening date should allow Bidders sufficient time to make arrangements for attending the opening. The Financial Part of the Bid shall be opened publicly in the presence of Bidders' designated representatives and anyone who chooses to attend, and this could also be viewed by the bidders online. The bidder's names, the Bid prices, the total amount of each bid, including any discounts and Alternative Bid – Financial Part, and such other details as the Purchaser may consider appropriate will be notified online by the Purchaser at the time of bid opening.

In the event of the specified date of bid opening being declared a holiday for the Purchaser, the bids will be opened at the appointed time and location on the next working day.

- 33.4 The electronic summary of the bid opening will be generated and uploaded online. The Purchaser will also prepare minutes of the Bid opening, including the information disclosed and upload the same for viewing online. Only Financial Part of Bids, Financial Parts of Alternative Bids and discounts that are opened and read out at Bid opening shall be considered further for evaluation.

## **I. Evaluation of Financial Parts of Bids**

### **34 Evaluation of Financial Parts**

- 34.1 To evaluate the Financial Part of each Bid, the Purchaser shall consider the following:
- (a) evaluation will be done for Items or Schedules (contracts), as specified **in the BDS**; and the Bid Price as quoted in accordance with ITB 14;
  - (b) Not used;
  - (c) price adjustment due to discounts offered in accordance with ITB 14.4;
  - (d) Not used;
  - (e) price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITB 29.3; and
  - (f) the additional evaluation factors specified in Section III, Evaluation and Qualification Criteria.
- 34.2 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in Bid evaluation.

- 34.3 If this bidding document allows Bidders to quote separate prices for different schedules (contracts), the methodology to determine the lowest evaluated cost of the schedule (contract) combinations, including any discounts offered in the Letter of Bid - Financial Part, is specified in Section III, Evaluation and Qualification Criteria.
- 34.4 The Purchaser's evaluation of a Bid will exclude and not take into account:
- (a) in the case of Goods manufactured in India or goods of foreign origin already located in India, GST and other similar taxes, which will be payable on the goods if a contract is awarded to the Bidder;
  - (b) Not used;
  - (c) any allowance for price adjustment during the period of execution of the contract, if provided in the Bid.
- 34.5 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 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 the BDS** from amongst those set out in Section III, Evaluation and Qualification Criteria. The criteria and methodologies to be used shall be as specified in ITB 34.1 (f).
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| <b>35 Correction of Arithmetical Errors</b> | 35.1 The e-procurement system automatically calculates the total amount from unit rates and quantities and the system also automatically populates the amount in words from the amount in figures and therefore there is no scope of discrepancy and need for arithmetic correction. |
| <b>36 Conversion to Single Currency</b>     | 36.1 Not applicable.   |
| <b>37 Margin of Domestic Preference</b>     | 37.1 Not applicable.   |
| <b>38 Comparison of Financial Parts</b>     | 38.1 The Purchaser shall compare the evaluated prices of all substantially responsive bids to determine the lowest-evaluated bid, in accordance with ITB Clause 34.  |



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| <b>39 Purchaser's<br/>Right to Accept<br/>Any Bid, and to<br/>Reject Any or<br/>All Bids</b> | 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. In case of annulment, all documents submitted and specifically, bid securities, shall be promptly returned to the Bidders. |
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## **J. Award of Contract**

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| <b>40 Award Criteria</b>  | 40.1 Subject to ITB 39.1, the Purchaser shall award the Contract to the Bidder whose bid 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.   |
| <b>41 Purchaser's<br/>Right to Vary<br/>Quantities at<br/>Time of Award</b> | 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 VII, Schedule of Requirements, provided this does not exceed the percentages <b>specified in the BDS</b> , 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. The notification letter (hereinafter called “Letter of Acceptance”) shall specify the sum that the purchaser will pay in consideration of the supply of Goods (hereinafter called “the Contract Price”).
- Publication of Award**
- 42.2 At the same time the Purchaser shall publish in a National website (GOI web site-<http://tenders.gov.in> or GoI Central Public Procurement Portal <https://eprocure.gov.in/cppp/>) or on the Purchaser’s website with free access if available, or in the official gazette, the results identifying the bid and schedule 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 successful Bidder, and the price it offered, as well as the duration and summary scope of the contract awarded.
- Recourse to Unsuccessful Bidders**
- 42.3 The Purchaser shall promptly respond in writing to any unsuccessful Bidder who, after Publication of contract award, requests in writing the grounds on which its bid was not selected.
- 42.4 Until a formal Contract is prepared and executed, the notification of award shall constitute a binding Contract.
- 42.5 Upon the successful Bidder’s furnishing of the performance security and signing the Contract Form pursuant to ITB Clause 43, the Purchaser will promptly notify each unsuccessful Bidder and will discharge its bid security, pursuant to ITB Clause 19.5
- 43 Signing of Contract**
- 43.1 Promptly after notification, the Purchaser shall send the successful Bidder the Contract Agreement.
- 43.2 Within twenty-one (21) days of receipt of the Contract Agreement, the successful Bidder shall sign, date, and return it to the Purchaser.
- 44 Performance Security**
- 44.1 Within twenty-one (21) days of the receipt of notification of award from the Purchaser, the successful Bidder, if required, shall furnish the Performance Security in accordance with the GCC, using for that purpose the Performance Security Form included in Section X Contract forms, or another Form acceptable to the Purchaser. Failure of the successful Bidder to submit the above-mentioned Performance Security or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security. In that event the Purchaser may award the Contract to the next lowest evaluated Bidder, whose bid

is substantially responsive and is determined by the Purchaser to be qualified to perform the Contract satisfactorily.

## SECTION II - BIDDING DATA SHEET

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

ITB Clause Reference	A. General
ITB 1.1	The Purchaser is: Inland Waterways Authority of India, Ministry of Ports, Shipping & Waterways, Govt. of India
ITB 1.1	<p>The name and identification number of the NCB is: Procurement of various survey equipment under JMVP– II (Arth Ganga)</p> <p>Identification Number: IN-IWAI-314747-CW-RFB</p> <p>The number, identification and names of the schedules (contracts) comprising this NCB are: 10 (Ten)</p>
ITB 1.2(a)	The Purchaser shall use the electronic-procurement system specified in BDS 7.1 to manage this Bidding process.
ITB 2.1	<p>The Borrower is Government of India</p> <p>Loan or Financing Agreement Amount: US <b>\$691.61 Million</b></p>
ITB 2.1	The name of the Project is: <b>JMVP, Capacity Augmentation of National Waterway – 1 (Jal Marg Vikas Project)</b>
ITB 4.4	A list of firms debarred from participating in World Bank projects is available at <a href="http://www.worldbank.org/debarr">http://www.worldbank.org/debarr</a>
ITB 6.3	<p><b>An On – Line pre-proposal conference will be held: Yes</b></p> <p>Zoom Link for the On-Line Pre-Proposal Conference is as given below:</p> <p><a href="https://us06web.zoom.us/j/82745937781?pwd=SU1ySGNzZURKbXVNZiJiK2JTcEVJQT09">https://us06web.zoom.us/j/82745937781?pwd=SU1ySGNzZURKbXVNZiJiK2JTcEVJQT09</a></p> <p>Meeting ID: <a href="#">827 4593 7781</a></p> <p>Passcode: kac7pv</p>

	<p>Bidders are requested to submit the authorization from their firms to attend the Pre-Proposal Conference on Zoom.</p> <p>Date of pre-proposal conference: 07 October 2022</p> <p>Time: 1500 Hrs</p> <p>Address: IWAI, A-13, Sector – 1, Noida – 201301, Uttar Pradesh, India</p> <p>Telephone: 0120-2544004 Facsimile: 0120-2543976</p> <p>E-mail: <a href="mailto:vc.iwai@nic.in">vc.iwai@nic.in</a></p> <p>Contact person/conference coordinator: Shri Jayant Singh, Vice Chairman and Project Director, JMVP</p>
	<b>B. Contents of Bidding Documents</b>
<b>ITB 7.1</b>	<p><b>Electronic – Procurement System</b></p> <p>The Purchaser shall use the following electronic-procurement system to manage this Bidding process: <a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a>.</p>
<b>ITB 8.1</b>	<p>The addendum will appear on the e-procurement system under <a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a> and email notification is also automatically sent to those bidders who have started working on this tender.</p>
	<b>C. Preparation of Bids</b>
<b>ITB 11.3(d)</b>	<p>The Bidder shall submit the following additional documents in its bid – financial part: NIL</p>
<b>ITB 12</b>	<p><b>Note for Bidders:</b> Bidders have to submit the bids on the e-procurement portal along with the relevant required documents. For this purpose, the bidders shall fill up online, the forms that are available for online filling on the e-portal. The rest of the forms shall be download by the bidders and filled up. The filled-up pages shall then be scanned and uploaded on the e-procurement portal along with the scanned copies of the supporting documents.</p>
<b>ITB 12.3</b>	<p>For submission of original documents, the Purchaser's address is:</p> <p>Attention: Sh. Jayant Singh, Vice Chairman &amp; Project Director, JMVP</p> <p>A-13, Sector – 1, Noida – 201 301 (UP)</p> <p>Country: INDIA</p>
<b>ITB 13.1</b>	<p>Alternative Bids shall not be considered.</p>
<b>ITB 14.5</b>	<p>The prices quoted by the Bidder shall not be subject to adjustment during the performance of the Contract. If prices shall be adjustable, the methodology specified in Special Conditions of Contract will apply.</p>
<b>ITB 14.7</b>	<p>The Incoterms edition is Incoterms 2010.</p>

<b>ITB 14.8 (a) (iii)</b>	“Final destination (Project Site)” List of Goods, delivery Schedule and location of delivery (Refer Pg.122-124)																	
<b>ITB 16.4</b>	Period of time the Goods are expected to be functioning: 10 Years (for the purpose of spare parts)																	
<b>ITB 17.2 (b) (i)</b>	Manufacturer’s authorization is required as per proforma in Section IV.																	
<b>ITB 17.2 (b)iii</b>	After Sales service is “ <i>required</i> ” which shall be provided by the Supplier or alternatively by its Agent in case of a foreign bidder.																	
<b>ITB 18.1</b>	The bid validity period shall be 120 days.																	
<b>ITB 18.3(a)</b>	The factor will be 4.48% per annum [ <i>Inflation figure is combined All India Basis As on October, 2021, Source: GoI</i> ]																	
<b>ITB 19.1</b>	<p>Bid shall include a Bid Security (issued by bank) included in Section IV Bidding Forms.</p> <p>Bank Guarantee issued by a Nationalized/ Scheduled bank located in India for equivalent or higher values are acceptable as bid security pledged in favour of IWAI Fund.</p> <p>Name of Bank Account: - IWAI Fund Jal Marg Vikas</p> <p>Bank Name &amp; Address: - Canara Bank, Sector-18, Morna Branch, Noida, UP</p> <p>Bank Account Number: - 87781010014534</p> <p>IFSC Code - CNRB0018778</p>																	
<b>ITB 19.3</b>	<p>The amount of the Bid Security shall be as under:</p> <table><tr><th>Schedule</th><th>Amount (Rs.)</th></tr><tr><td>Schedule A</td><td>5,42,000 ( Five lacs forty two thousand)</td></tr><tr><td>Schedule B</td><td>2,44,000 (Two lacs forty-four thousand)</td></tr><tr><td>Schedule C</td><td>1,78,000 (One lac seventy-eight Thousand)</td></tr><tr><td>Schedule D</td><td>2,59,000 (Two lacs fifty-nine thousand)</td></tr><tr><td>Schedule E</td><td>72,000 (Seventy-two thousand)</td></tr><tr><td>Schedule F</td><td>77,000 (Seventy-seven thousand)</td></tr><tr><td>Schedule G</td><td>99,000 ( Ninety Nine thousand)</td></tr></table>		Schedule	Amount (Rs.)	Schedule A	5,42,000 ( Five lacs forty two thousand)	Schedule B	2,44,000 (Two lacs forty-four thousand)	Schedule C	1,78,000 (One lac seventy-eight Thousand)	Schedule D	2,59,000 (Two lacs fifty-nine thousand)	Schedule E	72,000 (Seventy-two thousand)	Schedule F	77,000 (Seventy-seven thousand)	Schedule G	99,000 ( Ninety Nine thousand)
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Schedule F	77,000 (Seventy-seven thousand)																	
Schedule G	99,000 ( Ninety Nine thousand)																	

	Schedule H	12,500 ( Twelve thousand Five hundred)
	Schedule I	4,17,000 ( Four lacs seventeen thousand)
	Schedule J	71,000 ( Seventy one thousand)
	<p><i>Note: Bid Security is required for each schedule as per amounts indicated against each schedule. Bidders have the option of submitting one Bid Security for all schedules (for the combined total amount of all schedules) for which Bids have been submitted, however if the amount of Bid Security is less than the total required amount, the Purchaser will determine (based on lowest cost combination of bids) for which schedule or schedules the Bid Security amount shall be applied.</i></p>	
<b>ITB 19.3 (a)</b>	None	
<b>ITB 19.9</b>	If the Bidder incurs any of the actions prescribed in subparagraphs (a) or (b) of this provision, the Borrower will declare the Bidder ineligible to be awarded contracts by the Purchaser for a period of 03 years.	
<b>ITB 20.2</b>	The written confirmation of authorization to sign on behalf of the Bidder shall consist of: <b>Power of Attorney supported by a Board Resolution, if applicable.</b>	
	<b>D. Online Submission and Opening of Bids</b>	
<b>ITB 21.1</b>	Class of DSC required is: II	
<b>ITB 22.1</b>	The deadline for uploading of bids is: Date: 27.10.2022 Time: 1500 Hours	
<b>ITB 24.1</b>	Re-submission of the bid is not allowed, if withdrawn.	
	<b>E. Public Opening of Technical Parts of Bids</b>	
<b>ITB 25.1</b>	The online opening of the Technical Parts of Bids shall take place at: IWAI, A-13, Sector-1, Noida – 201 301 (UP), INDIA Date: 27.10.2022 Time: 1530 Hours <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>The Consultants “shall” submit their Proposals electronically on CPP Portal <a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a></b></p> <p><i>The electronic submission procedures shall be:</i></p> </div>	

	<p>The Bidder shall upload the bid on the e-Procurement Portal <a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a> following the system described below.</p> <ol style="list-style-type: none"> <li>1. Possession of valid Digital Signature Certificate (DSC) and enrollment / registration of the contractors / bidders on the eprocurement / etender portal is a prerequisite for e-tendering.</li> <li>2. Bidder should do the enrollment in the eProcurement site using the <a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a> option available on the home page. Portal enrollment is generally free of charge. During enrollment / registration, the bidders should provide the correct / true information including valid email_id. All the correspondence shall be made directly with the contractors/bidders through email_id provided.</li> <li>3. Bidder need to login to the site thro' their user ID / password chosen during enrollment / registration.</li> <li>4. Then the Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by SIFY / TCS / nCode / eMudra or any Certifying Employer recognized by CCA India on eToken / SmartCard, should be registered.</li> <li>5. The DSC that is registered only, should be used by the bidder and should ensure safety of the same.</li> <li>6. Contractor / Bidder may go through the tenders published on the site and download the required tender documents / schedules for the tenders he / she is interested.</li> <li>7. After downloading / getting the tender document / schedules, the Bidder should go through' them carefully and then submit the documents as asked.</li> <li>8. If there are any clarifications, this may be obtained online through' the tender site, or thro' the contact details. Bidder should take into account of the corrigendum published before submitting the bids online.</li> <li>9. Bidder then logs in to the site through the secured log in by giving the user id/ password chosen during enrolment / registration and then by giving the password of the eToken / SmartCard to access DSC.</li> <li>10. Bidder selects the tender which he/she is interested in by using the search option &amp; then moves it to the 'my favourites' folder.</li> <li>11. From my favourites folder, bidder can select the tender to view all the details indicated.</li> <li>12. It is construed that the bidder has read all the terms and conditions before submitting their offer. Bidder should go through the tender schedules carefully and upload the documents as asked, otherwise, the bid will be rejected.</li> <li>13. Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / xls / rar / jpg / dwf formats. If there is more than one document, they can be clubbed together and can be provided in the requested format. Each document to</li> </ol>
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	<p>be uploaded through online for the tenders should be less than 2 MB. If any document is more than 2MB, it can be reduced through zip / rar and the same can be uploaded, if permitted.</p> <p>14. If there are any clarifications, this may be obtained through the site, or during the pre-bid meeting if any. Bidder should take into account the corrigendum published from time to time before submitting the online bids.</p> <p>15. The Bidders can update well in advance, the documents such as certificates, annual report details etc., under My Space option and these can be selected as per tender requirements and then send along with bid documents during bid submission. This will facilitate the bid submission process faster by reducing upload time of bids.</p> <p>16. Bidder should submit the Tender document Fee/ EMD as specified in the tender. The original payment instruments should be posted/couriered/given in person to the Tender Inviting Employer within the due date as mentioned in this tender document. Scanned copy of the instrument should be uploaded as part of the offer, if asked for.</p> <p>17. While submitting the bids online, the bidder reads the terms &amp; conditions and accepts the same to proceed further to submit the bid packets.</p> <p>18. The bidder has to select the payment option as offline to pay the TFEE / EMD as applicable and enter details of the instruments.</p> <p>19. The details of the DD / any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise submitted bid will not be acceptable.</p> <p>20. The bidder has to digitally sign and upload the required bid documents one by one as indicated. Bidders to note that the very act of using DSC for downloading the bids and uploading their offers shall be deemed to be a confirmation that they have read all sections and pages of the bid document including General conditions of contract without any exception and have understood the entire document and are clear about the requirements of the tender requirements.</p> <p>21. The bidder has to upload the relevant files required as indicated in the cover content. In case of any irrelevant files, the bid will be rejected.</p> <p>22. If the price bid format is provided in a spread sheet file like BoQ_xxxx.xls, the rates offered should be entered in the allotted space only and uploaded after filling the relevant columns. The Price Bid/BOQ template must not be modified / replaced by the bidder, else the bid submitted is liable to be rejected for this tender.</p> <p>23. The bidders are requested to submit the bids through online e-tendering system to the Tender Inviting Employer (TIA) well before the bid submission end date &amp; time (as per Server System Clock). The TIA will not be held responsible for any sort</p>
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	<p>of delay or the difficulties faced during the submission of bids online by the bidders at the eleventh hour.</p> <p>24. After the bid submission, the acknowledgement number, given by the e-tendering system should be printed by the bidder and kept as a record of evidence for online submission of bid for the particular tender and will also act as an entry pass to participate in the bid opening date.</p> <p>25. The bidder should ensure / see that the bid documents submitted should be free from virus and if the documents could not be opened, due to virus, during tender opening, the bid is likely / liable to be rejected.</p> <p>26. The time settings fixed in the server side &amp; displayed at the top of the tender site, will be valid for all actions of requesting, bid submission, bid opening etc., in the e-tender system. The bidders should follow this time during bid submission.</p> <p>27. All the data being entered by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered will not be viewable by unauthorized persons during bid submission &amp; not be viewable by any one until the time of bid opening.</p> <p>28. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid openers public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.</p> <p>29. The confidentiality of the bids is maintained since the secured Socket Layer 128 bit encryption technology is used. Data storage encryption of sensitive fields is done.</p> <p>30. The bidder should logout of the tendering system using the normal logout option available at the top right hand corner and not by selecting the (X) exit option in the browser.</p> <p>31. For any queries regarding e-tendering process, the bidders are requested to contact through the modes given below:  E mail:- vc.iwai@nic.in Web Site:- www.iwai.gov.in  Tel. No. : 0120- 2544004, Fax No. – 0120-2543976  In person: Shri. Jayant Singh, Vice Chairman &amp; Project Director, JMVP  Facsimile: +91 1202543976 E-mail: <a href="mailto:vc.iwai@nic.in">vc.iwai@nic.in</a>  <b>In case of non-receipt of these original documents, the bid will be declared non-responsive.</b></p>
	<b>F. Evaluation of Bids – General Provisions</b>
<b>ITB 29.3</b>	The adjustment shall be based on the highest price of the item or component as quoted in other substantially responsive Bids, subject to a maximum of the

	estimated price of the item. If the price of the item or component cannot be derived from the price of other substantially responsive Bids, the Purchaser shall use its best estimate.
	<b>H. Public Opening of Financial Parts of Bids</b>
<b>ITB 33.2 (c)</b>	<p>Following the completion of the evaluation of the Technical Parts of the Bids, the Purchaser will notify all Bidders of the date and time of the public opening of Financial Parts.</p> <p>The online opening of the Financial Parts of bids (for technically qualified bidders) shall take place at:</p> <p>IWAI, A-13, Sector-1, Noida – 201 301 (UP), INDIA</p> <p>Date: Shall be communicated separately</p> <p>Time: Shall be communicated separately</p>
	<b>I. Evaluation and Comparison of Bids</b>
<b>ITB 34.1(a)</b>	<p>Evaluation will be done on schedule basis.</p> <p>Bids will be evaluated schedule by schedule. Bidder should quote for the complete requirement for goods and services specified in the schedule as stated in ITB clause 14.6 failing which such bids will be treated as non-responsive.</p>
<b>ITB 34.3</b>	Bidders may quote for one or more schedules and Bids will be evaluated schedule by schedule.
<b>ITB 34.5</b>	<p>The adjustments shall be determined using the following criteria, from amongst those set out in Section III, valuation and Qualification Criteria: [<i>refer to Schedule III, Evaluation and Qualification Criteria; insert complementary details if necessary</i>]</p> <p>(a) Deviation in Delivery schedule: Adjustment as referred to in paragraph 1(a) of Section III will be applied to the bid price for bids offering delivery beyond the earliest delivery date (specified in Section VII - Schedule of Requirements) @ 0.5% per week or part of week. No credit will be given to deliveries before the earliest date and bids offering delivery after the final date (beyond 06 months) of stipulated delivery period will be treated as non-responsive.</p> <p>(b) Deviation in payment schedule: The SCC (Special Conditions of Contract) stipulates the payment schedule specified by the Purchaser. If the bid deviates from the schedule and if such deviation is considered acceptable, the bids will be evaluated by calculating interest earned for earlier payments involved in the terms outlined in the bid as compared with those stipulated in the SCC, at the interest rate of 8.65% per annum. [State Bank of India Bank PLR (Prime Lending rate) + 2%]</p>

	<p>(c) the cost of major replacement components, mandatory spare parts, and service: Not Applicable</p> <p>(d) the availability in the Purchaser's Country of spare parts and after-sales services for the equipment offered in the bid: Not Applicable</p> <p>(e) the projected operating and maintenance costs during the life of the equipment Not Applicable</p> <p>(f) the performance and productivity of the equipment offered; Not Applicable</p>
	<b>J. Award of Contract</b>
<b>ITB 41.1</b>	<p>The maximum percentage by which quantities may be increased is: <i>15%</i></p> <p>The maximum percentage by which quantities may be decreased is: <i>15%</i></p>

## **SECTION III. EVALUATION AND QUALIFICATION CRITERIA**

*This Section complements the Instructions to Bidders. It contains the criteria that the Purchaser shall use to evaluate a bid and determine whether a Bidder qualifies in accordance with ITB 34 & 36. No other criteria shall be used.*

*[The Purchaser shall select the criteria deemed appropriate for the procurement process, insert the appropriate wording using the samples below or other acceptable wording, and delete the text in italics]*

## TECHNICAL PART

**(Submit Technical Bid documents as per tender and Technical Document Submission Check List (Annexure-L) at page no. 207-210)**

### 1. Qualification (ITB 32)

#### 1.1 Qualification Criteria (ITB 32.1)

The Purchaser shall assess each Bid against the following Qualification Criteria. Requirements not included in the text below shall not be used in the evaluation of the Bidder's qualifications.

A. If the Bidder is a manufacturer:

(a) Financial Capability

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

SCHEDULE	EQUIPMENTS	Annual Turnover during the preceding 05 Years (in ₹)
A	Shallow Water Multi Beam Echo Sounder System with O & M (03 yrs) and CAMC (02 yrs)	1,08,36,610
B	Side Scan Sonar	48,81,356
C	ADCP (Acoustic Doppler Current Profiler)	35,59,322
D	RTK DGPS	51,80,000
E	DGPS Receiver	14,40,000
F	Echo Sounder Cum DGPS Receiver	15,39,840
G	Single Beam Echo Sounder and Transducer for Echo Sounder	19,76,271
H	Water Sampler and Bottom Sampler	2,44,746
I	FTP Server and Data Storage System	83,31,772
J	Hydrographic Survey Software Hysweep and Hypack	14,04,000
For multiple Schedules (in ₹.)		Sum of bidding Schedules

(b) Experience and Technical Capacity

The Bidder shall furnish documentary evidence to demonstrate that it meets the following experience requirement(s) during the last 07 years:

SCHEDULE	EQUIPMENTS	3 similar works (in ₹)	2 similar works (in ₹)	1 similar work (in ₹)
A	Shallow Water Multi Beam Echo Sounder System with O & M (03 yrs) and CAMC (02 yrs)	1,08,36,610	1,35,45,763	2,16,73,220
B	Side Scan Sonar	48,81,356	61,01,695	97,62,712
C	ADCP (Acoustic Doppler Current Profiler)	35,59,322	44,49,153	71,18,644
D	RTK DGPS	51,80,000	64,75,000	1,03,60,000
E	DGPS Receiver	14,40,000	18,00,000	28,80,000
F	Echo Sounder Cum DGPS Receiver	15,39,840	19,24,800	30,79,680
G	Single Beam Echo Sounder and Transducer for Echo Sounder	19,76,271	24,70,339	39,52,542
H	Water Sampler and Bottom Sampler	2,44,746	3,05,932	4,89,491
I	FTP Server and Data Storage System	83,31,772	1,04,14,716	1,66,63,545
J	Hydrographic Survey Software Hysweep and Hypack	14,04,000	17,55,000	28,08,000

Similar works means supply / services of Hydrographic / Marine / Navigation survey equipment for Schedule A to H, supply of Server for Schedule I and supply of Hydrographic software for Schedule J during the last 07 years.

- (c) The Bidder shall furnish documentary evidence to demonstrate that the Goods it offers meet the following usage requirement: As stated in the Technical Specifications / Schedule of Requirements.
- (d) The Bidder must furnish details of supplies made by him in the last seven years in proforma attached in Section IV.
- (e) **Bank Solvency:** The minimum amount of Bank Solvency shall be:

SCHEDULE	EQUIPMENTS	Solvency (in ₹)
A	Shallow Water Multi Beam Echo Sounder System with O & M (03 yrs) and CAMC (02 yrs)	1,08,36,610
B	Side Scan Sonar	48,81,356
C	ADCP (Acoustic Doppler Current Profiler)	35,59,322
D	RTK DGPS	51,80,000
E	DGPS Receiver	14,40,000
F	Echo Sounder Cum DGPS Receiver	15,39,840
G	Single Beam Echo Sounder and Transducer for Echo Sounder	19,76,271
H	Water Sampler and Bottom Sampler	2,44,746
I	FTP Server and Data Storage System	83,31,772

J	Hydrographic Survey Software Hysweep and Hypack	14,04,000
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The Bidder shall submit Bank Solvency certificate from a nationalized / scheduled bank in India for a minimum amount as mentioned above. The Bank Solvency certificate submitted by the Bidder shall not be older than six (06) months from the Bid Submission Last Date.

**B. If Bidder is not manufacturer:**

If a Bidder is not a manufacturer, but is offering the Goods on behalf of the Manufacturer under Manufacturer's Authorization Form (Section IV, Bidding Forms), the Bidder shall demonstrate the above qualifications (a), (b), (c) and the Bidder shall demonstrate that it has successfully completed at least 03 contracts of similar goods in the past 07 years.

## **FINANCIAL PART**

### **2. Margin of Preference (ITB 37) – Not Applicable**

### **3. Evaluation (ITB 30, 31, and 34)**

#### **3.1. Evaluation Criteria (ITB 34.5)**

The Purchaser shall use the criteria and methodologies listed in this Section to evaluate Bids. By applying the criteria and methodologies, the Purchaser shall determine the substantially responsive lowest-evaluated bid.

The Purchaser's evaluation of a bid may take into account, in addition to the Bid Price quoted in accordance with ITB Clause 14.8, one or more of the following factors as specified in ITB Sub-Clause 34.1 (f) and in BDS referring to ITB 34.5, using the following criteria and methodologies.

**(a) Delivery schedule. (Refer page 121-123)**

*The Goods specified in the List of Goods are required to be delivered within the acceptable time range (after the earliest and before the final date, both dates inclusive) specified in Section VII, Schedule of requirements. No credit will be given to deliveries before the earliest date, and bids offering delivery after the final date shall be treated as non-responsive. Within this acceptable period, an adjustment, as specified in BDS Sub-Clause 34.5, will be added, for evaluation purposes only, to the bid price of bids offering deliveries later than the "Earliest Delivery Date" specified in Section VII, Schedule of requirements.*

**(b) Deviation in payment schedule. [insert one of the following]**

- (i) ~~Bidders shall state their bid price for the payment schedule outlined in the SCC. Bids shall be evaluated on the basis of this base price. Bidders are, however,~~**



~~permitted to state an alternative payment schedule and indicate the reduction in bid price they wish to offer for such alternative payment schedule. The Purchaser may consider the alternative payment schedule and the reduced bid price offered by the Bidder selected on the basis of the base price for the payment schedule outlined in the SCC.~~

**or**

- (ii) *The SCC stipulates the payment schedule specified by the Purchaser. If a bid deviates from the schedule and if such deviation is considered acceptable to the Purchaser, the bid will be evaluated by calculating interest earned for any earlier payments involved in the terms outlined in the bid as compared with those stipulated in the SCC, at the rate per annum specified in BDS Sub-Clause 34.5).*
- (c) Cost of major replacement components, mandatory spare parts, and service. *[insert one of the following] – Not Applicable*
  - (i) ~~The list of items and quantities of major assemblies, components, and selected spare parts, likely to be required during the initial period of operation (namely, two years or the period specified in the BDS Sub Clause 16.4 as appropriate, 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.~~

**or**

- (ii) ~~The Purchaser will draw up a list of high usage and high value items of components and spare parts, along with estimated quantities of usage in the initial period of operation (namely, two years or the period specified in the BDS Sub Clause 16.4 as appropriate). The total cost of these items and quantities will be computed from spare parts unit prices submitted by the Bidder and added to the bid price, for evaluation purposes only.~~
- (d) Availability in the Purchaser's Country of spare parts and after sales services for equipment offered in the bid. – Not Applicable

~~An adjustment equal to the cost to the Purchaser of establishing the minimum service facilities and parts inventories, as outlined in BDS Sub Clause 34.5, if quoted separately, shall be added to the bid price, for evaluation purposes only.~~
- (e) Projected operating and maintenance costs. – Not Applicable

~~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 34.5. The adjustment will be evaluated in accordance with the methodology specified in the BDS Sub Clause 34.5.~~
- (f) Performance and productivity of the equipment. *[Insert one of the following] – Not Applicable*

- (i) ~~Performance and productivity of the equipment. An adjustment representing the capitalized cost of additional operating costs over the life of the plant will be added to the bid price, for evaluation purposes if specified in the BDS Sub-Clause 34.5. The adjustment will be evaluated based on the drop in the guaranteed performance or efficiency offered in the bid below the norm of 100, using the methodology specified in BDS Sub-Clause 34.5.~~

~~or~~

- ~~(ii) An adjustment to take into account the productivity of the goods offered in the bid will be added to the bid price, for evaluation purposes only, if specified in BDS Sub-Clause 34.5. The adjustment will be evaluated based on the cost per unit of the actual productivity of goods offered in the bid with respect to minimum required values, using the methodology specified in BDS Sub-Clause 34.5.~~

- (g) Specific additional criteria – Not Applicable

*Other specific additional criteria to be considered in the evaluation and the evaluation method shall be detailed in BDS Sub-Clause 34.5)]*

### **3.2. Multiple Contracts (ITB 34.3)**

The Purchaser shall award multiple contracts to the Bidder that offers the lowest evaluated combination of bids (one contract per bid) and meets the post-qualification criteria (this Section III, Sub-Section ITB 32.1 Post-Qualification Requirements)

The Purchaser shall:

- (a) ~~evaluate only schedules or contracts that include at least the percentages of items per schedule and quantity per item as specified in ITB Sub-Clause 14.6~~
- (b) take into account:
  - (i) the lowest-evaluated bid for each schedule and
  - (ii) the price reduction per schedule and the methodology for its application as offered by the Bidder in its bid.

## **SECTION IV – BIDDING FORMS**

## 1A. LETTER OF BID – TECHNICAL PART

*The Bidder must prepare the Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and address.*

***Note: All italicized text is for use in preparing these forms and shall be deleted from the final products.***

*No alterations to the text except as provided in ITB 20.2, shall be permitted and no substitutions shall be accepted except as provided in ITB 12.]*

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

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

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

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

To: *[insert complete name of Purchaser]*

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda No. issued in accordance with ITB 8: *[insert the number and issuing date of each Addenda]*;
- (b) We meet the eligibility requirements and have no conflict of interest in accordance with ITB 4;
- (c) We have not been suspended nor declared ineligible by the Purchaser based on execution of a Bid Securing Declaration in the Purchaser's country in accordance with ITB 4.6;
- (d) 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]***;
- (e) Our bid shall be valid for the period of time specified in ITB Sub-Clause 18.1, from the date fixed for the bid submission deadline in accordance with ITB Sub-Clause 22, 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 the Bidding Documents;
- (g) We are not participating, as a Bidder or as a subcontractor, in more than one bid in this bidding process in accordance with ITB 4.2(e), other than alternative bids submitted in accordance with ITB 13;

- (h) We, along with any of our subcontractors, suppliers, consultants, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the World Bank Group or a debarment imposed by the World Bank Group in accordance with the Agreement for Mutual Enforcement of Debarment Decisions between the World Bank and other development banks. Further, we are not ineligible under the Purchaser's Country laws or official regulations or pursuant to a decision of the United Nations Security Council;
- (i) We are not a government owned entity/ We are a government owned entity but meet the requirements of ITB 4.5;<sup>1</sup>
- (j) 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;
- (k) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive;
- (l) We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any type of fraud and corruption; and
- (m) We undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely, "Prevention of Corruption Act 1988."

Name of the Bidder ***[insert complete name of person signing the Bid]***

Name of the person duly authorized to sign the Bid on behalf of the Bidder\*\* ***[insert complete name of person duly authorized to sign the Bid]***

Title of the person signing the Bid ***[insert complete title of the person signing the Bid]***

Signature of the person named above ***[insert signature of person whose name and capacity are shown above]***

Date signed ***[insert date of signing]*** day of ***[insert month]***, ***[insert year]***

\*\* : Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid Schedules.

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<sup>1</sup>Bidder to use as appropriate

## **1B. LETTER OF BID - FINANCIAL PART**

*The Bidder must prepare the Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and address.*

***Note: All italicized text is for use in preparing these forms and shall be deleted from the final products.***

*No alterations to the text except as provided in ITB 20.2, shall be permitted and no substitutions shall be accepted except as provided in ITB 12.]*

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

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

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

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

To: *[insert complete name of Purchaser]*

We, the undersigned Bidder, hereby submit the second part of our Bid, the Financial Part. In submitting our Financial Part we make the following additional declarations:

- (a) Our bid shall be valid for the period of time specified in ITB Sub-Clause 18.1, from the date fixed for the bid submission deadline in accordance with ITB Sub-Clause 22, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

- (b) The total price of our Bid, excluding any discounts offered in item (c) below, is:

In case of only one schedule, total price of the Bid ***[insert the total price of the bid in words and figures]***;

In case of multiple schedules, total price of each schedule ***[insert the total price of each schedule in words and figures]***;

In case of multiple schedules, total price of all schedules (sum of all schedules) ***[insert the total price of all schedules in words and figures]***;

- (c) The discounts offered and the methodology for their application are:

(i) The discounts offered are: ***[Specify in detail each discount offered.]***

(ii) The exact method of calculations to determine the net price after application of discounts is shown below:***[Specify in detail the method that shall be used to apply the discounts];Discounts.***

- (d) 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.”)

- (e) 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.

Name of the Bidder ***[insert complete name of person signing the Bid]***

Name of the person duly authorized to sign the Bid on behalf of the Bidder\*\* ***[insert complete name of person duly authorized to sign the Bid]***

Title of the person signing the Bid ***[insert complete title of the person signing the Bid]***

Signature of the person named above ***[insert signature of person whose name and capacity are shown above]***

Date signed ***[insert date of signing]*** day of ***[insert month]***, ***[insert year]***

\*\* : Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid Schedules.

## 2. BIDDER INFORMATION FORM

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

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

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

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

1. Bidder's Legal Name <i>[insert Bidder's legal name]</i>
2. Bidder's actual or intended Country of Registration: <i>[insert actual or intended Country of Registration]</i>
3. Bidder's Year of Registration: <i>[insert Bidder's year of registration]</i>
4. Bidder's Legal Address in Country of Registration: <i>[insert Bidder's legal address in country of registration]</i>
5. 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>
6. 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 4.3.  <input type="checkbox"/> In case of government owned entity from the Purchaser's country, documents establishing legal and financial autonomy and compliance with commercial law and not dependent agency of borrower or sub-borrower or purchaser, in accordance with ITB Sub-Clause 4.5.  <input type="checkbox"/> Included are the organizational chart ,a list of Board of Directors, and the beneficial ownership



# Price Schedule Forms

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

# 1. PRICE SCHEDULE FOR SUPPLY AS PER SCHEDULE OF REQUIREMENTS: SCHEDULE 'A'

Currency – Indian Rupees						Date: _____ NCB No: _____ Alternative No: _____ Page No. _____ of _____	
1	2	3	4	5	6	7	8
Service N°	Description of Services	Unit	Delivery Date	Quantity and physical unit	Unit price	GST	Total Price per Service incl. GST (Col. 5*6+7)
<i>[insert number of the Service]</i>	<i>[insert name of Services]</i>		<i>[insert delivery date at place of final destination per Service]</i>	<i>[insert number of units]</i>	<i>[insert unit price per unit]</i>	<i>[insert total price]</i>	<i>[insert total price per unit]</i>
1.1	Shallow Water Multi Beam Echo Sounder System	01 No.					
1.2	Three year O&M	03 years					
1.3	Two Year CAMC	02 years					
Total Bid Price							

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

## 2. PRICE SCHEDULE FOR SUPPLY AS PER SCHEDULE OF REQUIREMENTS: SCHEDULE 'B'

Currency – Indian Rupees						Date: _____ NCB No: _____ Alternative No: _____ Page No. _____ of _____	
1	2	3	4	5	6	7	8
Service N°	Description of Services	Unit	Delivery Date	Quantity and physical unit	Unit price	GST	Total Price per Service incl. GST (Col. 5*6+7)
<i>[insert number of the Service]</i>	<i>[insert name of Services]</i>		<i>[insert delivery date at place of final destination per Service]</i>	<i>[insert number of units]</i>	<i>[insert unit price per unit]</i>	<i>[insert total price]</i>	<i>[insert total price per unit]</i>
1.1	Side Scan Sonar	02 Nos.					
<b>Total Bid Price</b>							

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

### 3. PRICE SCHEDULE FOR SUPPLY AS PER SCHEDULE OF REQUIREMENTS: SCHEDULE 'C'

Currency – Indian Rupees						Date: _____ NCB No: _____ Alternative No: _____ Page No. _____ of _____	
1	2	3	4	5	6	7	8
Service N°	Description of Services	Unit	Delivery Date	Quantity and physical unit	Unit price	GST	Total Price per Service incl. GST (Col. 5*6+7)
<i>[insert number of the Service]</i>	<i>[insert name of Services]</i>		<i>[insert delivery date at place of final destination per Service]</i>	<i>[insert number of units]</i>	<i>[insert unit price per unit]</i>	<i>[insert total price]</i>	<i>[insert total price per unit]</i>
1.1	ADCP (Acoustic Doppler Current Profiler)	03 Nos.					
<b>Total Bid Price</b>							

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

#### 4. PRICE SCHEDULE FOR SUPPLY AS PER SCHEDULE OF REQUIREMENTS: SCHEDULE 'D'

Currency – Indian Rupees						Date: _____ NCB No: _____ Alternative No: _____ Page No. _____ of _____	
1	2	3	4	5	6	7	8
Service N°	Description of Services	Unit	Delivery Date	Quantity and physical unit	Unit price	GST	Total Price per Service incl. GST (Col. 5*6+7)
<i>[insert number of the Service]</i>	<i>[insert name of Services]</i>		<i>[insert delivery date at place of final destination per Service]</i>	<i>[insert number of units]</i>	<i>[insert unit price per unit]</i>	<i>[insert total price]</i>	<i>[insert total price per unit]</i>
1.1	RTK DGPS	07 Nos.					
<b>Total Bid Price</b>							

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

## 5. PRICE SCHEDULE FOR SUPPLY AS PER SCHEDULE OF REQUIREMENTS: SCHEDULE 'E'

Currency – Indian Rupees						Date: _____ NCB No: _____ Alternative No: _____ Page No. _____ of _____	
1	2	3	4	5	6	7	8
Service N°	Description of Services	Unit	Delivery Date	Quantity and physical unit	Unit price	GST	Total Price per Service incl. GST (Col. 5*6+7)
<i>[insert number of the Service]</i>	<i>[insert name of Services]</i>		<i>[insert delivery date at place of final destination per Service]</i>	<i>[insert number of units]</i>	<i>[insert unit price per unit]</i>	<i>[insert total price]</i>	<i>[insert total price per unit]</i>
1.1	DGPS Receiver	09 Nos.					
<b>Total Bid Price</b>							

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

## 6. PRICE SCHEDULE FOR SUPPLY AS PER SCHEDULE OF REQUIREMENTS: SCHEDULE 'F'

Currency – Indian Rupees						Date: _____ NCB No: _____ Alternative No: _____ Page No. _____ of _____	
1	2	3	4	5	6	7	8
Service N°	Description of Services	Unit	Delivery Date	Quantity and physical unit	Unit price	GST	Total Price per Service incl. GST (Col. 5*6+7)
<i>[insert number of the Service]</i>	<i>[insert name of Services]</i>		<i>[insert delivery date at place of final destination per Service]</i>	<i>[insert number of units]</i>	<i>[insert unit price per unit]</i>	<i>[insert total price]</i>	<i>[insert total price per unit]</i>
1.1	Echo Sounder Cum DGPS Receiver	04 Nos.					
<b>Total Bid Price</b>							

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

## 7. PRICE SCHEDULE FOR SUPPLY AS PER SCHEDULE OF REQUIREMENTS: SCHEDULE 'G'

Currency – Indian Rupees						Date: _____ NCB No: _____ Alternative No: _____ Page No. _____ of _____	
1	2	3	4	5	6	7	8
Service N°	Description of Services	Unit	Delivery Date	Quantity and physical unit	Unit price	GST	Total Price per Service incl. GST (Col. 5*6+7)
<i>[insert number of the Service]</i>	<i>[insert name of Services]</i>		<i>[insert delivery date at place of final destination per Service]</i>	<i>[insert number of units]</i>	<i>[insert unit price per unit]</i>	<i>[insert total price]</i>	<i>[insert total price per unit]</i>
1.1	Single Beam Echo Sounder	04 Nos.					
1.2	Transducer for Echo Sounder	03 Nos.					
<b>Total Bid Price</b>							

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



## 8. PRICE SCHEDULE FOR SUPPLY AS PER SCHEDULE OF REQUIREMENTS: SCHEDULE 'H'

Currency – Indian Rupees						Date: _____ NCB No: _____ Alternative No: _____ Page No. _____ of _____	
1	2	3	4	5	6	7	8
Service N°	Description of Services	Unit	Delivery Date	Quantity and physical unit	Unit price	GST	Total Price per Service incl. GST (Col. 5*6+7)
<i>[insert number of the Service]</i>	<i>[insert name of Services]</i>		<i>[insert delivery date at place of final destination per Service]</i>	<i>[insert number of units]</i>	<i>[insert unit price per unit]</i>	<i>[insert total price]</i>	<i>[insert total price per unit]</i>
1.1	Water Sampler	02 Nos.					
1.2	Bottom Sampler	02 Nos.					
<b>Total Bid Price</b>							

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

## 9. PRICE SCHEDULE FOR SUPPLY AS PER SCHEDULE OF REQUIREMENTS: SCHEDULE 'I'

Currency – Indian Rupees						Date: _____ NCB No: _____ Alternative No: _____ Page No. _____ of _____	
1	2	3	4	5	6	7	8
Service N°	Description of Services	Unit	Delivery Date	Quantity and physical unit	Unit price	GST	Total Price per Service incl. GST (Col. 5*6+7)
<i>[insert number of the Service]</i>	<i>[insert name of Services]</i>		<i>[insert delivery date at place of final destination per Service]</i>	<i>[insert number of units]</i>	<i>[insert unit price per unit]</i>	<i>[insert total price]</i>	<i>[insert total price per unit]</i>
1.1	FTP Server and Data Storage System (NOIDA, Kolkata and Patna)	03 Nos.					
1.2	FTP Server and Data Storage System (Swaroopganj, Farakka, Sahibganj and Varanasi)	04 Nos.					
<b>Total Bid Price</b>							

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

## 10. PRICE SCHEDULE FOR SUPPLY AS PER SCHEDULE OF REQUIREMENTS: SCHEDULE 'J'

Currency – Indian Rupees						Date: _____ NCB No: _____ Alternative No: _____ Page No. _____ of _____	
1	2	3	4	5	6	7	8
Service N°	Description of Services	Unit	Delivery Date	Quantity and physical unit	Unit price	GST	Total Price per Service incl. GST (Col. 5*6+7)
<i>[insert number of the Service]</i>	<i>[insert name of Services]</i>		<i>[insert delivery date at place of final destination per Service]</i>	<i>[insert number of units]</i>	<i>[insert unit price per unit]</i>	<i>[insert total price]</i>	<i>[insert total price per unit]</i>
1.1	Hydrographic Survey Software Hypack	03 Nos.					
1.2	Hydrographic Survey Software Hysweep	02 Nos.					
<b>Total Bid Price</b>							

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

## 11. PRICE AND COMPLETION SCHEDULE - RELATED SERVICES

Prices in Rs						Date: _____
						NCB No: _____
						Alternative No: _____
						Page N° _____ of _____
1	2	3	4	5	6	7
Service N°	Description of Services (excludes inland transportation and other services required in India to convey the goods to their final destination)	Country of Origin	Delivery Date at place of Final destination	Quantity and physical unit	Unit price	Total Price per Service (Col. 5*6)
<i>[insert number of the Service ]</i>	<b><i>[insert name of Services after modifying as appropriate deleting inapplicable items from the following]</i></b>	<i>[insert country of origin of the Services]</i>	<i>[insert delivery date at place of final destination per Service]</i>	<i>[insert number of units to be supplied and name of the physical unit]</i>	<i>[insert unit price per item]</i>	<i>[insert total price per item]</i>
	Not Applicable					
<b>Total Bid Price Rs</b>						

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

## 12. Forms of Bid Security – Not Applicable

## Form of Bid-Securing Declaration

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

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

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

To: *[insert complete name of Employer]*

We, the undersigned, declare that:

We understand that, according to your conditions, bids must be supported by a Bid-Securing Declaration.

We accept that we will automatically be suspended from being eligible for bidding in any contract with the entity that invited Bids for the period of time of 03 Years starting on *[insert date]*, if we are in breach of our obligation(s) under the bid conditions, because we:

- (a) have withdrawn our Bid during the period of bid validity specified in the Letter of Bid; or
- (b) having been notified of the acceptance of our Bid by the Employer during the period of bid validity, (i) fail or refuse to execute the Contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the ITB.

We understand this Bid-Securing Declaration shall expire if we are not the successful Bidder, upon the earlier of (i) our receipt of your notification to us of the name of the successful Bidder; or (ii) twenty-eight days after the expiration of our Bid.

Name of the Bidder\* \_\_\_\_\_ [insert complete name of person  
signing the Bid]

Name of the person duly authorized to sign the Bid on behalf of the Bidder\*\* *insert complete name of person duly authorized to sign the Bid*

Title of the person signing the Bid *[insert complete title of the person signing the Bid]*

Signature of the person named above \_\_\_\_\_ *[insert signature of person whose name and capacity are shown above]*

Date signed [insert date of signing] day of [insert month], [insert year]

\*: In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder

**\*\*:** Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid *[Note: In case of a Joint Venture, the Bid-Securing Declaration must be in the name of all members to the Joint Venture that submits the bid.]*

### 13. Form of Bid Security - Bank Guarantee

*[Guarantor letterhead or SWIFT identifier code]*

Bank Guarantee No.....*[insert guarantee reference number]*

Date.....*[insert date of issue of the guarantee]*

WHEREAS, \_\_\_\_\_ *[name of Bidder]*<sup>2</sup> (hereinafter called "the Applicant") has submitted his Bid dated \_\_\_\_\_ *[date]* or will submit his Bid for the supply of \_\_\_\_\_ *[name of Contract]* (hereinafter called "the Bid") under Invitation for Bids No.....*[insert number]* (hereinafter called "the IFB")

KNOW ALL PEOPLE by these presents that We \_\_\_\_\_ *[name of bank]* of \_\_\_\_\_ *[name of country]* having our registered office at \_\_\_\_\_ (hereinafter called "the Bank") are bound unto \_\_\_\_\_ *[name of Purchaser]* (hereinafter called "the Purchaser") in the sum of \_\_\_\_\_<sup>3</sup> for which payment well and truly to be made to the said Purchaser the Bank binds itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_.

THE CONDITIONS of this obligation are:

- (1) If after Bid opening the Applicant (a) withdraws his bid during the period of Bid validity specified in the Letter of Bid; or (b) does not accept the correction of the Bid Price pursuant to ITB 35;

or

- (2) If the Applicant having been notified of the acceptance of his bid by the Purchaser during the period of Bid validity:
  - (a) fails or refuses to execute the Contract Agreement in accordance with the Instructions to Bidders, if required; or

<sup>2</sup> In the case of a JV, the bidder should be stated as "a Joint Venture consisting of ....., and .....".

<sup>3</sup> The Applicant should insert the amount of the guarantee in words and figures denominated in Indian Rupees. This figure should be the same as shown in Clause 19.1 of the Instructions to Bidders.

- (b) fails or refuses to furnish the Performance Security, in accordance with the Instruction to Bidders.

we undertake to pay to the Purchaser up to the above amount upon receipt of his first written demand, without the Purchaser having to substantiate his demand, provided that in his demand the Purchaser will note that the amount claimed by him is due to him owing to the occurrence of one or any of the four conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date \_\_\_\_\_<sup>4</sup> days after the deadline for submission of Bids as such deadline is stated in the Instructions to Bidders or as it may be extended by the Purchaser, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this guarantee should reach the Bank not later than the above date.

DATE \_\_\_\_\_ SIGNATURE OF THE BANK \_\_\_\_\_

WITNESS \_\_\_\_\_ SEAL \_\_\_\_\_

\_\_\_\_\_  
[signature, name, and address]

***Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.***

\_\_\_\_\_  
<sup>4</sup> 45 days after the end of the validity period of the Bid.

## 14. MANUFACTURER'S AUTHORIZATION

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

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

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

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

To: *[insert complete name of Purchaser]*

### WHEREAS

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

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

No company or firm or individual other than M/s. \_\_\_\_\_ are authorized to bid, and conclude the contract for the above goods manufactured by us against this specific IFB. *[This para should be deleted for simple items where manufacturers normally sell the product through different stockists].*

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

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

Title: *[insert title]*

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

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

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



## 15. DECLARATION FOR CLAIMING TAX/ DUTY EXEMPTION<sup>5</sup>

(Name of the Project)

Bid No. ....

Description of item to be supplied .....

.....

(Information for issue of certificate for claiming exemption of Tax/ Duty in terms of Government of India's relevant notification)

(Bidder's Name and Address):

To

(Name of Purchaser)

.....

Dear Sir:

1. We confirm that we are solely responsible for obtaining deemed export benefits which we have considered in our bid and in case of failure to receive such benefits for reasons whatsoever, Purchaser will not compensate us.
2. We are furnishing below the information required by the Purchaser for issue of necessary certificate in terms of Government of India's relevant notification.

(i) Ex-factory price per unit on which the tax/duty is payable: \*Rs.

\_\_\_\_\_

(ii) No of Units to be supplied:

\_\_\_\_\_

\_\_\_\_\_

(iii) Total cost on which the tax/duty is payable

(Rs.)

\_\_\_\_\_

*(The requirements listed above are as per  
Current notifications. These may be modified,  
as necessary, in terms of the rules in force)*

(Signature) \_\_\_\_\_

(Printed Name) \_\_\_\_\_

(Designation) \_\_\_\_\_

(Common Seal) \_\_\_\_\_

<sup>5</sup> This declaration refers to ITB 14.9 and shall be retained only if ITB 14.9 is retained. The format may be modified as per the latest instructions of Government of India.

*\* Please attach details item-wise with cost, if there are more than one items. The figures indicated should tally with what is given in the price schedule.*

## 16. PERFORMA FOR PERFORMANCE STATEMENT

[Please see ITB Clause 36.2 and Section III-  
Evaluation and Qualification Criteria]

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

Bid No. \_\_\_\_\_ Date of opening \_\_\_\_\_ Time \_\_\_\_\_ Hours

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

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

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

## SECTION V. – ELIGIBLE COUNTRIES

### Public Information Center

#### **Eligibility for the Provision of Goods, Works and Non Consulting Services in Bank-Financed Procurement**

In reference to ITB 4.7 and 5.1, for the information of the Bidders, at the present time firms, goods and services from the following countries are excluded from this bidding process:

Under ITB 4.7(a) and 5.1: None *[insert a list of the countries following approval by the Bank to apply the restriction or state “none”]*.

Under ITB 4.7(b) and 5.1: None *[insert a list of the countries following approval by the Bank to apply the restriction or state “none”]*

## SECTION VI. BANK POLICY - CORRUPT AND FRAUDULENT PRACTICES

Guidelines for Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, dated January 2011.

### “Fraud and Corruption:

1.16 It is the Bank’s policy to require that Borrowers (including beneficiaries of Bank loans), bidders, suppliers, contractors and their agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of Bank-financed contracts.<sup>6</sup> In pursuance of this policy, the Bank:

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
  - (i) “corrupt practice” is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;<sup>7</sup>
  - ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;<sup>8</sup>
  - (iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;<sup>9</sup>

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<sup>6</sup> In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

<sup>7</sup> For the purpose of this sub-paragraph, “*another party*” refers to a public official acting in relation to the procurement process or contract execution. In this context, “*public official*” includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

<sup>8</sup> For the purpose of this sub-paragraph, “*party*” refers to a public official; the terms “*benefit*” and “*obligation*” relate to the procurement process or contract execution; and the “*act or omission*” is intended to influence the procurement process or contract execution.

<sup>9</sup> For the purpose of this sub-paragraph, “*parties*” refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non-competitive levels, or are privy to each other’s bid prices or other conditions.

- (iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;<sup>10</sup>
- (v) "obstructive practice" is:
  - (aa) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or
  - (bb) acts intended to materially impede the exercise of the Bank’s inspection and audit rights provided for under paragraph 1.16(e) below.
- (b) will reject a proposal for award if it determines that the bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- (c) will declare mis-procurement and cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement or the implementation of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- (d) will sanction a firm or individual, at any time, in accordance with the prevailing Bank’s sanctions procedures,<sup>11</sup> including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Bank-financed contract; and (ii) to be a nominated<sup>12</sup>;

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<sup>10</sup> For the purpose of this sub-paragraph, “party” refers to a participant in the procurement process or contract execution.

<sup>11</sup> A firm or individual may be declared ineligible to be awarded a Bank financed contract upon: (i) completion of the Bank’s sanctions proceedings as per its sanctions procedures, including, inter alia, cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks, and through the application the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption; and (ii) as a result of temporary suspension or early temporary suspension in connection with an ongoing sanctions proceeding. See footnote 14 and paragraph 8 of Appendix 1 of these Guidelines.

<sup>12</sup> A nominated sub-contractor, consultant, manufacturer or supplier, or service provider (different names are used depending on the particular bidding document) is one which has either been: (i) included by the bidder in its pre-

- (e) will require that a clause be included in bidding documents and in contracts financed by a Bank loan, requiring bidders, suppliers and contractors, and their sub-contractors, agents, personnel, consultants, service providers, or suppliers, to permit the Bank to inspect all accounts, records, and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank.”

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qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

## **PART 2 - SUPPLY REQUIREMENTS**



# SECTION VII – SCHEDULE OF REQUIREMENTS

## SPECIFICATION ON PROCUREMENT OF VARIOUS SURVEY EQUIPMENT

### Schedule “A”

#### **1.1 Shallow Water Multi Beam Echo Sounder System with O & M (03 yrs) and CAMC (02 yrs)**

<b>1</b>	<b>Sounding Method –Shallow Water Multibeam system</b>	: Multi-Phase Echo Sounder (MPES) / Interferometric / CAATI (bathymetric data with IHO SP 44 Special Order Compliant)
<b>2</b>	<b>Minimum Depth measurement</b>	0.7m below transducer or better
<b>3</b>	<b>Bathymetric and side scan frequency</b>	Minimum 200 KHz
<b>4</b>	<b>Maximum depth Measurement</b>	75 meter or more
<b>5</b>	<b>Beam width</b>	0.5 ° to 2 ° (in case of Multi-Phase Echo Sounder only)
<b>6</b>	<b>Coverage</b>	Minimum 8 times of actual depth
<b>7</b>	<b>Slant Range</b>	As per available depth and Swath Width
<b>8</b>	<b>Measurement Resolution</b>	Maximum 2 cm.
<b>9</b>	<b>Transducer Cable Length</b>	Minimum 20 mtr
<b>10</b>	<b>Input Voltage</b>	12-36 VDC 115-230 VAC
<b>11</b>	<b>Back scatter</b>	Collect backscatter data
<b>12</b>	<b>Side Scan</b>	Integrated with instrument
<b>13</b>	<b>Side scan processing Software</b>	Hypack
<b>14</b>	<b>Dynamic / Integrated Motion Sensor</b>	
a	Data Resolution	Heave: 5cm or better; Roll & Pitch: 0.05° or better
<b>15</b>	<b>DGPS</b>	Heading dual head DGPS for multibeam heading with positional Accuracy of 0.2 mtr with SBAS
<b>16</b>	<b>Sound velocity Profiler</b>	
a	Range	1400-1600 m/s or better
b	Resolution	0.03m/s or better
c	Accuracy	+/- 0.3m/sec or better
d	Sampling Rate	10 Hz or better
f	Communications	RS 232 / USB / Bluetooth
g	Baud Rate	2400-115200
h	Power supply	Internal battery cell
<b>17</b>	<b>Data acquisition /Processing Software and Laptop</b>	<ul style="list-style-type: none"> <li>• Multibeam Data logging in Hysweep software and processing in Hypack (one no. Hardlock with license for both).</li> <li>• Fully Rugged Laptop with latest Windows Operating system with i7 processor, 1TB SDD HDD, 4GB dedicated Graphic card, 64GB RAM and 14” Helmsman color Monitor with VGA Splitter or better.</li> </ul>

<b>18</b>	<b>Mounting Bracket</b>	<ul style="list-style-type: none"> <li>• Transducer is to be installed on survey vessel and at bow of the vessel.</li> <li>• Complete Transducer housing with all fittings is to be provided for fitment of the Transducer at bow of the vessel. Fitment should be portable and not permanent fix, so that it can be lifted at any time during emergency like cleaning of the transducer, bow side anchoring at banks, grounding of the vessel etc.</li> <li>• Expenditure towards all fittings, cables (minimum 20mts length) etc. will be borne by the Contractor</li> </ul>
<b>19</b>	<b>Interface</b>	Serial / Ethernet interface for motion data, gyro data, navigation data, pps and sound velocity data.
<b>20</b>	<b>Cables and connectors</b>	All necessary cables, connectors and accessories which are required for complete installation should be part of supply.
<b>21</b>	<b>External Data Storage</b>	6 nos. 5TB HDD.
<b>22</b>	<b>Branded Printer</b>	01 no. A3 size LaserJet

## **1.2            OPERATION AND MAINTENANCE (O&M) for three year period**

- (i) Operation and Maintenance (O&M) 03 (Three) year from the date of acceptance of the system. Contractor shall deploy two nos. trained technician as per schedule.
- (ii) The manpower supplied under the contract shall consist of qualified and experienced personnel and they must have valid educational and relevant experience certificate for operation of the commissioned system from OEM. Technician must have the full knowledge of installation, removal of the system and trained to carry out troubleshooting. During the deployment period, the Contractor has to carry out maintenance of the system during warranty period.
- (iii) Contractor has to deploy minimum 02 Technician for entire period of fortnightly/monthly thalweg surveys onboard IWAI survey vessel.
- (iv) If any foreigner is employed by the contractor to work within the site, the latter shall ensure that such foreigner possesses the necessary special permit issued by the Civil Authorities in writing and also comply with the instructions issued therefore from time to time. The Contractor shall also take prior approval of the Authority before deploying any foreigner for the above work. In the event of any lapse in this regard on the part of such foreigner the contractor shall be personally held responsible for the lapse & Authority shall not be liable in any event.
- (v) Technician will stay on-board survey vessel during survey and stay will be free of cost, however, food charges have to be paid. Transportation charges to/from vessel/office will be borne by the Contractor.

- (vi) During the rest of the month, the Technician / personnel have to stay at their own arrangement and the expenditure has to be borne by the Contractor.
- (vii) The contractor shall make payment to the staff on monthly basis. In the invoice, the contractor shall give a certificate that the payment to the staff has been made on monthly basis.
- (viii) Attendance of the Technician will be certified by the IWAI, Surveyor – on-board survey vessel or office. Attendance register shall be submitted by the contractor monthly on or before 5th of every month. IWAI, R.O. will certify the same and forwarded to the IWAI, Noida before 10th of every month.
- (ix) No staff will take leave without prior permission and unless reliever is provided by the contractor for the above staff.
- (x) Technician will coordinate with IWAI, Offices regarding program of survey and sailing of vessel.
- (xi) The contractor shall issue an Identity card to each staff/worker and copy of same should be submitted to IWAI within three days of his deployment.
- (xii) The contractor shall maintain a muster roll and register of wages and has to submit the copy of same to IWAI within 10th date of every month.
- (xiii) The Technicians deployed should possess saving bank account number of Nationalized Bank and monthly wages are to be credited directly into their accounts. The documentary proof of payment paid to the workers/staff and employee contributions are to be submitted alongwith bill. For site engineers copy of PAN Card alongwith copy of Form 16 is to be submitted.
- (xiv) The contractor shall provide uniforms at his own expenditure to his staff and the staff should wear the uniform in neat and tidy condition while performing the duties.

### **1.3 Chart Preparation And Submission Of Reports**

- (i) Fortnightly thalweg (longitudinal) surveys are being carried out from September to June and monthly thalweg (longitudinal) surveys from July to October in stretch of the National Waterways No. 1. Thalweg surveys are generally for 3-5 days period, but due to planning of detailed surveys / piloting of Cargo/Cruise vessels during the voyage of thalweg surveys, it may extend for 12-15 days period during lean season. Detailed surveys by survey vessel are also to be carried out by the departmental survey vessel during flood season or as decided by Engineer-in-Charge.
- (ii) Technician has to transfer processed data in external hard disk within 07 (seven) days of completion of survey and required to submit to IWAI office(s), whenever required.
- (iii) Submission of Side Scan images for underwater obstructions with description.
- (iv) Submission of data in xyz and dxf format
- (v) Contractor has to submit detailed thalweg survey report within 03 (three) days of completion of survey.
- (vi) Cartridges and Stationary for printing of charts and reports for 03 year O&M period. Contractor will submit the survey charts and survey reports.

#### **1.4 Scope of work for Comprehensive Annual Maintenance Contract (CAMC) for two year period**

Comprehensive Annual Maintenance Contract (CAMC) for two year period shall commence after the expiry of warranty period.

- a) The Contractor would provide comprehensive AMC for a period of two year and for extended periods. The AMC services should cover the repair and maintenance of all the equipment and systems of Echosounder. Echosounder is to be maintained in optimal operational condition and to the OEM specified standards during the period of contract. The AMC services would be provided in two distinct ways:
- b) Preventive Maintenance Service: The Contractor will provide a minimum of two Preventive Maintenance Service visits during a year to the units to carry out functional check-ups and minor adjustments/ tuning as may be required.
- c) Breakdown maintenance Service: In case of any breakdown of the equipment/system, on receiving a call from the Buyer, the Contractor is to provide maintenance service to make the equipment/system serviceable.
- d) As and when the fault occurs on the system, the IWAI offices shall inform the same to the Contractor by letter, Fax or E-mail. Any notice under this contract shall be in the form of letter, fax or e-mail. Notices to either party shall be given at such address or addresses as such party shall specify from time to time by written notice to the other.
- e) From fault report, if it is concluded by the Contractor that the system cannot be made operational upon support over phone, e-mail, Contractor will employ the duly trained competent Engineer at site within 72 hours of reporting of fault for repair and the time should be strictly adhered to.
- f) If the Contractor Engineer finds that the fault cannot be repaired at site, Contractor Engineer may take the equipment with him for Contractor's service centre, and will return the same after repair within 15 (fifteen) days from the day the equipment was taken.
- g) Response time: The Contractor shall undertake breakdown maintenance of the equipment within 15 days from identification of fault or within 15 working days of intimation by the Authority, whichever is earlier.
- h) Serviceability. Required spares to attain the serviceability may be stored at site by the Contractor at his own cost.
- i) The Comprehensive Annual Maintenance Contract (CAMC) includes the cost of repairing / replacement of the defective parts as well as maintenance support, labour charges (of any type), cost of all special tools, test equipment, transportation of equipment & personnel, lodging, packaging, insurance etc.; but does not include the cost of Consumable items.

- j) The Contract also includes Preventive Maintenance, Corrective and Remedial Maintenance Service of Hardware to set right malfunction of the Equipment.
- k) Contractor may quote separately for above consumables, which may be procured by IWAI R.O.'s directly on need basis.
- l) Contractor will bear all the cost of transportation, packaging, insurance etc. from IWAI site to his service centre and vice versa. Contractor will carry out the successful testing at IWAI R.O. after repair / servicing.
- m) Whether the defective item or components are to be replaced or repaired shall be the sole discretion of the Contractor. In case of replacements of part (s), the defective / removed part from the equipment will become the property of the Contractor.
- n) In case the repair work or services is delayed, the Authority has full right to get the repair work done from outside agency and the cost incurred will be deducted from the Contractor's running bills.
- o) The Contractor will prepare separate Log-books for each of the equipment to be taken under the CAMC and is to be signed by representatives of Authority & Contractor, on every visit. Copy of the log-book should be attached along with the bill.
- p) Similar type of equipment may be added during the CAMC period.
- q) In case of equipment are added or become unserviceable, CAMC charges would change accordingly.
- r) In the event of the Contractor's Engineer declaring an equipment unserviceable, the final decision shall be that of the IWAI. However, the Contractor will continue to be liable to repair such equipment till the end of the CAMC. The equipment will be treated as Unserviceable, when the Contractor will submit a certificate from the OEM of the equipment that they no longer support this type of equipment and spare parts are no longer available. The remaining proportionate amount shall be adjusted to the future payments against CAMC from the date of rendering the equipment 'Unserviceable'.
- s) The contract shall continue to be applicable under the same terms and conditions in the event of any of the equipment being transferred temporarily / permanently to any other IWAI R.O. with prior intimation to the Contractor.
- t) The firm will schedule two visits to the units in a contract year for carrying out preventive maintenance.
- u) Only OEM certified genuine spares and consumables are to be used in repairs.
- v) All the Echosounders will be serviced / preventive maintenance by the Contractor on half yearly basis. Preventive maintenance includes cleaning, thorough checking, parameter adjustment, calibration and replacement of damaged / defective parts to up keep the equipment.

- w) The half yearly maintenance of the equipment can be combined with the visit of the Contractors Engineer required to be made for repair of the equipment provided that duration between the preceding and the succeeding half yearly visit is not less than 5 months and not more than 7 months.
- x) The Buyer reserves its right to terminate the maintenance contract at any time without assigning any reason after giving a notice of one month. The Contractor will not be entitled to claim any compensation against such termination. However, while terminating the contract, if any payment is due to the Contractor for maintenance services already performed in terms of the contract, the same would be paid to it as per the contract terms.

**1.4.1**      **Obligation of the CONTRACTOR:** The following sub-clauses will form part of the contract placed on successful bidder: -

- a) Employ the expertise of the well-qualified engineers duly trained on the equipment.
- b) Contractor Engineer reporting for repair & carrying the equipment to Contractor's service centre should have the valid Identification Card issued by the Contractor and will give receipt for carrying the equipment to the Contractors service centre.
- c) Ensure that the scope of the servicing of the equipment includes necessary checks, trouble shooting of the equipment as required, identification and rectification of equipment fault, parameter adjustment, and calibration. Preventive maintenance also includes cleaning of the equipment (inside & outside) as per Equipment Manual.
- d) CAMC also include field visit (IWAI offices / vessels)) for repair and maintenance (half yearly service).
- e) Bear cost of all spares consumed, labour and expertise charges incurred for repairs/ maintenance. This shall include the cost of all firmware, software patches, special tools, and test equipment etc, which may be necessary for preventive maintenance and defect rectification.
- f) Maintain stock of generally used spares for repairs and servicing of the equipment.
- g) Repair and replace parts that become defective, and test in the service centre / IWAI site, the complete equipment post repairs for functionality, so as to ensure trouble free operation of the equipment for a period of at least 6 months.
- h) Undertake repairs as per the specifications of the Original Equipment Manufacturer and utilise only the standard spares and repair practices.
- i) Not be liable in any manner whatsoever to the IWAI in the event of CONTRACTOR being prevented or delayed in performance of any of its obligation under this agreement due to conditions constituting force majeure such as natural calamity, strike by airlines / railway, civil disturbance, National holidays etc.

- j) Contractor will not be responsible under this contract for repairs of the equipment rendered unserviceable due to fire, accidents, explosion, riots accidents and other exceptional circumstances. In such cases the cost of repair/replacement will be borne by IWAI.
- k) Contractor shall be responsible for the damages / loss which may occur during repairing by Contractor's service Engineers, transportation etc. and in the event of loss of the equipment, Contractor will be liable to pay the present value of the equipment (book value – depreciation).
- l) Not be liable in any manner whatsoever to indemnify the IWAI for any loss, injury that is not attributed to the operation of the equipment.
- m) Conduct short capsule on field diagnostics, minor defect rectifications and preventive maintenance during each visit to the personnel on units/branch offices. At the end of each visit, provide a docket to the unit/office, containing the Do's and Don'ts, Pre and Post deployment checks to be carried out by the users in the field. These dockets are to be periodically updated based on the feedbacks received from the units/offices under CAMC.
- n) Equip the Service Centre from time to time with the latest test facility, PCB Testers and OEM recommended test equipment.
- o) Shall intimate the following measures within one month from signing this contract and thereafter constantly work with the IWAI for improving the effectiveness of this CAMC: -
- p) Set up e-mail facilities there-in, for diagnostic support to the units/offices of the IWAI.
- q) Device a diagnostic check-off list, subsystem wise viz. to improve the Defect Reporting System.
- r) Provide Satisfactory Post Repair Performance Report to the IWAI and his unit/office.
- s) Provide all the updates and new releases which are provided by OEM during the period of CAMC.
- t) Should the Authority decide to induct additional similar model of equipment into the service or decide to exclude any equipment from the service falling under the same category under existing rate of CAMC, then the Authority will have the discretion to direct the Contractor to include or exclude that equipment also within the ambit of the Contractor starting from the date of induction of the equipment till expiry of the CAMC and the Contractor is bound to carry out the same on pro rata rates of the CAMC.
- u) The Contractor will prepare separate Log-books for each of the equipment to be

taken under the CAMC and is to be signed by representatives of Authority & Contractor, on every visit. Copy of the log-book should be attached along with the bill.

- v) The Contractor shall provide training to the IWAI personnel, free of cost, if necessary.
- w) Shall create a database of all equipment with facility to monitor, update and report operational status of equipment in the unit/offices and submit a soft copy to IWAI, Noida within 30 days of signing of this contract.

**1.4.2** **Obligation of the IWAI:** The following sub-clauses will form part of the contract placed on successful bidder: -

- a) Ensure that the field units fax their defects to the CONTRACTOR and render a joint report with CONTRACTOR on the successful completion of defect and equipment performance.
- b) Ensure that installation area, electrical outlets, power supplies and electrical connections in the boat / office are suitable in accordance with operational requirement of the equipment.
- c) Defective equipment will be made available at office for checking Contractor's service Engineer. Repaired equipment will also be received at IWAI office. However, testing of repaired equipment will be carried out at nearest available vessel / boat.
- d) Half yearly servicing / preventive maintenance of the equipment will be done by the Contractor service engineer at the present location (office / vessel) of the equipment. However, IWAI will provide the vessel at approachable (by rail / road) location.
- e) Contractor will provide the schedule for servicing of the equipment to respective IWAI offices, 15 days in advance and IWAI R.O. will confirm the same within 7 days of receipt of schedule, as per availability of vessel, Surveyors etc. IWAI offices will also provide the details of present locations of equipment.
- f) Road permit / waybill Form will be filled-up and signed by the IWAI offices for transportation of the equipment. However, charges, if any, and follow-up action is to be taken by the Contractor. IWAI offices will also issue End-User Certificate for transportation of defective equipment.
- g) Pay additionally for any repairs to equipment failures caused due to unapproved power supply, any alteration / attachment to the configuration supplied, accidents, tampering and / or other outside causes.
- h) Inform the Contractor about the National holidays and other holidays (in which days access to the premises is restricted, like office will be closed due to strike, Sunday, second Saturday etc.), or the handing over / taking over officials would not be available.



- i) Pay the CAMC charges as per the Payment Schedule clauses.
- j) Provide all necessary assistance such as security clearance and power at site to the CONTRACTOR during the visit, for preventive maintenance and defect rectification.

**1.4.3 Extension of CAMC:** The contract is initially for a period of two years from the date of expiry of warranty period and shall be renewed at expiry, for a further period of one year each time and so on up to five years, depending upon the performance of the Contractor. The Contractor shall quote separately for extended years (Five years).

## **Schedule “B”**

### **SIDE SCAN SONAR**

<b>1</b>	<b>Sonar</b>	Dual simultaneous frequency tow fish
<b>2</b>	<b>Pulse type</b>	CHIRP and/or CW
<b>3</b>	<b>Material</b>	Stainless Steel / Aluminum
<b>4</b>	<b>Size</b>	Compatible with operable from Survey Vessel / small FRP Boat
<b>5</b>	<b>Operating Frequency</b>	Dual frequency from 100 KHz to 900 KHz (combination of one low and one high frequency)
<b>6</b>	<b>Depression Angle</b>	< 40° down
<b>7</b>	<b>Transmission Pulse</b>	Depth Dependent
<b>8</b>	<b>Across-track Resolution</b>	2 cm - 15 cm for Lower frequency and 0.75 cm - 3.75 cm for Higher frequency
<b>9</b>	<b>Min depth</b>	2 mtr
<b>10</b>	<b>Max Depth</b>	70 mtr or better
<b>11</b>	<b>Towfish</b>	Depth rating 200m water depth, portable and suitable for Survey vessel / small boat operation
<b>12</b>	<b>Sensors</b>	Built-in sensors such as heading, pitch, roll & pressure sensors
<b>13</b>	<b>Input Voltage</b>	DC/AC as per availability
<b>14</b>	<b>Towing Speed</b>	Minimum 1 knot 1and Maximum 5 Knot or better
<b>15</b>	<b>Towing cable</b>	Towing cable shall be flexible for transportation and operation purpose. Stainless steel/ Kevlar cables coated minimum length of 100 mtr.
<b>16</b>	<b>Operating Depth</b>	100 m or better
<b>17</b>	<b>Data Acquisition and Processing software</b>	Windows based Data Acquisition and Processing software. Automatic bottom tracking. Automated processing/contrast enhancement. Support for common navigation chart formats - BSB, DNC, S-57. Real-time mosaicking with easy export to GIS and Google-Earth.
<b>18</b>	<b>Hardware</b>	Fully Rugged Laptop with latest Windows Operating system with i7 processor, 1TB SDD HDD, 4GB dedicated Graphic card, 32GB RAM or better
<b>19</b>	<b>Communication</b>	Wireless/wired to laptop with Top unit.
<b>20</b>	<b>External Data Storage</b>	5 nos. 5TB HDD
<b>21</b>	<b>Cables and connectors</b>	All necessary cables, connectors and accessories which are required for complete installation should be part of supply

## Schedule “C”

### ADCP (ACOUSTIC DOPPLER CURRENT PROFILER)

<b>1.</b>	<b>Shallow Water Acoustic Doppler Current Profiler</b>	<ul style="list-style-type: none"> <li>To measure river current structure and discharge measurement.</li> <li>To Map boat track and measure depth along the boat's path.</li> </ul>
<b>2.</b>	<b>Size</b>	Compatible and operable from Survey vessel / small FRP Boat
<b>3.</b>	<b>Frequency</b>	Single or Multi frequencies between 400-800 KHz
<b>4.</b>	<b>Velocity Profiling range</b>	0.4m to 40m profiling or better
<b>5.</b>	<b>Profiling Velocity</b>	+/-20 m/s
<b>6.</b>	<b>Velocity resolution</b>	0.1 cm/s
<b>7.</b>	<b>Velocity accuracy</b>	±0.25% of water velocity relative to ADCP
<b>8.</b>	<b>Ping rate</b>	Minimum 1Hz or better
<b>9.</b>	<b>No. of cells</b>	minimum 128
<b>10.</b>	<b>Cell Size</b>	10 cm or better
<b>11.</b>	<b>Depth Range</b>	0.4m to 80 m or better
<b>12.</b>	<b>Bottom Tracking</b>	minimum 40 mtr
<b>13.</b>	<b>Range accuracy</b>	At least ±3%
<b>14.</b>	<b>Towing Speed</b>	Minimum 1 knot and Maximum 5 Knot or better
<b>15.</b>	<b>Communication</b>	Wireless or wired to Laptop
<b>16.</b>	<b>Transducer</b>	
<b>i.</b>	Configuration	Minimum 4 Beams
<b>ii.</b>	Communication	RS-232/RS-485/RS-422/Ethernet/USB
<b>iii.</b>	Depth rating	Minimum 80m
<b>iv.</b>	Tilt sensor Range	Tilt sensor Range: maximum accuracy ± 1° of range
<b>v.</b>	Temperature Range	0° to 45°C or better
<b>17.</b>	<b>Resolution</b>	0.01°
<b>18.</b>	<b>Heading</b>	0-360°
<b>19.</b>	<b>Accuracy</b>	2° or better
<b>20.</b>	<b>Other features and Requirements</b>	
<b>i.</b>	Transducer Cable	Cable length of 10m for connecting underwater unit of ADCP and Deck unit
<b>ii.</b>	Interface	system shall have standard interface facilities for Gyro, MRU and DGPS data and data acq, system
<b>iii.</b>	Suitable serial & power cable shall be supplied for connecting ADCP control system & Data Aqu. System	
<b>iv.</b>	Output	NMEA output to be provided

v.	Power Supply	DC or 230V AC, Suitable Adaptor may be supplied
vi.	Mounting Bracket	Suitable and complete mounting assembly for fitment in survey vessel
vii.	Hardware	Fully Rugged Laptop with latest Windows Operating system with i7 processor, 1TB SDD HDD, 4GB dedicated Graphic card, 32GB RAM or better
<b>21.</b>	<b>Software</b>	Windows based software (perpetual license) for data acquisition and advanced processing software shall be supplied.
<b>22.</b>	<b>External Data Storage</b>	5 nos. 5TB HDD

## **Schedule “D”**

### **RTK DGPS**

<b>SNO</b>		<b>CHARACTERSTICS</b>	<b>AVAILABILITY</b>
<b>1</b>		<b>BASE AND ROVER RECIEVER CHARACTERSTICS</b>	
		<b>The below specifications are for Global Positioning System (GPS) base and rover</b>	
	<b>(a)</b>	<b>RECIEVER TYPE</b>	
		TYPE	Multi-frequency, geodetic, real-time RTK receiver
		CHANNELS	500 or more Parallel Channel Receiver for tracking <b>GPS (L1, L2, L5), Glonass (L1, L2, L2C), Galileo, SBAS (WAAS, EGNOS, MSAS, GAGAN), Bediou (optional).</b> Tilt sensor on base and rover.
	<b>(b)</b>	<b>MEASUREMENTS: Receiver should perform fully independent measurements of code and phase on all frequencies</b>	
		L1 Measurements	Carrier phase full wavelength C/A narrow code
		L2 Measurements	Carrier phase full wavelength with C Code and P code or P Code under AS Equal performance with AS off or on
	<b>(c )</b>	Measuring Modes	Static, rapid static, kinematic standard Post processing, Standard Survey, geodetic applications
	<b>(d)</b>	Receiver Technology	Low elevation tracking, low noise and inbuilt multipath mitigation.
	<b>(e)</b>	Time to initialization	Less than 8s
	<b>(f)</b>	LED status indicators	For power, tracking, memory, Bluetooth
	<b>(g)</b>	Ports	1no. RS232 Power port 1 Internal / External GSM/GPRS 1 Radio Port Wireless communication.

	(h)	Power consumption	Less than 6 W
	(i)	Weight	Light weight receiver.
2	<b>GPS ANTENNA: Identical Integrated antenna and receiver, interchangeable for base and rover.</b>		
	(a)	Weight	Less than 4 kg standard RTK rover including controller, batteries, pole and bracket.
3	<b>DISPLAY CONTROLLER: One number Controller should be supplied for Base and Rovers. Inbuilt distance meter (Optional).</b>		
	(a)	Type	Touch sensitive controllers
	(b)	Display	Colour graphical, Daylight-readable touch screen with backlight illumination
	(c)	Keyboard	The controller should have complete QWERTY hard Keyboard
	(d)	Operating System	Windows / Android
	(e)	Processor & Memory	1GHz Processor or better, 2GB RAM or better, 4GB or better Internal Flash memory with GSM and SD card slot
4	<b>ACCURACIES</b>		
	(a)	Static and Rapid Static Phase	
		Horizontal	3 mm + 0.5 ppm or better
		Vertical	5 mm + 0.5 ppm or better
	(b)	Real Time RTK	
		Horizontal	8 mm + 1 ppm
		Vertical	15 mm + 1 ppm
5	<b>POSITION UPDATE</b>		
	(a)	Position Update Rate	20 Hz or better
6	<b>DATA RECORDING</b>		
	(a)	Standard medium	Directly to receiver in the Internal/External memory for 4GB minimum
7	<b>Tilt Sensor, GSM and Radio Modems</b>		
	(a)	Base	Integrated GSM/GPRS, radio, IMU base tilt sensor support/ tilt must have support for minimum 30° or more, and multipath mitigation technology.
	(b)	Rover	Integrated GSM/GPRS, radio, IMU base tilt sensor support/ tilt must have support for minimum 30° or more, and multipath mitigation technology.

	(c)	Real Time Message	RTCM V2.1 to 3.1 or better
	(d)	Tilt Sensor	Tilt Sensor must be calibration free, immune to magnetic disturbance, and should measure the point for more than 30° tilted pole
	(e)	GPRS RTK	RTK using inbuilt GPRS for multiple rovers from single base should be possible. GSM modem must have 4G LTE support
<b>8</b>	<b>POWER SUPPLY</b>		
	(a)	Internal Battery	Internal and Rechargeable batteries
	(b)	Operation Time	Batteries should power receiver controller and antenna for more than 5 hours and batteries required to maintain this operation time if need so be additional numbers should be offered for both receiver and controller.
	(c )	Chargers	Dual battery External chargers should be supplied, two numbers of such chargers should be supplied one with both base as well as Rover. If higher number batteries are supplied for achieving the operational time then additional charger per unit of battery for both base and Rover should be offered.
	(d)	External Power	Cable to connect the system to a 12v-24v battery should be supplied.
<b>9</b>	<b>NAVIGATIONS MODE</b>		
	(a)	Navigation	Full navigation information in position and stakeout displays, Position, course, speed, bearing and distance to waypoint
<b>10</b>	<b>ENVIRONMENTAL SPECIFICATION FOR Receiver</b>		
	(a)	Operational Temperature	-40°C to +65°C
	(b)	Storage Temperature	-40°C to +75°C
	(c )	Humidity	95%
	(d)	Protection against Water, Sand and Dust	IP68 or better: Protection against blowing rain Waterproof to temporary submersion into water (maximum depth of 1m) Dust-tight, protection against blowing dust
	(e)	Drops	Withstands 1m drop onto hard surfaces
<b>11</b>	<b>COORDINATE SYSTEMS</b>		
	(a)	Ellipsoids	All common ellipsoids User-definable ellipsoids

	(b)	Map projections	Mercator projections
	(c )	Geoidal model	Upload geoidal model to system
<b>12</b>	<b>ON BORAD SOFTWARE</b>		
	(a)	Graphics	2D and 3D Graphical representation of points, lines and areas Application result plots
	(b)	Icons	Icons indicating the current status of measure modes, settings, battery etc. It should be possible to configure or see status of the iconed devices by touching on the screen.
	(c )	Function Keys	Direct function keys for quick and easy operation.
	(d)	Configuration sets	Ability to store and transfer all instrument and application configuration settings for different operators, survey tasks etc.
	(e)	Free Coding	Recording codes with optional attributes in between of measurements Manual code entry or selection from a user defined code list
	(f)	Thematical Coding	Coding points, lines and areas with optional attributes when measuring Manual code entry or selection from a user defined code list
	(g)	Quick Coding	Recording a measurement with a point code or free code by entering a numerical quick code from user defined code list
	(h)	Averaging	Averaging of multiple points within user defined averaging limit
<b>13</b>	<b>OFFICE PROCESSING SOFTWARE</b>		
	(a)	Operating System	Latest Windows OS
	(b)	Importing Raw Data	Should be able to import Raw data from the GNSS receiver (All Signal types) as well as RINEX data. Also should be able to import global raw base data as well as precise ephemeris data via internet
	(c )	Baseline Processing	Should be capable of processing GNSS L1,L2 and L5 raw data
	(d)	Network Adjustment	Should be able to perform Network Adjustment using Least Square adjustment principle.



	(e)	Export	Capable of Exporting the data in multiple extensions (DWG,DXF,SHP,KML/KMZ,CSV & Construction Software extensions)
	(f)	Reporting	Software should be capable of generating reports directly for the surveyed data
	(g)	COGO	Software should have COGO functionality
	(h)	RTK Data	Should be able to handle RTK data.
	(i)	Conventional Data	Should be able to handle data from Total Station, digital level for network adjustment.
	(j)	Surfaces	The software should be a capable of Surface Modelling, 3D visualization and quick contouring.
<b>14</b>	<b>ACCESSORIES</b>		
	(a)	Accessory	Complete kit to operate base and rover in static as well RTK mode. All connecting, communication and Power cables, Tripod, Tribrach adaptor with Optical plummet, Hard Case, Li-Ion Battery, Pole Bracket, Range Pole with Bipod etc.
	(b)	RTK Kit	Complete RTK kit for Base and Rover
	(c)	Base and Rover Radio	Base and Rover Sensor must have support internal 1W radio.
	(d)	<b>Hardware:</b>	Laptop with latest Windows Operating system with i9 processor, 1TB SDD HDD, 4GB dedicated Graphic card, 8GB RAM or better.

**Schedule “E”****DGPS RECEIVER**

1)	<b>Type:</b>	Receiver with SBAS and Beacon
2)	<b>Channels:</b>	225 channels or more
3)	<b>Constellation tracking:</b>	GPS, GLONASS, Galileo, Beidou, SBAS and More
4)	<b>ANTENNA OPTIONS</b>	GNSS (GPS, Glonass, Galileo, Beidou), MSK Beacon, SBAS
5)	<b>Position update rate:</b>	upto 50 Hz
6)	<b>Position format:</b>	Geodetic (WGS84)
7)	<b>Differential source:</b>	SBAS (WAAS, EGNOS & GAGAN) and DGNSS Beacon
8)	<b>Horizontal accuracy:</b>	± 0.50m or better
9)	<b>Keyboard and Display:</b>	VFD/LCD display 16 characters by 2 rows, On/Off key for one button start up or better.
10)	<b>Operating temperature:</b>	-5°C to +55°C or better
11)	<b>Storage temperature:</b>	-40 °C to +80 °C (-40 °F to +176 °F)
12)	Waterproof Dustproof Antenna	
13)	Shock and Vibration as per drop test internationally acceptable.	
14)	<b>POWER:</b>	11-28V DC, Internal Lithium-ion battery (Optional)
15)	Compatible with Hydrographic Survey software.	
16)	<b>Communication:</b>	USB / Ethernet, RS 232 to connect to Laptop / PC for data communication
17)	<b>Data Output:</b>	NMEA 0183
18)	<b>Accessories:</b>	Antenna (s), necessary cable for antenna (15m), USB/Ethernet and PPS cables to interface with Echo sounder and PC.

**Schedule “F”**

**ECHO SOUNDER CUM DGPS RECEIVER**

1.	<b>Frequency</b>	Single frequency Echo sounder and Single frequency DGPS or better
2.	<b>LCD display</b>	
3.	<b>Operating Frequency</b>	<ul style="list-style-type: none"> <li>• 190-225 KHz (Dual Frequency optional with Operating frequency from 24 KHz to 225 KHz).</li> <li>• International branded 190 KHz-225 KHz transducer with minimum 30 feet cable length with plug to mate with recorder</li> </ul>
4.	<b>Output format</b>	should be <b>Compatible with</b> Hydrographic survey software
5.	<b>Depth range</b>	0.5-60m or higher with selectable intermediate range.
6.	<b>Depth accuracy</b>	+/- 0.5% of measured depth or better
7.	<b>Draft offset</b>	User configurable
8.	<b>Sound Velocity</b>	1400-1600 meters/second
9.	<b>Data Outputs</b>	NMEA DBT, NMEA DBS
10.	<b>GNSS Receiver Options</b>	GNSS Receiver of all reputed brand, meeting with all the specifications as per tender Schedule of Requirements
11.	<b>Vertical Resolution</b>	1 Cm (Depth data)
12.	<b>Horizontal resolution</b>	0.5m
13.	<b>Constellation tracking for DGPS</b>	GPS, GLONASS, Galileo, Beidou, SBAS
14.	<b>Power</b>	11- 30VDC, 115/230V
15.	RS232/RS422/Ethernet output	
16.	GPS/Nav Integration (optional)	

<b>17.</b>	<b>Geographic position</b>	NMEA-0183 GGA or GLL Format from GPS/DGPS
<b>18.</b>	<b>Data Outputs</b>	ODEC PMC dt (True Depth & Status) / Atlas / DESO -25 / Odom Digitrac / Odom Echotrac / NMEA DBT, NMEA DBS or NMEA.
<b>19.</b>	<b>Input Power</b>	11-30 volts D.C. (1.5 amps @ 12V, 0.5 amp @ 30V.). Power Internal – rechargeable (optional)
<b>20.</b>	<b>Others</b>	
I.	Antenna cable length	10m
II.	Transducer, Antenna, User manual. AC and DC power cables, Interfacing Cables with Computers, Spare fuses, Tool Kit.	

## Schedule “G”

### 1. SINGLE BEAM ECHO SOUNDER

1)	Single frequency Hydrographic Echo sounder for installing in the survey launches & boats.	
2)	Suitable for minimum continuous operation.	
3)	Compatible with Hydrographic Survey Software’s like Hypack Max/PDS or other reputed international brands with continuous recording in the computer.	
4)	<b>Operating Frequency</b>	190-225 KHz (Dual Frequency optional with Operating frequency from 24 KHz to 225 KHz).
5)	<b>Built-in digitizer</b>	
6)	<b>Phasing</b>	User Selectable
7)	<b>Depth range</b>	0.5-60m or higher with selectable intermediate range.
8)	<b>Depth Resolution</b>	0.1m
9)	<b>Depth Alarm</b>	Shallow and deep
10)	<b>Depth accuracy</b>	+/- 0.5% of measured depth
11)	<b>Draft offset</b>	User configurable
12)	<b>Sound Velocity</b>	1400-1600 meters/second
13)	<b>LCD Display</b>	Back-lighting: Electro-luminescent
14)	<b>GPS/ NAV Integration.</b>	
15)	<b>NMEA 0183 Input</b>	
16)	<b>Geographic position</b>	NMEA-0183 GGA or GLL Format from GPS/DGPS
17)	<b>Data Outputs</b>	RS232/ 422 Output
	NMEA DBT	
	NMEA DBS	
18)	<b>Power Operation</b>	11- 36V DC, 115/230V
19)	<b>Input Power</b>	10-30 volts DC (1.5 amps @ 12V, 0.5 amp @30V.)

20)	<b>Chart Record</b>	High-Contrast Thermal Paper
21)	Operation controls for off/standby/on, range selector, Sensitivity, chart speed, fix marks and range. Echogram to indicate transmission mark, zero mark & bed profile.	
	<b><u>TRANSDUCER</u></b>	
22)	International branded 190 KHz-225 KHz transducer with minimum 30 feet cable length with plug to mate with recorder.	
23)	<b>Nominal Impedance</b>	<b>Nominal Impedance</b>
24)	<b>Beam width</b>	<b>Beam width</b>
25)	<b>Housing Material</b>	<b>Housing Material</b>
26)	<b>Piezo Material</b>	<b>Piezo Material</b>
27)	Anodized Aluminum Pipe in four pieces to be joined by threads with fitting accessories (complete) for outboard vessel/Boat.	
28)	User manual. AC and DC power cables, Interfacing Cables with Computers & GPS, Spare fuses, Tool Kit.	
	<b>2. <u>Transducer for Echo Sounder</u></b>	
1.	International branded 190 KHz-225 KHz transducer compatible with Bathy 500 MF/DF Echo sounders with minimum 30 feet cable length with plug to mate with recorder.	
2.	Nominal Impedance: 50 ohms	
3.	Beam width: 8-9 degrees @-3dB	
4.	Housing Material: Brass/ SS (with urethane acoustic window)	
5.	Piezo Material: Barium Titanate or better	
6.	Anodized Aluminium Pipe in four pieces to be joined by threads with fitting accessories (complete) for outboard vessel/Boat.	
7.	User manual. AC and DC power cables, Interfacing Cables with Computers & GPS, Spare fuses, Tool Kit.	

## Schedule “H”

### Water Sampler

1.	The standard water sampler of any reputed brand should be simple tube type sampler which can be lowered into the water by rope. Upon reaching the desired depth, the messenger should activate the closing mechanism or release the closing mechanism, so that it closes the lid of the sampling tube in the water at that depth and sampler to be recovered by rope. To retrieve the water sample, open lid and save the water sample.	
2.	Non-metallic free-flushing sampling bottles activated by Messenger when individually or serially attached to hydrocable. Sequential closure by remote command.	
3.	<b>Size</b>	Capacity between 1.0 to 2.0 litre including messenger
4.	<b>Materials</b>	PVC housing, end stoppers, Push rod, air vent screw and petcock. Stainless steel wire clamp bolts and wing nuts.
5.	End stopper closure band of latex tubing. Buna-N O-ring seals. Nylon monofilament lanyards with brass snap hook. Maximum working temperature is 60°C (140°F).	
6.	<b>End closure</b>	Stopper with spherical section sealing surface held firmly against O-ring seal by internal latex tubing.
7.	<b>Drainage</b>	Air vent thumbscrew at top, petcock near base.
8.	<b>Mounting</b>	To hold wire up to 1/4” (6.35mm).
9.	<b>Deliverables</b>	Bottle, wire clamp bolts with wing nuts, latex tubing and wire mounting lanyards. Standard Messenger.
10	<b>Empty Weight</b>	2.0 / 3.0 Kg
11	<b>Full Weight</b>	Minimum 3.0 Kg and maximum 4.5 Kg

### Bottom Sampler

1.	The Grab Type Bottom Sampler to be quantitative sampler with precise sampling area to achieve nearly undisturbed samples in soft grounds. It should consist of a sturdy-walled metal cabinet equipped with two spring-loaded jaws which are released by a messenger. Two light plates cover the top opening of the sampler to prevent the sample from being washed out during ascent
2.	Sampler for collecting bottom sediments for biological, hydrological and environmental studies.
3.	Stainless steel, electro polished surface, small model manufactured from 3 mm plate with a surface area of 225 to 250 cm <sup>2</sup> , weight approx. 5 kg. Depth of operation: 0.5m to 25m

**Schedule “I”**

**FTP Server and Data Storage System with three years warranty**

**Specifications for storage 300TB RAW- 3 Qty. (NOIDA, Kolkata and Patna)**

<b>S.No.</b>	<b>Features</b>	<b>Qualifying Minimum Requirements for each unit</b>
1	No. of Storage Units	<b>1</b>
2	Rack mount	NAS Controller Should be rack mounted with a form factor of not less than 2U
3	Processor	Dual processor of hexa Core each. Shall be Intel Intel® Xeon-Silver 4208 (2.1GHz/8-core/85W) only. Optional: Should be Dual controller Active Active Architecture where each controller should have Hexa core processor
4	Memory	64GB Dual Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory or higher, scalable to 384GB DDR4 RAM
5	Hard Drives	Shall be supplied with minimum of 300 TB RAW drives in Raid 5/6. Optional: Offered NAS Storage shall have separate dedicated SSD drives for Operating system in Raid 1+0.
6	Storage expandability	1. Offered NAS controller shall support at-least 28 internal LFF Slots and shall be offered with at- least 24 LFF Slots. 2. Offered storage shall also have capability to attach additional drive enclosures. NAS shall support at-least 1000TB of external capacity using 14/16/18TB drives.
7	Network Connectivity	Min. 4 X 1Gbps auto sensing NICs ports and shall be further scalable to additional 8 numbers of 10Gbps ethernet port.
8	Protocols support	ISCSI, FTP/FTPS/SFTP, CIFS/SMB 3.1.1, HTTP, HTTPS, NFS 4.1, WebDev etc.
9	Fault Tolerance for internal drives	Offered NAS shall support Raid 0, Raid 1, Raid 1+0, Raid 5 and Raid 6 for internal drives. Offered Raid controller shall have minimum of 4GB flash back write cache.
10	Fault Tolerance for external drives	Offered NAS shall support Raid 0, Raid 1, Raid 1+0, Raid 5 and Raid 6 for external drives. Supported Raid controller shall have minimum of 4GB flash back write cache.



11	Network Client Types Support	Should support Windows 10, Windows 2016/2019, , HP-UX, AIX, SOLARIS, Linux etc.
12	Operating System	The storage system should have Microsoft Windows Server IOT 2019 - 64 bit edition (NAS optimized ) including powered OS drivers or proprietary from the OEM.
13	De-duplication	Optional: Offered NAS shall have block based De-duplication which can be enabled for all required volumes. De-duplication engine shall have:1. Flexibility to decide the multiple schedules when de-duplication process can be run.2. Flexibility to limit the time period of de-duplication process so that production operations remains intact.3. Flexibility to bypass the recent files under the de-duplication process so that production operations remains intact.4. License for De-duplication shall be provided.5. Shall support more than 64TB of file system for de-duplication.
14	File screening and quota management	1. Offered NAS shall have support for file screening so that administrator can ensures that users shall not be able to store unwanted files on offered NAS device. 2. Offered NAS shall have Quota management for both Volume and Directory. 3. Software for both File screening as well as Quota management shall be provided.
15	File Management	1. Shall have flexibility to expire or move files to different folder / Location / Volumes / drives on the basis of polices like day of creation / modification / access of on the basis of file pattern like extension. 2. Shall also be able to expire or move files to different folder / Location / Volumes / Drives on the basis of content classification within files.
16	SAN storage (iSCSI based)	Integrated iSCSI for block access over LAN.
17	Snapshots	Point in time copies of your data to guard against data corruption.
18	Encryption and compression	Shall have support for encryption and Compression. License for both of same shall be offered.
19	Cloud Integration	Offered NAS shall be able to integrate with Microsoft Azure - running with valid subscription with following features: 1. Azure File Sync 2. Azure backup

20	Replication	Offered NAS shall also be supported with leading NAS replication softwares in the industry and shall also have 100TB license for replication through DFS-R. Optional: The Storage System shall support Synchronous & Asynchronous Replication for both Block and File Protocols.
21	Web Based Management	Shall have web based interface to manage and monitor system health, capacity, performance, hardware events, quotas, snapshots, authentication and network services
22	Capacity Insights	Capacity planning with a granular historical utilization dashboard with growth rate and usage trends
23	Power Supply and FAN	Offered NAS shall also have Hot Plug redundant power supply and FAN
24	Rack	Required Rack to install the storage should be provided by OEM/bidder
<b><u>Specifications for storage 120 TB RAW - 4 Qty. (Swaroopganj, Farakka, Sahibganj and Varanasi)</u></b>		
<b>S.No.</b>	<b>Features</b>	<b>Qualifying Minimum Requirements for each unit</b>
1	No. of Storage Units	<b>1</b>
2	Rack mount	NAS Controller Should be rack mounted with a form factor of not less than 2U
3	Processor	Dual processor of hexa Core each. Shall be Intel Intel® Xeon-Silver 4208 (2.1GHz/8-core/85W) only. Optional: Should be Dual controller Active Active Architecture where each controller should have Hexa core processor
4	Memory	64GB Dual Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory or higher, scalable to 384GB DDR4 RAM
5	Hard Drives	Shall be supplied with minimum of 120 TB RAW drives in Raid 5/6. Optional: Offered NAS Storage shall have separate dedicated SSD drives for Operating system in Raid 1+0.
6	Storage expandability	1. Offered NAS controller shall support at-least 28 internal LFF Slots and shall be offered with at-least 24 LFF Slots. 2. Offered storage shall also have capability to attach additional drive enclosures. NAS shall support at-least 1000TB of external capacity using 14/16/18TB drives.

7	Network Connectivity	Min. 4 X 1Gbps auto sensing NICs ports and shall be further scalable to additional 8 numbers of 10Gbps ethernet port.
8	Protocols support	ISCSI, FTP/FTPS/SFTP, CIFS/SMB 3.1.1, HTTP, HTTPS, NFS 4.1, WebDev etc.
9	Fault Tolerance for internal drives	Offered NAS shall support Raid 0, Raid 1, Raid 1+0, Raid 5 and Raid 6 for internal drives. Offered Raid controller shall have minimum of 4GB flash back write cache.
10	Fault Tolerance for external drives	Offered NAS shall support Raid 0, Raid 1, Raid 1+0, Raid 5 and Raid 6 for external drives. Supported Raid controller shall have minimum of 4GB flash back write cache.
11	Network Client Types Support	Should support Windows 10, Windows 2016/2019, , HP-UX, AIX, SOLARIS, Linux etc.
12	Operating System	The storage system should have Microsoft Windows Server IOT 2019 - 64 bit edition (NAS optimized ) including powered OS drivers or proprietary from the OEM.
13	De-duplication	Optional: Offered NAS shall have block based De-duplication which can be enabled for all required volumes. De-duplication engine shall have: 1. Flexibility to decide the multiple schedules when de-duplication process can be run. 2. Flexibility to limit the time period of de-duplication process so that production operations remains intact. 3. Flexibility to bypass the recent files under the de-duplication process so that production operations remains intact. 4. License for De-duplication shall be provided. 5. Shall support more than 64TB of file system for de-duplication.
14	File screening and quota management	1. Offered NAS shall have support for file screening so that administrator can ensures that users shall not be able to store unwanted files on offered NAS device. 2. Offered NAS shall have Quota management for both Volume and Directory. 3. Software for both File screening as well as Quota management shall be provided.
15	File Management	1. Shall have flexibility to expire or move files to different folder / Location / Volumes / drives on the basis of polices like day of creation / modification / access of on the basis of file pattern like extension. 2. Shall also be able to expire or move files to different folder / Location / Volumes / Drives on the basis of content classification within files.

16	SAN storage (iSCSI based)	Integrated iSCSI for block access over LAN.
17	Snapshots	Point in time copies of your data to guard against data corruption.
18	Encryption and compression	Shall have support for encryption and Compression. License for both of same shall be offered.
19	Cloud Integration	Offered NAS shall be able to integrate with Microsoft Azure - running with valid subscription with following features: 1. Azure File Sync 2. Azure backup
20	Replication	Offered NAS shall also be supported with leading NAS replication softwares in the industry and shall also have 100TB license for replication through DFS-R. Optional: The Storage System shall support Synchronous & Asynchronous Replication for both Block and File Protocols.
21	Web Based Management	Shall have web based interface to manage and monitor system health, capacity, performance, hardware events, quotas, snapshots, authentication and network services
22	Capacity Insights	Capacity planning with a granular historical utilization dashboard with growth rate and usage trends
23	Power Supply and FAN	Offered NAS shall also have Hot Plug redundant power supply and FAN
24	Rack	Required Rack to install the storage should be provided by OEM/bidder

**Specifications for Layer 2 Access Switch- 1 Qty on each location**

	<b>24 Ports Access Switch</b>
<b>S.No.</b>	<b>Specification</b>
<b>1</b>	<b>Architecture</b>
<b>a</b>	Shall be 19" Rack Mountable
<b>b</b>	20 RJ-45 autosensing 10/100/1000 ports, 4 x dual personality 1G SFP (copper/fiber) ports and 4 SFP+ 1/10GbE ports populated with minimum 2 * 10G Multimode Transceivers

c	The switch should have 1 dual-personality (RJ-45 or USB micro-B) serial console port
d	1GB SDRAM, 2GB Flash memory and 12 MB Packet buffer size
e	Shall have switching capacity of 128 Gbps
f	Shall have up to 95 million pps switching throughput
g	The Switch should support 32000 MAC address
h	Switch shall have Internal redundant power supply from-day-1
i	The switch should have Routing table size of 2000 entries (IPv4), 1000 entries (IPv6)
j	The switch should support Auto-MDIX to provide automatic adjustments for straight-through or crossover cables on all 10/100 and 10/100/1000 ports
<b>2</b>	<b>Features</b>
a	The switch should support HTTP redirect function
b	The switch should support User role to defines a set of switch- based policies in areas such as security, authentication, and QoS. A user role can be assigned to a group of users or devices, using switch configuration
c	The switch should support Per-port tunneled node to provides a secured tunnel to transport network traffic on a per-port basis to a Controller. Authentication and network policies will be applied and enforced at the Controller
d	The Switch should support Static IP Visibility to do accounting for clients with static IP address
<b>3</b>	<b>Quality of Service (QoS)</b>
a	The switch should support Traffic prioritization (IEEE 802.1p) to allows real-time traffic classification into eight priority levels mapped to eight queues
b	The switch should support Layer 4 prioritization to enable prioritization based on TCP/UDP port numbers

c	The switch should support Class of Service (CoS) to sets the IEEE 802.1p priority tag based on IP address, IP Type of Service (ToS), Layer 3 protocol, TCP/UDP port number, source port, and DiffServ
d	The switch should support Rate limiting to sets per-port ingress enforced maximums and per-port, per-queue minimums
e	The switch should Provide graceful congestion management
<b>4</b>	<b>IPv6 Feature</b>
a	The switch should support IPV6 host to enable switches to be managed in an IPv6 network
b	The switch should support Dual stack (IPV4 and IPV6) to transition from IPv4 to IPv6, supporting connectivity for both protocols
c	The switch should support MLD snooping to forward IPv6 multicast traffic to the appropriate interface
d	The switch should support ACL and QoS for IPv6 network traffic
e	The switch should support static and RIPng protocols for IPV6
<b>5</b>	<b>Security</b>
a	The switch should support RA guard, DHCPv6 protection, dynamic IPv6 lockdown, and ND snooping
b	The switch should have Energy-efficient design
c	The switch should support Energy-efficient Ethernet (EEE) to reduce power consumption in accordance with IEEE 802.3az
d	The switch should support very low latency, increased packet buffering, and adaptive power consumption
e	The switch should have facility to allow for increased performance by selecting the number of queues and associated memory buffering that best meet the requirements of the network applications
<b>6</b>	<b>Convergence</b>

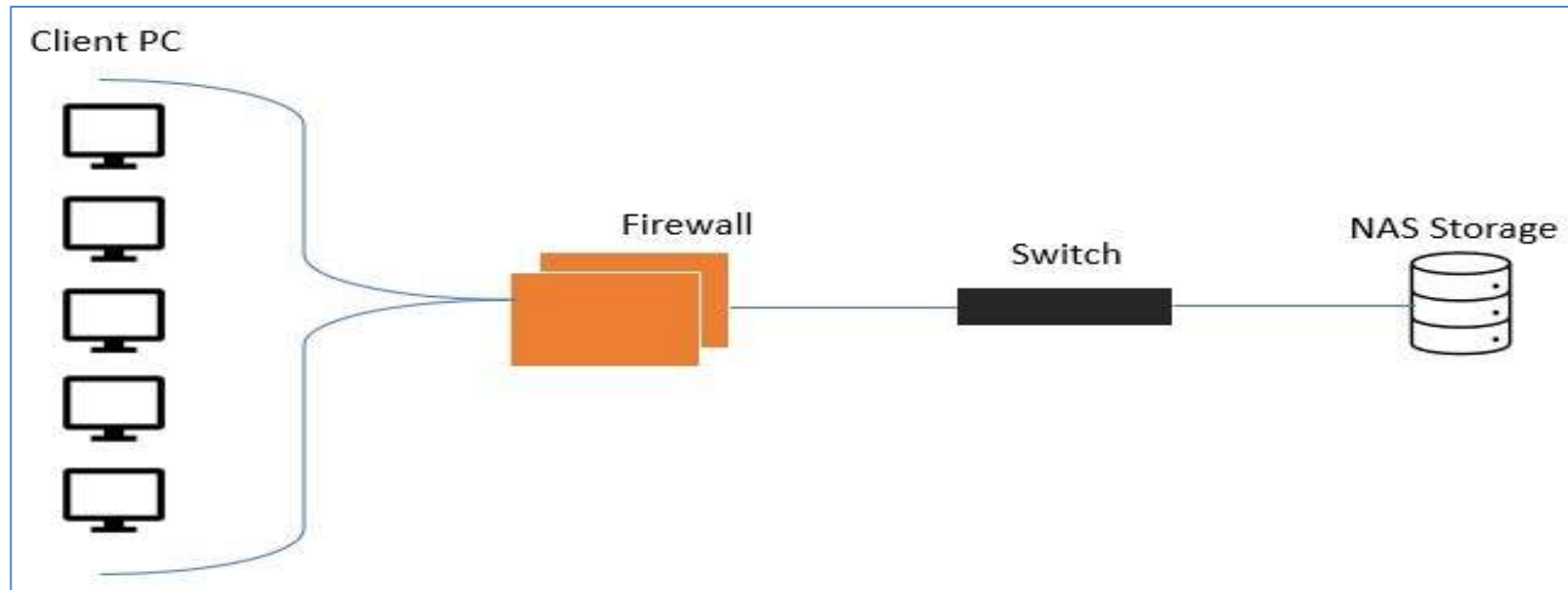
a	The switch should support IP multicast routing and PIM Sparse and Dense modes to route IP multicast traffic
b	The switch should support IP multicast snooping and data-driven IGMP
c	The switch should support LLDP-MED (Media Endpoint Discovery)
d	The switch should support IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
e	The switch should support Local MAC Authentication
<b>7</b>	<b>Resiliency and high availability</b>
a	The switch shall have stacking ports from day-1 with 100 Gbps stacking bandwidth and cable upto 10 switches per stack.
b	The switch should support Virtual Router Redundancy Protocol (VRRP)
c	The switch should support IEEE 802.1s Multiple Spanning Tree
d	The switch should support IEEE 802.3ad link-aggregation-control protocol (LACP) and port trunking
e	The switch should provide easy-to-configure link redundancy of active and standby links
<b>8</b>	<b>Management</b>
a	The switch should support SNMPv1, v2, and v3
b	The switch should support Zero-Touch Provisioning (ZTP)
c	The switch should support cloud based management platform offers simple, secure, and cost effective way to manage switches
d	The Switch should support Built-in programmable and easy to use REST API interface
<b>9</b>	<b>Manageability</b>
a	The switch should support Dual flash images

b	The switch should allow assignment of descriptive names to ports
c	Find-Fix-Inform
d	The switch should have the capability to find and fixes common network problems automatically, then informs administrator
e	The switch should allow multiple configuration files to be stored to a flash image
f	The switch should support RMON, XRMON, and sFlow
g	The switch should provide advanced monitoring and reporting capabilities for statistics, history, alarms, and events
h	The switch should support ingress and egress port monitoring enable network problem solving
i	The switch should support Unidirectional link detection (UDLD)
j	The switch should support IP service level agreements (SLA) for voice
<b>10</b>	<b>Layer 2 switching</b>
a	The switch should support IEEE 802.1Q (4094 VLAN IDs) and 2K VLANs simultaneously
b	The switch should support Jumbo packet support
c	The switch should support IEEE 802.1v protocol VLANs
d	The switch should support Rapid Per-VLAN Spanning Tree (RPVST+)
e	The switch should support GVRP and MVRP
f	The switch should support encapsulation (tunneling) protocol for overlay network that enables a more scalable virtual network deployment
<b>11</b>	<b>Layer 3 routing and Services</b>



a	The switch should support DHCP server
b	The switch should support minimum 256 static IP routing
c	Routing Information Protocol (RIP)
d	The switch should support Static routing for IPv4 and IPv6
e	The switch should support OSPFv2 and OSPFv3 protocols for routing between access and the next layer on the LAN.
f	The switch should support Policy-based routing
<b>12</b>	<b>Security</b>
a	The switch should support IEEE 802.1X, Web-based authentication, MAC-based authentication
b	The switch should support Multiple IEEE 802.1X users per port
c	The switch should support Concurrent IEEE 802.1X, Web, and MAC authentication schemes per port and accept up to 32 sessions of IEEE 802.1X, Web, and MAC authentications
d	The switch should support Access control lists (ACLs)
e	The switch should provide IP Layer 3 filtering based on source/destination IP address/subnet and source/destination TCP/UDP port number
f	The switch should support RADIUS/TACACS+
g	The switch should support Secure Sockets Layer (SSL), SSHv2
h	The switch should support Port security, MAC address lockout, STP BPDU port protection, STP root guard, Dynamic ARP protection
i	The switch should support DHCP protection
j	The switch should support Per-port broadcast throttling

k	The switch should support Private VLAN
<b>13</b>	<b>Environmental and Regulatory Compliance</b>
a	Shall support IEEE 802.3az Energy-efficient Ethernet (EEE) to reduce power consumption
b	Operating temperature: 0° to 55°C, Operating humidity: 15% to 95% non-condensing
c	Switch shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 or equivalent Indian Standard like IS-13252:2010 or better for Safety requirements of Information Technology Equipment.
d	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B or equivalent Indian Standard like IS 6873 (Part 7): 2012 or better for EMC (Electro Magnetic Compatibility) requirements.
<b>14</b>	<b>Warranty and Support</b>
a	The switch shall be offered with minimum three years hardware warranty with NBD Shipment and software updates/upgrades from OEM directly
b	The switch shall EAL2/NDPP common criteria certified



**SCHEMATIC DIAGRAM**

<b><u>Contractors obligations</u></b>	
1	Storage, switches, and other active components of the solution should be provided from the same OEM for better interoperability, integration, management and support.
2	The contractor shall ensure maintenance supports (both hardware and software supports) during warranty and post warranty AMC.
3	The contractor will be responsible for installation, creation of FTP Protocol/Server, commissioning and maintaining the proposed solution during entire warranty period.
4	Bidder should submit printed catalogues, literature of the proposed products of the solution offered along with the bid.
5	The installation, integration, maintenance should be done by the contractor engineers , and Contractor is responsible for all acts done in reference to this tender which includes; but not limited to; supply, installation, configuration, commissioning, testing & benchmarking of hardware and software both.

**Schedule “J”****Hydrographic Survey Software Hysweep and Hypack**

<b><u>1</u></b>	<b><u>Hydrographic Survey Software Hysweep</u></b>	
	Hydrographic Survey Software Hysweep hardlocks with licenses for data acquisition	<i>Latest version of two nos.</i>
<b><u>2</u></b>	<b><u>Hydrographic Survey Software Hypack</u></b>	
	Hydrographic Survey Software Hypack hardlocks with licenses for data acquisition and data processing	<i>Latest version of three nos.</i>

### **Notes for Preparing the Schedule of Requirements**

The Schedule of Requirements shall be included in the bidding documents by the Purchaser, and shall cover, at a minimum, a description of the goods and services to be supplied and the delivery schedule.

The objective of the Schedule of Requirements is to provide sufficient information to enable bidders to prepare their bids efficiently and accurately, in particular, the Price Schedule, for which a form is provided in Section IV. In addition, the Schedule of Requirements, together with the Price Schedule, should serve as a basis in the event of quantity variation at the time of award of contract pursuant to ITB 41.

The date or period for delivery should be carefully specified, taking into account (a) the implications of delivery terms stipulated in the Instructions to Bidders pursuant to the *Incoterms* rules (i.e., EXW—that “delivery” takes place when goods are delivered to the carriers), and (b) the date prescribed herein from which the Purchaser’s delivery obligations start (i.e., notice of award, contract signature, opening or confirmation of the letter of credit).

**1. List of Goods and Delivery Schedule**

Line Item No.	Description of Goods	Quantity	Physical unit	Final (Site) Destination as specified in BDS	Delivery (as per Incoterms) Date			
					Earliest Delivery Date (from the date of LOA)	Latest Delivery Date	Bidder's offered Delivery date [to be provided by the bidder]	Bid Security in Indian Rupees <sup>13</sup>
<i>[insert item No]</i>	<i>[insert description of Goods]</i>	<i>[insert quantity of item to be supplied]</i>	<i>[insert physical unit for the quantity]</i>	<i>[insert place of Delivery]</i>	<i>[insert the number of days following the date of effectiveness the Contract]</i>	<i>[insert the number of days following the date of effectiveness the Contract]</i>		
<b>A. Procurement through open tender</b>								
01.	Shallow Water Multi Beam Echo Sounder System with O & M (03 yrs) and CAMC (02 yrs)	01	No.	Farakka	01 No.)	105		
02.	Side Scan Sonar	02	No.	Farakka	(01 No.)	90		
				Patna	(01 No.)			

Line Item No.	Description of Goods	Quantity	Physical unit	Final (Site) Destination as specified in BDS		Delivery (as per Incoterms) Date			
						Earliest Delivery Date (from the date of LOA)	Latest Delivery Date	Bidder's offered Delivery date [to be provided by the bidder]	Bid Security in Indian Rupees <sup>13</sup>
03.	ADCP (Acoustic Doppler Current Profiler)	03	No.	Kolkata	(01 No.)	75			
				Sahibganj	(01 No.)				
				Varanasi	(01 No.)				
04.	RTK DGPS	07	No.	Kolkata	(01 No.)	75			
				Swaroopganj	(01 No.)				
				Farakka	(01 No.)				
				Sahibganj	(01 No.)				
				Patna	(02 Nos.)				
				Varanasi	(01 No.)				
05.	DGPS Receiver	09	No.	Kolkata	(02 Nos.)	75			
				Swaroopganj	(01 No.)				
				Sahibganj	(01 No.)				
				Patna	(03 Nos.)				
				Varanasi	(02 Nos.)				
06.	Echo Sounder Cum DGPS Receiver	04	No.	Sahibganj	(01 No.)	75			
				Patna	(02 Nos.)				
				Varanasi	(01 No.)				
07.	Single Beam Echo Sounder	04	No.	Kolkata	(02 Nos.)	75			
				Swaroopganj	(01 No.)				
				Varanasi	(01 No.)				

Line Item No.	Description of Goods	Quantity	Physical unit	Final (Site) Destination as specified in BDS		Delivery (as per Incoterms) Date			
						Earliest Delivery Date (from the date of LOA)	Latest Delivery Date	Bidder's offered Delivery date [to be provided by the bidder]	Bid Security in Indian Rupees <sup>13</sup>
	Transducer for Echo Sounder	03	No.	Kolkata	(02 Nos.)	75			
				Swaroopganj	(01 No.)				
08.	Water Sampler	02	No.	Kolkata	(01 No.)	75			
				Swaroopganj	(01 No.)				
	Bottom Sampler	02	No.	Kolkata	(01 No.)	75			
				Swaroopganj	(01 No.)				
09.	FTP Server and Data Storage System	07	No.	Kolkata	(01 No.)	90			
				Swaroopganj	(01 No.)				
				Farakka	(01 No.)				
				Sahibganj	(01 No.)				
				Patna	(01 No.)				
				Varanasi	(01 No.)				
				Noida	(01 No.)				
10.	Hypack	03	No.	Kolkata	(01 No.)	75			
				Swaroopganj	(01 No.)				
				Noida	(01 No.)				
	Hysweep	02		Patna	(01 No.)				
				Noida	(01 No.)				

Bid security listed here must be the same as provided under ITB/BDS 19.1.

*[The Purchaser shall fill in this table, with the exception of the column "Bidder's offered Delivery date" to be filled by the Bidder]*



## 2. List of Related Services [ITB Clause 14.8(b)] and Completion Schedule – Not Applicable

Service	Description of Service	Quantity <sup>1</sup>	Physical Unit	Place where Services shall be performed	Final Completion Date(s) of Services
<i>[insert Service No]</i>	<i>[insert description of Related Services] [Insert after modifying as appropriate deleting inapplicable items from the following:]</i>	<i>[insert quantity of items to be supplied]</i>	<i>[insert physical unit for the items]</i>	<i>[insert name of the Place]</i>	<i>[insert required Completion Date(s)]</i>
	<i>Performance or supervision of the on-site assembly and/or start-up of the supplied Goods</i>				
	<i>Furnishing of tools required for assembly and/or maintenance of the supplied Goods</i>				
	<i>Furnishing of detailed operations and maintenance manual for each appropriate unit of supplied Goods</i>				
	<i>Performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract</i>				
	<i>Training of the Purchaser's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance and/or repair of the supplied Goods</i>				

1. If applicable

***[This table shall be filled in by the Purchaser. The Required Completion Dates should be realistic, and consistent with the required Goods Delivery Dates (as per Incoterms)]***

### 3. TECHNICAL SPECIFICATIONS

*The purpose of the Technical Specifications (TS), is to define the technical characteristics of the Goods and Related Services required by the Purchaser. The Purchaser shall prepare the detailed TS take into account that:*

- *The TS constitute the benchmarks against which the Purchaser will verify the technical responsiveness of bids and subsequently evaluate the bids. Therefore, well-defined TS will facilitate preparation of responsive bids by bidders, as well as examination, evaluation, and comparison of the bids by the Purchaser.*
- *The TS shall require that all goods and materials to be incorporated in the goods be new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided for otherwise in the contract.*
- *The TS shall make use of best practices. Samples of specifications from successful similar procurements in the same country or sector may provide a sound basis for drafting the TS.*
- *The Bank encourages the use of metric units.*
- *Standardizing technical specifications may be advantageous, depending on the complexity of the goods and the repetitiveness of the type of procurement. Technical Specifications should be broad enough to avoid restrictions on workmanship, materials, and equipment commonly used in manufacturing similar kinds of goods.*
- *Standards for equipment, materials, and workmanship specified in the Bidding Documents shall not be restrictive. Recognized national standards should be specified as much as possible. Reference to brand names, catalogue numbers, or other details that limit any materials or items to a specific manufacturer should be avoided as far as possible. Where unavoidable, such item description should always be followed by the words “or substantially equivalent.” When other particular standards or codes of practice are referred to in the TS, a statement should follow other authoritative standards that ensure at least a substantially equal quality, then the standards mentioned in the TS will also be acceptable.*
- *Reference to brand names and catalogue numbers should be avoided as far as possible; where unavoidable the words “or at least equivalent” shall always follow such references.*
- *Technical Specifications shall be fully descriptive of the requirements in respect of, but not limited to, the following:*
  - (a) *Standards of materials and workmanship required for the production and manufacturing of the Goods.*
  - (b) *Detailed tests required (type and number).*
  - (c) *Other additional work and/or Related Services required to achieve full delivery/completion.*

- (d) *Detailed activities to be performed by the Supplier, and participation of the Purchaser thereon.*
- (e) *List of detailed functional guarantees covered by the Warranty and the specification of the liquidated damages to be applied in the event that such guarantees are not met.*
- *The TS shall specify all essential technical and performance characteristics and requirements, including guaranteed or acceptable maximum or minimum values, as appropriate. Whenever necessary, the Purchaser shall include an additional ad-hoc bidding form (to be an Attachment to the Bid Submission Sheet – Technical Part), where the Bidder shall provide detailed information on such technical performance characteristics in respect to the corresponding acceptable or guaranteed values.*

*When the Purchaser requests that the Bidder provides in its bid a part or all of the Technical Specifications, technical schedules, or other technical information, the Purchaser shall specify in detail the nature and extent of the required information and the manner in which it has to be presented by the Bidder in its bid.*

*[If a summary of the Technical Specifications (TS) has to be provided, the Purchaser shall insert information in the table below. The Bidder shall prepare a similar table to justify compliance with the requirements]*

**“Summary of Technical Specifications.** *The Goods and Related Services shall comply with following Technical Specifications and Standards:*

<b>Item No</b>	<b>Name of Goods or Related Service</b>	<b>Technical Specifications and Standards</b>
<i>[insert item No]</i>	<i>[insert description of Goods and Related Services]</i>	<i>[insert TS and Standards]</i>
	<i>Goods:</i>	
	<i>Related Services: [Insert after modifying as appropriate deleting inapplicable items from the following:]</i>	
	<i>a) Performance or supervision of the on-site assembly and/or start-up of the supplied Goods</i>	
	<i>b) Furnishing of tools required for assembly and/or maintenance of the supplied Goods</i>	
	<i>c) Furnishing of detailed operations and maintenance manual for each appropriate unit of supplied Goods</i>	

	<i>d) Performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract</i>	
	<i>e) Training of the Purchaser's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance and/or repair of the supplied Goods</i>	

*[The related services should be same as listed in List of related services in Table 2 in this Section VII]*

*Detailed Technical Specifications and Standards [whenever necessary].*

*[Insert detailed description of TS]*

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_” ]

## 4. DRAWINGS

These Bidding Documents includes *[insert “the following “or “no”]* drawings.

*[If documents shall be included, insert the following List of Drawings]*

List of Drawings		
DRAWING NR.	Drawing Name	Purpose

## 5. INSPECTIONS AND TESTS

### Delivery, Installation, Commissioning and Training schedule

<b>SCHEDULE</b>	<b>EQUIPMENTS</b>	<b>Delivery period of Hardware and Software in days (from the date of LOA)</b>	<b>Installation period in days (from the date of delivery)</b>	<b>Training Period (in days)</b>	<b>Training &amp; Commissioning Schedule in days (from the date of Installation)</b>
A	Shallow Water Multi Beam Echo Sounder System with O & M (03 yrs) and CAMC (02 yrs)	105	30	5	30
B	Side Scan Sonar	90	30	3	15
C	ADCP (Acoustic Doppler Current Profiler)	75	30	1	15
D	RTK DGPS	75	30	1	15
E	DGPS Receiver	75	30	1	15
F	Echo Sounder Cum DGPS Receiver	75	30	1	15
G	Single Beam Echo Sounder	75	30	1	15
	Transducer for Echo Sounder	75	0	0	0
H	Water Sampler	75	30	1	15
	Bottom Sampler	75	30	1	15
I	FTP Server and Data Storage System	90	45	1	15
J	Hypack	75	15	2	15
	Hysweep			5	

The following inspections and tests shall be performed: *[insert list of inspections and tests]*

**Training to cover the below mentioned points in the training.**

- a. Training of all onshore and offshore fitting including on survey craft and survey boat.
- b. Detail training of all the Connections in system provided by the contractor.
- c. Equipment and software configuration required for satisfactory functioning of the Equipment provided. (all module and cover entire capability of the hardware and software).
- d. Data Acquisition (online software modules and off line software modules), all standard test, calibration test and importing of the data including data storage and data management.
- e. Standard procedure for Data processing and Data analysis with the data collected through the Instruments.
- f. Procedure for Chart preparation with processed data.
- g. Procedure for survey report generation with available data's.
- h. Provided Standard operating procedure for all the equipment.

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

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

No.

Date:

M/s.

Sub: Certificate of startup of the supplied Goods

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

- (a) Contract No. \_\_\_\_\_ dated \_\_\_\_\_
- (b) Description of the plant \_\_\_\_\_
- (c) Plant Nos. \_\_\_\_\_
- (d) Quantity \_\_\_\_\_
- (e) Rail/Roadways Receipt No. \_\_\_\_\_ dated \_\_\_\_\_
- (f) Name of the consignee \_\_\_\_\_
- (g) Date of startup and proving test \_\_\_\_\_

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

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

3. The proving test has been done to our entire satisfaction and operators have been trained to operate the plant.



4. The supplier has fulfilled his contractual obligations satisfactorily. \*

or

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

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

Signature \_\_\_\_\_

Name \_\_\_\_\_

Designation with Stamp \_\_\_\_\_

---

\* Explanatory notes for filling up the certificates:

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

## **PART 3 – CONTRACT**

## **SECTION VIII – GENERAL CONDITIONS OF CONTRACT**

## Section VIII. General Conditions of Contract

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## Section VIII. General Conditions of Contract

### 1. Definitions

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

- (a) “Bank” means the World Bank and refers to the International Bank for Reconstruction and Development (IBRD) or the International Development Association (IDA).
- (b) “Contract” means the Contract Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to therein, including all attachments, appendices, and all documents incorporated by reference therein.
- (c) “Contract Documents” means the documents listed in the Contract Agreement, including any amendments thereto.
- (d) “Contract Price” means the price payable to the Supplier as specified in the Contract Agreement, subject to such additions and adjustments thereto or deductions 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 India.
- (j) “Purchaser” means the entity purchasing the Goods and Related Services, as specified in the SCC.
- (k) “Related Services” means the services incidental to the supply of the goods, such as insurance, installation, start-up, training and initial maintenance and other such obligations of the Supplier under the Contract.

- (l) “SCC” means the Special Conditions of Contract.
- (m) “Subcontractor” means any natural person, private or government entity, or a combination of the above, to whom any part of the Goods to be supplied or execution of any part of the Related Services is subcontracted by the Supplier.
- (n) “Supplier” means the natural person, private or government entity, or a combination of the above, whose bid to perform the Contract has been accepted by the Purchaser and is named as such in the Contract Agreement.
- (o) “The Project Site,” where applicable, means the place named in the SCC.

## **2. Contract Documents**

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

## **3. Corrupt & Fraudulent Practices**

- 3.1 The Bank requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Appendix to the GCC.
- 3.2 The Purchaser requires the Supplier to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

## **4. Interpretation**

- 4.1 If the context so requires it, singular means plural and vice versa.
- 4.2 Incoterms.
  - (a) Unless inconsistent with any provision of the Contract, the meaning of any trade term and the rights and obligations of parties there under shall be as prescribed by Incoterms.
  - (b) The terms EXW and other similar terms, when used, shall be governed by the rules prescribed in the current edition of Incoterms specified in the SCC and published by the International Chamber of Commerce in Paris, France.
- 4.3 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.

### **5. Language**

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

### **6. Deleted**

- 7. Eligibility**
- 7.1 The Supplier and its Subcontractors shall have the nationality of an eligible country. A Supplier or Subcontractor shall be deemed to have the nationality of a country if it is a citizen or constituted, incorporated, or registered, and operates in conformity with the provisions of the laws of that country.
- 7.2 All Goods and Related Services to be supplied under the Contract and financed by the Bank shall have their origin in Eligible Countries. For the purpose of this Clause, origin means the country where the goods have been grown, mined, cultivated, produced, manufactured, or processed; or through manufacture, processing, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its components.
- 8. Notices**
- 8.1 Any notice given by one party to the other pursuant to the Contract shall be in writing to the address specified in the **SCC**. The term “in writing” means communicated in written form with proof of receipt.
- 8.2 A notice shall be effective when delivered or on the notice’s effective date, whichever is later.
- 9. Governing Law**
- 9.1 The Contract shall be governed by and interpreted in accordance with the laws of the Union of India.
- 10. Settlement of Disputes**
- 10.1 The Purchaser and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.
- 10.2 If, after twenty-eight (28) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract. Arbitration proceedings shall be conducted in accordance with the rules of procedure **specified in the SCC**.
- 10.3 Notwithstanding any reference to arbitration herein,



- (a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and
- (b) the Purchaser shall pay the Supplier any monies due the Supplier.

**11. Inspections and Audit by the Bank**

11.1 The Supplier shall keep, and shall make all reasonable efforts to cause its Subcontractors to keep, accurate and systematic accounts and records in respect of the Goods in such form and details as will clearly identify relevant time changes and costs

11.2 The Supplier shall permit, and shall cause its Subcontractors to permit, the Bank and/or persons appointed by the Bank to inspect the Supplier's offices and all accounts and records relating to the performance of the Contract and the submission of the bid, and to have such accounts and records audited by auditors appointed by the Bank if requested by the Bank. The Supplier's and its Subcontractors and consultants' attention is drawn to Clause 3 [Fraud and Corruption], which provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under this Sub-Clause 11.1 constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Bank's prevailing sanctions procedures)

**12. Scope of Supply**

12.1 The Goods and Related Services to be supplied shall be as specified in the **Special Conditions of Contract**.

**13. Delivery and Documents**

13.1 Subject to GCC Sub-Clause 33.1, the Delivery of the Goods and Completion of the Related Services shall be in accordance with the Delivery and Completion Schedule specified in the Schedule of Requirements. The details of shipping and other documents to be furnished by the Supplier are specified in the **SCC**.

**14. Supplier's Responsibilities**

14.1 The Supplier shall supply all the Goods and Related Services included in the Scope of Supply in accordance with GCC Clause 12, and the Delivery and Completion Schedule, as per GCC Clause 13.

**15. Contract Price**

15.1 Prices charged by the Supplier for the Goods supplied and the Related Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid, with the exception of any price adjustments authorized in the **SCC**.

**16. Terms of Payment**

16.1 The Contract Price, including any Advance Payments, if applicable, shall be paid as specified in the **SCC**.

- 16.2 The Supplier's request for payment shall be made to the Purchaser in writing, accompanied by invoices describing, as appropriate, the Goods delivered and Related Services performed, and by the documents submitted pursuant to GCC Clause 13 and upon fulfillment of all other obligations stipulated in the Contract.
- 16.3 Payments shall be made promptly by the Purchaser, but in no case later than sixty (60) days after submission of an invoice or request for payment by the Supplier, and after the Purchaser has accepted it.
- 16.4 The payments shall be made in Indian Rupees to the Supplier under this Contract.
- 16.5 In the event that the Purchaser fails to pay the Supplier any payment by its due date or within the period set forth in the **SCC**, the Purchaser shall pay to the Supplier interest on the amount of such delayed payment at the rate shown in the **SCC**, for the period of delay until payment has been made in full, whether before or after judgment or arbitration award.

#### **17. Taxes and Duties**

- 17.1 The Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser.

#### **18. Performance Security**

- 18.1 If required as specified in the **SCC**, the Supplier shall, within twenty-one (21) 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 shall be denominated in the Indian Rupees, and shall be in the format stipulated by the Purchaser in the **SCC**, or in another format acceptable to the Purchaser.
- 18.4 The Performance Security shall be discharged by the Purchaser and returned to the Supplier not later than twenty-eight (28) days following the date of Completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless specified otherwise in the **SCC**.

#### **19. Copyright**

- 19.1 The copyright in all drawings, documents, and other materials containing data and information furnished to the Purchaser by

the Supplier herein shall remain vested in the Supplier, or, if they are furnished to the Purchaser directly or through the Supplier by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party.

**20. Confidential Information**

- 20.1 The Purchaser and the Supplier shall keep confidential and shall not, without the written consent of the other party hereto, divulge to any third party any documents, data, or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such information has been furnished prior to, during or following completion or termination of the Contract. Notwithstanding the above, the Supplier may furnish to its Subcontractor such documents, data, and other information it receives from the Purchaser to the extent required for the Subcontractor to perform its work under the Contract, in which event the Supplier shall obtain from such Subcontractor an undertaking of confidentiality similar to that imposed on the Supplier under GCC Clause 20.
- 20.2 The Purchaser shall not use such documents, data, and other information received from the Supplier for any purposes unrelated to the contract. Similarly, the Supplier shall not use such documents, data, and other information received from the Purchaser for any purpose other than the performance of the Contract.
- 20.3 The obligation of a party under GCC Sub-Clauses 20.1 and 20.2 above, however, shall not apply to information that:
- (a) the Purchaser or Supplier need to share with the Bank or other institutions participating in the financing of the Contract;
  - (b) now or hereafter enters the public domain through no fault of that party;
  - (c) can be proven to have been possessed by that party at the time of disclosure and which was not previously obtained, directly or indirectly, from the other party; or
  - (d) otherwise lawfully becomes available to that party from a third party that has no obligation of confidentiality.
- 20.4 The above provisions of GCC Clause 20 shall not in any way modify any undertaking of confidentiality given by either of the

parties hereto prior to the date of the Contract in respect of the Supply or any part thereof.

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

## **21. Subcontracting**

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

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

## **22. Specifications and Standards**

22.1 Technical Specifications and Drawings

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

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

(c) Wherever references are made in the Contract to codes and standards in accordance with which it shall be executed, the edition or the revised version of such codes and standards shall be those specified in the Schedule of Requirements. During Contract execution, any changes in any such codes and standards shall be applied only after approval by the Purchaser and shall be treated in accordance with GCC Clause 33.

## **23. Packing and Documents**

23.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. During transit, the packing shall be sufficient to withstand, without limitation, rough handling and exposure to extreme temperatures, salt and precipitation, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.

23.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional requirements, if any, specified in the **SCC**, and in any other instructions ordered by the Purchaser.

**24. Insurance**

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

**25. Transportation & Incidental Services**

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

25.2 The Supplier may be required to provide any or all of the following services, including additional services, if any, **specified in Schedule of Requirements and SCC**:

- (a) performance or supervision of on-site assembly and/or start-up of the supplied Goods;
- (b) furnishing of tools required for assembly and/or maintenance of the supplied Goods;
- (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods;
- (d) performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract; and
- (e) training of the Purchaser's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Goods

25.3 Prices charged by the Supplier for incidental services, if not included in the Contract Price for the Goods, 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.

**26. Inspections and Tests**

26.1 The Supplier shall at its own expense and at no cost to the Purchaser carry out all such tests and/or inspections of the Goods and Related Services as are specified in the **SCC**.

26.2 The inspections and tests may be conducted on the premises of the Supplier or its Subcontractor, at point of delivery, and/or at

the Goods' final destination, or in another place in the Purchaser's Country as specified in the **SCC**. Subject to GCC Sub-Clause 26.3, if conducted on the premises of the Supplier or its Subcontractor, all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Purchaser.

- 26.3 The Purchaser or its designated representative shall be entitled to attend the tests and/or inspections referred to in GCC Sub-Clause 26.2, provided that the Purchaser bear all of its own costs and expenses incurred in connection with such attendance including, but not limited to, all traveling and board and lodging expenses.
- 26.4 Whenever the Supplier is ready to carry out any such test and inspection, it shall give a reasonable advance notice, including the place and time, to the Purchaser. The Supplier shall obtain from any relevant third party or manufacturer any necessary permission or consent to enable the Purchaser or its designated representative to attend the test and/or inspection.
- 26.5 The Purchaser may require the Supplier to carry out any test and/or inspection not required by the Contract but deemed necessary to verify that the characteristics and performance of the Goods comply with the technical specifications codes and standards under the Contract, provided that the Supplier's reasonable costs and expenses incurred in the carrying out of such test and/or inspection shall be added to the Contract Price. Further, if such test and/or inspection impedes the progress of manufacturing and/or the Supplier's performance of its other obligations under the Contract, due allowance will be made in respect of the Delivery Dates and Completion Dates and the other obligations so affected.
- 26.6 The Supplier shall provide the Purchaser with a report of the results of any such test and/or inspection.
- 26.7 The Purchaser may reject any Goods or any part thereof that fail to pass any test and/or inspection or do not conform to the specifications. The Supplier shall either rectify or replace such rejected Goods or parts thereof or make alterations necessary to meet the specifications at no cost to the Purchaser, and shall repeat the test and/or inspection, at no cost to the Purchaser, upon giving a notice pursuant to GCC Sub-Clause 26.4.
- 26.8 The Supplier agrees that neither the execution of a test and/or inspection of the Goods or any part thereof, nor the attendance by the Purchaser or its representative, nor the issue of any report

pursuant to GCC Sub-Clause 26.6, shall release the Supplier from any warranties or other obligations under the Contract.

## **27. Liquidated Damages**

27.1 Except as provided under GCC Clause 32, if the Supplier fails to deliver any or all of the Goods by the Date(s) of delivery or perform the Related Services within the period specified in the Contract, the Purchaser may without prejudice to all its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in the **SCC** of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in those **SCC**. Once the maximum is reached, the Purchaser may terminate the Contract pursuant to GCC Clause 35.

## **28. Warranty**

28.1 The Supplier warrants that all the Goods are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.

28.2 Subject to GCC Sub-Clause 22.1(b), the Supplier further warrants that the Goods shall be free from defects arising from any act or omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in the country of final destination.

28.3 Unless otherwise specified in the **SCC**, the warranty shall remain valid for twelve (12) months after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the **SCC**, or for eighteen (18) months after the date of shipment from the port or place of loading in the country of origin, whichever period concludes earlier.

28.4 The Purchaser shall give notice to the Supplier stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. The Purchaser shall afford all reasonable opportunity for the Supplier to inspect such defects.

28.5 Upon receipt of such notice, the Supplier shall, within the period specified in the **SCC**, expeditiously repair or replace the defective Goods or parts thereof, at no cost to the Purchaser.

28.6 If having been notified, the Supplier fails to remedy the defect within the period specified in the **SCC**, the Purchaser may proceed to take within a reasonable period such remedial action as may be necessary, at the Supplier's risk and expense and

without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

## **29. Patent Indemnity**

29.1 The Supplier shall, subject to the Purchaser's compliance with GCC Sub-Clause 29.2, indemnify and hold harmless the Purchaser and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Purchaser may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of:

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

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

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

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

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

29.5 The Purchaser shall indemnify and hold harmless the Supplier and its employees, officers, and Subcontractors from and against any and all suits, actions or administrative proceedings, claims,



demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Supplier may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided or designed by or on behalf of the Purchaser.

**30. Limitation of Liability**

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

**31. Change in Laws and Regulations**

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

**32. Force Majeure**

- 32.1 The Supplier shall not be liable for forfeiture of its Performance Security, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to

perform its obligations under the Contract is the result of an event of Force Majeure.

32.2 For purposes of this Clause, “Force Majeure” means an event or situation beyond the control of the Supplier that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Supplier. Such events may include, but not be limited to, acts of the Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.

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

### **33. Change Orders and Contract Amendments**

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

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

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

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

not exceed the prevailing rates charged to other parties by the Supplier for similar services.

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

#### **34. Extensions of Time**

34.1 If at any time during performance of the Contract, the Supplier or its subcontractors should encounter conditions impeding timely delivery of the Goods or completion of Related Services pursuant to GCC Clause 13, the Supplier shall promptly notify the Purchaser in writing of the delay, its likely duration, and its cause. As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may at its discretion extend the Supplier's time for performance, in which case the extension shall be ratified by the parties by amendment of the Contract.

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

#### **35. Termination**

35.1 Termination for Default

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

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

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

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

(b) In the event the Purchaser terminates the Contract in whole or in part, pursuant to GCC Clause 35.1(a), the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Related Services similar to those undelivered or not performed, and the Supplier shall be liable

to the Purchaser for any additional costs for such similar Goods or Related Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

#### 35.2 Termination for Insolvency.

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

#### 35.3 Termination for Convenience.

- (a) The Purchaser, by notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.
- (b) The Goods that are complete and ready for shipment within twenty-eight (28) days after the Supplier's receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:
  - (i) to have any portion completed and delivered at the Contract terms and prices; and/or
  - (ii) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and Related Services and for materials and parts previously procured by the Supplier.

### 36. Assignment

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

# APPENDIX TO GENERAL CONDITIONS

## Bank's Policy- Corrupt and Fraudulent Practices

*(text in this Appendix shall not be modified)*

### **Guidelines for Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, dated January 2011:**

#### **“Fraud and Corruption:**

1.16 It is the Bank's policy to require that Borrowers (including beneficiaries of Bank loans), bidders, suppliers, contractors and their agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of Bank-financed contracts.<sup>14</sup> In pursuance of this policy, the Bank:

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
  - (i) “corrupt practice” is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;<sup>15</sup>;
  - (ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;<sup>16</sup>
  - (iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;<sup>17</sup>
  - (iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;<sup>18</sup>
  - (v) "obstructive practice" is:
    - (aa) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to

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<sup>14</sup> In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

<sup>15</sup> For the purpose of this sub-paragraph, “another party” refers to a public official acting in relation to the procurement process or contract execution. In this context, “public official” includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

<sup>16</sup> For the purpose of this sub-paragraph, “party” refers to a public official; the terms “benefit” and “obligation” relate to the procurement process or contract execution; and the “act or omission” is intended to influence the procurement process or contract execution.

<sup>17</sup> For the purpose of this sub-paragraph, “parties” refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non-competitive levels, or are privy to each other's bid prices or other conditions.

<sup>18</sup> For the purpose of this sub-paragraph, “party” refers to a participant in the procurement process or contract execution.

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 paragraph 1.16(e) below.
- (b) will reject a proposal for award if it determines that the bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- (c) will declare misprocurement and cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement or the implementation of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- (d) will sanction a firm or individual, at any time, in accordance with the prevailing Bank's sanctions procedures,<sup>19</sup> including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Bank-financed contract; and (ii) to be a nominated<sup>20</sup>;
- (e) will require that a clause be included in bidding documents and in contracts financed by a Bank loan, requiring bidders, suppliers and contractors, and their sub-contractors, agents, personnel, consultants, service providers, or suppliers, to permit the Bank to inspect all accounts, records, and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank."

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<sup>19</sup> A firm or individual may be declared ineligible to be awarded a Bank financed contract upon: (i) completion of the Bank's sanctions proceedings as per its sanctions procedures, including, inter alia, cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks, and through the application the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption; and (ii) as a result of temporary suspension or early temporary suspension in connection with an ongoing sanctions proceeding. See footnote 14 and paragraph 8 of Appendix 1 of these Guidelines.

<sup>20</sup> A nominated sub-contractor, consultant, manufacturer or supplier, or service provider (different names are used depending on the particular bidding document) is one which has either been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

## SECTION IX. 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.

*[The Purchaser shall select insert the appropriate wording using the samples below or other acceptable wording, and delete the text in italics]*

<b>GCC 1.1(j)</b>	The Purchaser is: Inland Waterways Authority of India, Ministry of Ports, Shipping & Waterways, Govt. of India A-13, Sector-1, Noida – 201 301 (UP), India
<b>GCC 1.1 (o)</b>	The Project Site(s)/Final Destination(s) is/are: <i>[Insert name(s) and detailed information on the location(s) of the site(s)]</i>
<b>GCC 4.2 (a)</b>	The meaning of the trade terms shall be as prescribed by Incoterms.
<b>GCC 4.2 (b)</b>	The version edition of Incoterms shall be 2010.
<b>GCC 8.1</b>	For <b><u>notices</u></b> , the Purchaser's address shall be:  Attention: Sh. Jayant Singh, Vice Chairman & Project Director, JMVP A-13, Sector -1, Noida – 201 301 (UP) Country: INDIA Telephone: 0120 - 2521664 Facsimile number: 0120 - 2543973 Electronic mail address: vc.iwai@nic.in

<p><b>GCC 10.2</b></p>	<p><b>Settlement of Disputes</b></p> <p>The dispute settlement mechanism to be applied for adhoc arbitration shall be as follows:</p> <p>(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 *Indian Council of Arbitration/president of the institution of Engineers (India)/The International center for Alternative Dispute Resolution (India).</p> <p>(b) In the case of a dispute with a Foreign Supplier, the dispute shall be settled in accordance with provisions of UNCITRAL (United nations Commission on International Trade Law) Arbitration Rules. The Arbitral Tribunal shall consist of three Arbitrators one each to be appointed by the Purchaser and the Supplier. The third Arbitrator shall be chosen by the two Arbitrators so appointed by the parties, and shall act as presiding arbitrator. In case of failure of the two arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the arbitrator appointed subsequently, the Presiding Arbitrator shall be appointed by the *Indian Council of Arbitration/President of the Institution of Engineers (India)/The International Centre of Alternative Dispute Resolution (India).</p> <p>(c) If one of the parties fails to appoint its arbitrator in pursuance of sub-clause (a) and (b) above, within 30 days after receipt of the notice of the appointment of its arbitrator by the other party, then the *Indian Council of Arbitration/president of the Institution of Engineers (India)/The International Centre for Alternative Dispute Resolution (India), both in cases of the Foreign supplier as well as Indian supplier, shall appoint the arbitrator. A certified copy of the order of the *Indian Council of Arbitration/President of the Institution of Engineers (India)/The International Centre for Alternative Disputes Resolution (India), making such an appointment shall be furnished to each of the parties.</p>
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- (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.
- (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.
- (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 \*Indian Council of Arbitration/President of the Institution of Engineers (India)/The International Centre for Alternative Dispute Resolution (India).
- (g) Except otherwise agreed to by the Parties, Arbitrators should give a decision in writing within 120 days of receipt of notification of dispute.

(\* Delete whichever is not applicable).

***Alternatively***

*[Apart from the ad hoc arbitration services obtained through mutually agreed Arbitrator(s) as above, Institutional arbitration services are also available in India. Institutional arbitration dispute resolution mechanisms can be gainfully used, preferably for relatively larger contracts. Following clause may be included, if it is decided to use Institutional Services for arbitration for resolution of disputes, and in such a case other clauses related to Arbitration/ Arbitrator would be deleted. In the sample clause below, substitute the reference to 'ICA Rules of Conciliation' by the specific institution that is sought to be engaged e.g. The International Centre for Alternative Dispute Resolution (ICADR), The Indian Institute of Arbitration and Mediation (ILAM), Indian Chamber's Council of Arbitration, Delhi International Arbitration Centre (DAC), Council For National and International Commercial Arbitration, London Court of International Arbitration (India Centre) or the like.]*

Any dispute or difference whatsoever arising between the parties out of or relating to the supply, erection, meaning, scope, operation or effect of this contract or the validity or the breach thereof shall be settled by arbitration in accordance with the Rules of Domestic Commercial Arbitration of the

	<p>Indian Council of Arbitration and the award made in pursuance thereof shall be binding on the parties.</p> <p>The arbitral tribunal shall consist of 3 Arbitrators, 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. <i>[ICA rules provide for arbitration tribunal of 3 arbitrators if the value of claim is over Rs 1 crore unless the parties have agreed otherwise for a sole arbitrator].</i></p> <p>Except as otherwise agreed to by the Parties, Arbitrators should give a decision in writing within 120 days of receipt of notification of dispute.</p>
<b>GCC 12.1 and 25.2</b>	<p>The scope of supply for the Goods and Related Services to be supplied shall be as specified below: Procurement of various survey equipment in NW-1 under JMVP-II (Arth Ganga). <i>[indicate the scope of the supply including the related services below as given in Schedule of Requirements]</i></p>

<p><b>GCC 13.1</b></p>	<p>Details of Shipping and other Documents to be furnished by the Supplier are given below:</p> <p>GCC 13.1      Upon delivery of the goods to the transporter/consignee, the supplier shall notify the purchaser and mail the following documents to the Purchaser:</p> <ul style="list-style-type: none"> <li>(i)      04 Copies of the Supplier invoice (01 Original + 03 Copies) showing contract number, goods description, quantity, unit price, total amount;</li> <li>(ii)     Delivery note, Railway receipt, or Road consignment note or equivalent transport document or acknowledgement of receipt of goods from the Consignee;</li> <li>(iii)    04 Copies of packing list (01 Original + 03 Copies) identifying contents of each package;</li> <li>(iv)     Insurance certificate;</li> <li>(v)      Manufacturer's/Supplier's warranty certificate;</li> <li>(vi)     Inspection certificate issued by the nominated inspection agency, and the Supplier's factory inspection report; and</li> <li>(vii)    Certificate or origin.</li> </ul> <p>The above documents shall be received by the Purchaser before arrival of the Goods (except where it is handed over to the Consignee with all documents) and if not received, the supplier will be responsible for any consequent expenses.</p>
<p><b>GCC 15.1</b></p>	<p>The prices charged for the Goods supplied and the related Services performed shall not be adjustable. If prices are adjustable, the method used to calculate the price adjustment is given in the attachment.</p>

GCC 16.1	<p>GCC 16.1 Payment shall be made in Indian Rupees in the following manner:</p> <p><b><u>SCHEDULE 'A'</u></b></p> <p><b>(i) <u>HARDWARE COST</u></b></p> <p>a) 70% against Supply of Goods shall be released after 30 days of the successful Delivery of the instruments/Equipment as per Schedule of Requirements. For the equipment supplied at various locations, the supplier will furnish the invoice for supply of goods duly certified by the Officer-in-Charge of IWAI for supply of goods. The respective Officer-in-Charge of the authority or their representative would certify the delivery challan and invoice within 15 days of completion of delivery.</p> <p>b) 30% against installation, training (if specified) and commissioning. For the equipment tested &amp; commissioned at various locations, the supplier will furnish the installation &amp; commissioning report duly certified by the Officer-in-Charge of IWAI for installation &amp; commissioning. The respective Officer-in-Charge of the authority or their representative would certify the installation &amp; commissioning report within 15 days of completion of installation &amp; commissioning.</p> <p><b>(ii) <u>OPERATION &amp; MAINTENANCE (O&amp;M) and CAMC</u></b></p> <p>a) The contractor shall make payment to the staff on monthly basis. However, the <b>payment to the contractor by the Authority shall be made on quarterly basis</b> (after successful completion of each 03 months) against the raised invoice. In the invoice, the contractor shall give a certificate that the payment to the staff has been made on monthly basis with the documentary proof (copy of Bank statement of Employees).</p> <p>b) Attendance register shall be submitted by the contractor monthly on or before the date fixed by the Engineer-in-charge for the personal deployed. The Engineer –in- Charge shall then arrange to have the bills verified with reference to the attendance register or any intermediate inspection thereof.</p> <p>c) Payment on account for admissible shall be made by the Engineer in Charge certifying the sum to which the contractor is considered entitled by way of payment for the personnel deployed, data collection and submission of reports/charts, after deducting there from the amount already paid, the security deposit and such other amounts as may be withheld/deductible or recoverable in terms of the contract.</p>
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	<p><b><u>SCHEDULE ‘B’ TO ‘J’</u></b></p> <p>(I) 80% against Supply of Goods shall be released after 30 days of the successful Delivery of the instruments/Equipment as per Schedule of Requirements. For the equipment supplied at various locations, the supplier will furnish the invoice for supply of goods duly certified by the Officer-in-Charge of IWAI for supply of goods. The respective Officer-in-Charge of the authority or their representative would certify the delivery challan and invoice within 15 days of completion of delivery.</p> <p>(II) 20% against installation, training (if specified) and commissioning. For the equipment tested &amp; commissioned at various locations, the supplier will furnish the installation &amp; commissioning report duly certified by the Officer-in-Charge of IWAI for installation &amp; commissioning. The respective Officer-in-Charge of the authority or their representative would certify the installation &amp; commissioning report within 15 days of completion of installation &amp; commissioning.</p>
<b>GCC 16.5</b>	<p>The payment-delay period after which the Purchaser shall pay interest to the supplier shall be 60 days.</p> <p>The interest rate that shall be applied is 6.65%. (<i>Prime Bank lending rate of State Bank of India</i>). Source: SBI, 10<sup>th</sup> September, 2021</p>
<b>GCC 17</b>	<p>In the case of tax/ duty waiver, the purchaser will issue only the certificates in terms of the Government of India’s notification as per information given by supplier in form stipulated in Section IV. Supplier is solely responsible for obtaining such benefits and in case of failure to receive such benefits, the purchaser will not compensate the supplier separately.</p>
<b>GCC 18.1</b>	<p>Performance Security to the Purchaser shall be for an amount of 5% of the contract value, valid up to 60 days after the date of completion of performance obligations / Defect Liability Period including warranty obligations.</p> <p>In the event of any correction of defects or replacement of defective material during the warranty period, the warranty for the corrected/ replaced material shall be extended to a further period of 12 months and the Performance Bank guarantee for proportionate value shall be extended 60 days over and above the extended warranty period.</p>
<b>GCC 18.3</b>	<p>If required, the Performance Security shall be in the form of a “Bank Guarantee” or “a cashier’s cheque or banker’s certified cheque or crossed demand draft or pay order” drawn in favour of the Purchaser.</p>

<b>GCC 18.4</b>	Discharge of the performance Security shall take place not later than 60 days following the date of completion of the Supplier's performance obligations / Defect Liability Period, including the warranty obligation, under the contract.
<b>GCC 18.5</b>	<p>Add as Clause 18.5 to the GCC the following:</p> <p>In the event of any contractual amendment, the Supplier shall, within 21 days of receipt of such amendment, furnish the amendment to the Performance Security, rendering the same valid for the duration of the Contract, as amended for 60 days after the completion of performance obligations including warranty obligations.</p>
<b>GCC 23.2</b>	<p><u>Packing Instructions:</u> The Supplier will be required to make separate packages for each Consignee. Each package will be marked on three sides with proper paint/indelible ink with the following:</p> <p>(i) Project; (ii) Contract No.; (iii) Country of Origin of Goods; (iv) Supplier's Name; (v) Packing List Reference Number.</p> <p>Suppliers should use recycled materials as much as possible for packing</p>
<b>GCC 24.1</b>	The insurance shall be paid in an amount equal to 110 percent of the EXW value of the Goods from "Warehouse to warehouse (final destination)" on "All Risks" basis including War Risks and Strikes.
<b>GCC 25.1</b>	The Supplier is required under the Contract to transport the Goods duly insured to the specified final destination, and all related costs shall be included in the Contract Price.
<b>GCC 25.2</b>	<p>Incidental services to be provided are:</p> <p><i>[Selected services covered under GCC Clause 25.2 and/or other should be specified with the desired features. The price quoted in the bid price or agreed with the selected Supplier shall be included in the Contract Price.]</i></p>
<b>GCC 26.1</b>	The inspections and tests shall be: <i>[insert nature, frequency, procedures for carrying out the inspections and tests]</i>

<b>GCC 26.2</b>	The Inspections and tests shall be conducted at respective delivery / installation site(s). <i>[insert name(s) of location(s)]</i>
<b>GCC 27.1</b>	If the contractor fails to complete any items of works as defined at “Delivery, Installation, Commissioning and Training schedule” (Page 128) within the period(s) of completion as stipulated in the aforesaid tender or any extended period (not due to the fault of the contractor) as may be agreed, he shall without prejudice to any other right or remedy of the Authority on account of such default, pay compensation (not by way of penalty) at the rate of 1/2 % (half percent) per week or part of the week on pro rata basis.
<b>GCC 27.2</b>	The maximum amount of liquidated damages shall be: 10% of the contract price.
<b>GCC 28.3</b>	<p>The period of validity of the Warranty shall be: Same as given in GCC 28.3 or as specified in the Section VII – Schedule of Requirements.</p> <p>For purposes of the Warranty, the place(s) of final destination(s) shall be:</p> <p><i>[insert name(s) of location(s)]</i></p> <p><b><i>Sample provision</i></b></p> <p><del>GCC 28.3 In partial modification of the provisions, the warranty period shall be _____ hours of operation or _____ months from date of acceptance of the Goods or (_____) months from the date of shipment, whichever occurs earlier. The Supplier shall, in addition, comply with the performance and/or consumption guarantees specified under the Contract. If, for reasons attributable to the Supplier, these guarantees are not attained in whole or in part, the Supplier shall, at its discretion, either:</del></p> <p><del>(a) make such changes, modifications, and/or additions to the Goods or any part thereof as may be necessary in order to attain the contractual guarantees specified in the Contract at its own cost and expense and to carry out further performance tests in accordance with SCC 4;</del></p> <p><del><b>or</b></del></p> <p><del>(b) pay liquidated damages to the Purchaser with respect to the failure to meet the contractual guarantees. The rate of these liquidated damages shall be (_____).</del></p>

<b>GCC 28.5</b>	The period for repair or replacement shall be: 30 days.
<b>GCC 31.1</b>	This clause will apply only to variations in GST and other taxes payable in India on the final product which is being supplied and not for variations in tax on the individual components / raw materials which go into the product.



## Attachment: Price Adjustment Formula – Not Applicable

If in accordance with GCC 15.2, prices shall be adjustable, the following method shall be used to calculate the price adjustment:

- 15.2 Prices payable to the Supplier, as stated in the Contract, shall be subject to adjustment during performance of the Contract to reflect changes in the cost of labor and material components in accordance with the formula:

$$P_1 = P_0 \left[ a + \frac{bL_1}{L_0} + \frac{cM_1}{M_0} \right] - P_0$$

$$a+b+c = 1$$

in which:

- $P_1$  = adjustment amount payable to the Supplier.
- $P_0$  = Contract Price (base price).
- $a$  = fixed element representing profits and overheads included in the Contract Price and generally in the range of five (5) to fifteen (15) percent.
- $b$  = estimated percentage of labor component in the Contract Price.
- $c$  = estimated percentage of material component in the Contract Price.
- $L_0, L_1$  = labor indices applicable to the appropriate industry in the country of origin on the base date and date for adjustment, respectively.
- $M_0, M_1$  = material indices for the major raw material on the base date and date for adjustment, respectively, in the country of origin.

The coefficients  $a$ ,  $b$ , and  $c$  as specified by the Purchaser are as follows:

- $a = [\text{insert value of coefficient}]$
- $b = [\text{insert value of coefficient}]$
- $c = [\text{insert value of coefficient}]$

The Bidder shall indicate the source of the indices and the base date indices in its bid.

Base date = thirty (30) days prior to the deadline for submission of the bids.

Date of adjustment =  $[\text{insert number of weeks}]$  weeks prior to date of shipment (representing the mid-point of the period of manufacture).

The above price adjustment formula shall be invoked by either party subject to the following further conditions:

- (a) No price adjustment shall be allowed beyond the original delivery dates unless specifically stated in the extension letter. As a rule, no price adjustment shall be allowed for periods of delay for which the Supplier is entirely responsible. The Purchaser will, however, be entitled to any decrease in the prices of the Goods and Services subject to adjustment.

- (b) No price adjustment shall be payable on the portion of the Contract Price paid to the Supplier as advance payment.

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## **SECTION X – CONTRACT FORMS**

# 1. LETTER OF ACCEPTANCE

*[letterhead paper of the Purchaser]*

*[date]*

To: *[name and address of the Supplier]*

Subject: **Notification of Award Contract No.** . . . . .

This is to notify you that your Bid dated . . . . *[insert date]* . . . . for execution of the . . . . . *[insert name of the contract and identification number, as given in the SCC]* . . . . . for the Accepted Contract Amount of . . . . . *[insert amount in numbers and words in Rupees]*, as corrected and modified in accordance with the Instructions to Bidders is hereby accepted by our Agency.

You are requested to furnish the Performance Security within 21 days in accordance with the Conditions of Contract, using for that purpose the of the Performance Security Form included in Section X, Contract Forms, of the Bidding Document.

Authorized Signature: \_\_\_\_\_

Name and Title of Signatory: \_\_\_\_\_

Name of Agency: \_\_\_\_\_

**Attachment: Contract Agreement**

## 2. 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 Rs]* (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 Agreement. This Agreement 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 below.
  - (a) The letter of Acceptance
  - (b) this Contract Agreement
  - (c) Letter of Bid – Technical Part
  - (d) The Supplier’s letter of Bid – Financial Part and original completed Schedules including Price Schedules
  - (e) Special Conditions of Contract
  - (f) General Conditions of Contract
  - (g) Technical Requirements (including Schedule of Requirements and Technical Specifications)

(h) *[Add here any other document(s) listed in GCC/SCC as part of contract]*

3. 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.
4. 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]*

### 3. Performance Security - Bank Guarantee

*[Guarantor letterhead or SWIFT identifier code]*

Performance Guarantee No.....*[insert guarantee reference number]*

Date.....*[insert date of issue of the guarantee]*

To: \_\_\_\_\_ *[name of Purchaser]*

\_\_\_\_\_ *[address of Purchaser]*

WHEREAS \_\_\_\_\_ *[name and address of Supplier<sup>21</sup>]* (hereinafter called "the Applicant") has undertaken, in pursuance of Contract No. \_\_\_\_\_ dated \_\_\_\_\_ to execute \_\_\_\_\_ *[name of Contract and brief description of Goods and related Services]* (hereinafter called "the Contract");

AND WHEREAS it has been stipulated by you in the said Contract that the Applicant shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Applicant such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Applicant, up to a total of \_\_\_\_\_ *[amount of guarantee<sup>22</sup>]* \_\_\_\_\_ *[in words]*, such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of \_\_\_\_\_ *[amount of guarantee]* as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

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

We further agree that no change or addition to or other modification of the terms of the Contract or of the Goods and related Services to be supplied thereunder or of any of the Contract documents which may be made

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<sup>21</sup> *In the case of a JV, insert the name of the Joint Venture*

<sup>22</sup> *An amount shall be inserted by the Guarantor, representing the percentage of the Contract Price specified in the Contract and denominated in Indian Rupees.*

between you and the Applicant shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until ..... (i.e.) 60 days following the Completion date of the Contract including any warranty obligations<sup>23</sup>, and any demand for payment under it must be received by us at this office on or before that date.

Signature and seal of the guarantor \_\_\_\_\_

Name of Bank \_\_\_\_\_

Address \_\_\_\_\_

Date \_\_\_\_\_

*Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.*

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<sup>23</sup> Completion date as described in GC Clause 18.4



## 4. Advance Payment Security

### Demand Guarantee

*[Guarantor letterhead or SWIFT identifier code]*

Advance Payment Guarantee No.....*[insert guarantee reference number]*

Date.....*[insert date of issue of the guarantee]*

To: \_\_\_\_\_ *[name of Purchaser]*

\_\_\_\_\_ *[address of Purchaser]*

\_\_\_\_\_ *[name of Contract]*

Gentlemen:

In accordance with the provisions of the Conditions of Contract, Clause 16 ("Terms of Payment") of the above-mentioned Contract, \_\_\_\_\_ *[name and address of Supplier<sup>24</sup>]* (hereinafter called "the Applicant") shall deposit with \_\_\_\_\_ *[name of Purchaser]* a bank guarantee to guarantee his proper and faithful performance under the said Clause of the Contract in an amount of \_\_\_\_\_ *[amount of guarantee<sup>25</sup>]* \_\_\_\_\_ *[in words]*.

We, the \_\_\_\_\_ *[bank or financial institution]*, as instructed by the Applicant, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to \_\_\_\_\_ *[name of Purchaser]* on his first demand without whatsoever right of objection on our part and without his first claim to the Applicant, in the amount not exceeding \_\_\_\_\_ *[amount of guarantee]* \_\_\_\_\_ *[in words]*.

We further agree that no change or addition to or other modification of the terms of the Contract or of Goods and related Services to be supplied thereunder or of any of the Contract documents which may be made between \_\_\_\_\_ *[name of Purchaser]* and the Applicant, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until \_\_\_\_\_ *[name of Purchaser]* receives full repayment of the same amount from the \_\_\_\_\_

<sup>24</sup> In the case of a JV, insert the name of the Joint Venture

<sup>25</sup> An amount shall be inserted by the bank representing the amount of the Advance Payment, and denominated in Indian Rupees.

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

Yours truly,

Signature and seal: \_\_\_\_\_

Name of Bank: \_\_\_\_\_

Address: \_\_\_\_\_

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

*Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.*

## **SECTION XI- ANNEXURES**

## Annexure “A”

**Compliance Statements (Bidder has to clearly mention the quoted specifications for each parameter instead of writing complied)**

### **Schedule “A”**

<b><u>Shallow Water Multi Beam Echo Sounder System with O &amp; M (03 yrs) and CAMC (02 yrs)</u></b>			
<b>Sl.no</b>	<b>Parameters</b>	<b>Specification</b>	<b>Bidder Specification</b>
<b>1</b>	<b>Sounding Method – Shallow Water Multibeam system</b>	Multi-Phase Echo Sounder (MPES) / Interferometric / CAATI (bathymetric data with IHO SP 44 Special Order Compliant)	
<b>2</b>	<b>Minimum Depth measurement</b>	0.7m below transducer or better	
<b>3</b>	<b>Bathymetric and side scan frequency</b>	Minimum 200 KHz	
<b>4</b>	<b>Maximum depth Measurement</b>	75 meter or more	
<b>5</b>	<b>Beam width</b>	0.5 ° to 2 ° (in case of Multi-Phase Echo Sounder only)	
<b>6</b>	<b>Coverage</b>	Minimum 8 times of actual depth	
<b>7</b>	<b>Slant Range</b>	As per available depth and Swath Width	
<b>8</b>	<b>Measurement Resolution</b>	Maximum 2 cm.	
<b>9</b>	<b>Transducer Cable Length</b>	Minimum 20 mtr	
<b>10</b>	<b>Input Voltage</b>	12-36 VDC 115-230 VAC	
<b>11</b>	<b>Back scatter</b>	Collect backscatter data	
<b>12</b>	<b>Side Scan</b>	Integrated with instrument	
<b>13</b>	<b>Side scan processing Software</b>	Hypack	
<b>14</b>	<b>Dynamic / Integrated Motion Sensor</b>		
a	Data Resolution	Heave: 5cm or better; Roll & Pitch: 0.05° or better.	
<b>15</b>	<b>DGPS</b>	Heading dual head DGPS for multibeam heading with positional Accuracy of 0.2 mtr with SBAS	
<b>16</b>	<b>Sound velocity Profiler</b>		
a	Range	1400-1600 m/s or better	
b	Resolution	0.03m/s or better	
c	Accuracy	+/- 0.3m/sec or better	

<b>Shallow Water Multi Beam Echo Sounder System with O &amp; M (03 yrs) and CAMC (02 yrs)</b>			
<b>Sl.no</b>	<b>Parameters</b>	<b>Specification</b>	<b>Bidder Specification</b>
d	Sampling Rate	10 Hz or better	
f	Communications	RS 232 / USB / Bluetooth	
g	Baud Rate	2400-115200	
h	Power supply	Internal battery cell	
17	<b>Data acquisition /Processing Software and Laptop</b>	<ul style="list-style-type: none"> <li>• Multibeam Data logging in Hysweep software and processing in Hypack (one no. Hardlock with license for both).</li> <li>• Fully Rugged Laptop with latest Windows Operating system with i7 processor, 1TB SDD HDD, 4GB dedicated Graphic card, 64GB RAM and 14" Helmsman color Monitor with VGA Splitter or better.</li> </ul>	•
18	<b>Mounting Bracket</b>	<ul style="list-style-type: none"> <li>• Transducer is to be installed on survey vessel and at bow of the vessel.</li> <li>• Complete Transducer housing with all fittings is to be provided for fitment of the Transducer at bow of the vessel. Fitment should be portable and not permanent fix, so that it can be lifted at any time during emergency like cleaning of the transducer, bow side anchoring at banks, grounding of the vessel etc.</li> <li>• Expenditure towards all fittings, cables (minimum 20mts length) etc. will be borne by the Contractor.</li> </ul>	
19	<b>Interface</b>	Serial / Ethernet interface for motion data, gyro data, navigation data, pps and sound velocity data	
20	<b>Cables and connectors</b>	All necessary cables, connectors and accessories which are required for complete installation should be part of supply.	
21	<b>External Data Storage</b>	6 nos. 5TB HDD.	
22	<b>Branded Printer</b>	01 no. A3 size LaserJet	

Note: Photo of IWAI Survey vessel installed with MBES is at Annexure "K".

## Annexure “B”

### Schedule “B”

<b>SIDE SCAN SONAR</b>			
<b>Sl.no</b>	<b>Parameters</b>	<b>Specification</b>	<b>Bidder Specification</b>
1	<b>Sonar</b>	Dual simultaneous frequency tow fish	
2	<b>Pulse type</b>	CHIRP and/or CW	
3	<b>Material</b>	Stainless Steel / Aluminum	
4	<b>Size</b>	Compatible with operable from Survey Vessel / small FRP Boat	
5	<b>Operating Frequency</b>	Dual frequency from 100 KHz to 900 KHz (combination of one low and one high frequency)	
6	<b>Depression Angle</b>	< 40° down	
7	<b>Transmission Pulse</b>	Depth Dependent	
8	<b>Across-track Resolution</b>	2 cm - 15 cm for Lower frequency and 0.75 cm - 3.75 cm for Higher frequency	
9	<b>Min depth</b>	2 mtr	
10	<b>Max Depth</b>	70 mtr or better	
11	<b>Towfish</b>	Depth rating 200m water depth, portable and suitable for Survey vessel / small boat operation	
12	<b>Sensors</b>	Built-in sensors such as heading, pitch, roll & pressure sensors	
13	<b>Input Voltage</b>	DC/AC as per availability	
14	<b>Towing Speed</b>	Minimum 1 knot 1and Maximum 5 Knot or better	
15	<b>Towing cable</b>	Towing cable shall be flexible for transportation and operation purpose. Stainless steel/ Kevlar cables coated minimum length of 100 mtr.	
16	<b>Operating Depth</b>	100 m or better	
17	<b>Data Acquisition and Processing software</b>	Windows based Data Acquisition and Processing software. Automatic bottom tracking. Automated processing/contrast enhancement. Support for common navigation chart formats - BSB, DNC, S-57. Real-time mosaicking with easy export to GIS and Google-Earth.	
18	<b>Hardware</b>	Fully Rugged Laptop with latest Windows Operating system with i7 processor, 1TB SDD HDD, 4GB dedicated Graphic card, 32GB RAM or better.	
19	<b>Communication</b>	Wireless/wired to laptop with Top unit.	
20	<b>External Data Storage</b>	5 nos. 5TB HDD	
21	<b>Cables and connectors</b>	All necessary cables, connectors and accessories which are required for complete installation should be part of supply	

**Schedule “C”**

<b><u>ADCP (ACOUSTIC DOPPLER CURRENT PROFILER)</u></b>			
<b>Sl.no</b>	<b>Parameters</b>	<b>Specification</b>	<b>Bidder Specification</b>
1.	<b>Shallow Water Acoustic Doppler Current Profiler</b>	<ul style="list-style-type: none"> <li>To measure river current structure and discharge measurement.</li> <li>To Map boat track and measure depth along the boat's path.</li> </ul>	
2.	<b>Size</b>	Compatible and operable from Survey vessel / small FRP Boat	
3.	<b>Frequency</b>	Single or Multi frequencies between 400-800 KHz	
4.	<b>Velocity Profiling range</b>	0.4m to 40m profiling or better	
5.	<b>Profiling Velocity</b>	+/-20 m/s	
6.	<b>Velocity resolution</b>	0.1 cm/s	
7.	<b>Velocity accuracy</b>	±0.25% of water velocity relative to ADCP	
8.	<b>Ping rate</b>	Minimum 1Hz or better	
9.	<b>No. of cells</b>	Minimum 128	
10.	<b>Cell Size</b>	10 cm or better	
11.	<b>Depth Range</b>	0.4m to 80 m or better	
12.	<b>Bottom Tracking</b>	Minimum 40 mtr	
13.	<b>Range accuracy</b>	At least +/-3%	
14.	<b>Towing Speed</b>	Minimum 1 knot and Maximum 5 Knot or better	
15.	<b>Communication</b>	Wireless or wired to Laptop	
16.	<b>Transducer</b>		
i.	Configuration	Minimum 4 Beams	
ii.	Communication	RS-232/RS-485/RS-422/Ethernet/USB	
iii.	Depth rating	Minimum 80m	
iv.	Tilt sensor Range	maximum accuracy ± 1° of range	
v.	Temperature Range	0° to 45°C or better	
17.	<b>Resolution</b>	0.01°	
18.	<b>Heading</b>	0-360°	
19.	<b>Accuracy</b>	2° or better	
20.	<b>Other features and Requirements</b>		
i.	Transducer Cable	Cable length of 10m for connecting underwater unit of ADCP and Deck unit	
ii.	Interface	<ul style="list-style-type: none"> <li>System shall have standard interface facilities for Gyro, MRU and DGPS data and data acq, system</li> </ul>	

<b><u>ADCP (ACOUSTIC DOPPLER CURRENT PROFILER)</u></b>			
<b>Sl.no</b>	<b>Parameters</b>	<b>Specification</b>	<b>Bidder Specification</b>
		<ul style="list-style-type: none"> <li>Suitable serial &amp; power cable shall be supplied for connecting ADCP control system &amp; Data</li> <li>Aqu. System</li> </ul>	
iii.	Output	NMEA output to be provided	
iv.	Power Supply	DC or 230V AC, Suitable Adaptor may be supplied	
v.	Mounting Bracket	Suitable and complete mounting assembly for fitment in survey vessel	
vi.	Hardware	Fully Rugged Laptop with latest Windows Operating system with i7 processor, 1TB SDD HDD, 4GB dedicated Graphic card, 32GB RAM or better	
21.	<b>Software</b>	Windows based software (perpetual license) for data acquisition and advanced processing software shall be supplied.	
22.	<b>External Data Storage</b>	5 nos. 5TB HDD	



## Annexure “D”

**Schedule “D”****RTK DGPS**

SNO	Parameters			Bidder Specification
1		<b>BASE AND ROVER RECIEVER CHARACTERSTICS</b>		
		<b>The below specifications are for Global Positioning System (GPS) base and rover</b>		
	(a)	<b>RECIEVER TYPE</b>		
		TYPE	Multi-frequency, geodetic, real-time RTK receiver	
		CHANNELS	500 or more Parallel Channel Receiver for tracking GPS (L1, L2, L5), Glonass (L1, L2, L2C), Galileo, SBAS (WAAS, EGNOS, MSAS, GAGAN), Bediou (optional). <b>Tilt sensor on base and rover.</b>	
	(b)	<b>MEASUREMENTS: Receiver should perform fully independent measurements of code and phase on all frequencies</b>		
		L1 Measurements	Carrier phase full wavelength C/A narrow code	
		L2 Measurements	Carrier phase full wavelength with C Code and P code or P Code under AS Equal performance with AS off or on	
	(c )	Measuring Modes	Static, rapid static, kinematic standard Post processing, Standard Survey, geodetic applications	
	(d)	Receiver Technology	Low elevation tracking, low noise and inbuilt multipath mitigation.	
	(e)	Time to initialization	Less than 8s	
	(f)	LED status indicators	For power, tracking, memory, Bluetooth	

SNO		Parameters		Bidder Specification
	(g)	Ports	1 no. RS232 Power port 1 Internal / External GSM/GPRS 1 Radio Port Wireless communication.	
	(h)	Power consumption	Less than 6 W	
	(i)	Weight	Light weight receiver.	
2	<b>GPS ANTENNA: Identical Integrated antenna and receiver, interchangeable for base and rover.</b>			
	(a)	Weight	Less than 4 kg standard RTK rover including controller, batteries, pole and bracket.	
3	<b>DISPLAY CONTROLLER: One number Controller should be supplied for Base and Rovers. Inbuilt distance meter (Optional).</b>			
	(a)	Type	Touch sensitive controllers	
	(b)	Display	Colour graphical, Daylight-readable touch screen with backlight illumination	
	(c)	Keyboard	The controller should have complete QWERTY hard Keyboard	
	(d)	Operating System	Windows / Android	
	(e)	Processor & Memory	1GHz Processor or better, 2GB RAM or better, 4GB or better Internal Flash memory with GSM and SD card slot	
4	<b>ACCURACIES</b>			
	(a)	Static and Rapid Static Phase		
		Horizontal	3 mm + 0.5 ppm or better	
		Vertical	5 mm + 0.5 ppm or better	
	(b)	Real Time RTK		
		Horizontal	8 mm + 1 ppm	
		Vertical	15 mm + 1 ppm	
5	<b>POSITION UPDATE</b>			
	(a)	Position Update Rate	20 Hz or better	

<b>SNO</b>		<b>Parameters</b>	<b>Bidder Specification</b>
<b>6</b>	<b>DATA RECORDING</b>		
	<b>(a)</b>	Standard medium	Directly to receiver in the Internal/External memory for 4GB minimum
<b>7</b>	<b>Tilt Sensor, GSM and Radio Modems</b>		
	<b>(a)</b>	Base	Integrated GSM/GPRS, radio, IMU base tilt sensor support/ tilt must have support for minimum 30° or more, and multipath mitigation technology.
	<b>(b)</b>	Rover	Integrated GSM/GPRS, radio, IMU base tilt sensor support/ tilt must have support for minimum 30° or more, and multipath mitigation technology.
	<b>(c)</b>	Real Time Message	RTCM V2.1 to 3.1 or better
	<b>(d)</b>	Tilt Sensor	Tilt Sensor must be calibration free, immune to magnetic disturbance, and should measure the point for more than 30° tilted pole
	<b>(e)</b>	GPRS RTK	RTK using inbuilt GPRS for multiple rovers from single base should be possible. GSM modem must have 4G LTE support
<b>8</b>	<b>POWER SUPPLY</b>		
	<b>(a)</b>	Internal Battery	Internal and Rechargeable batteries
	<b>(b)</b>	Operation Time	Batteries should power receiver controller and antenna for more than 5 hours and batteries required to maintain this operation time if need so be additional numbers should be offered for both receiver and controller.
	<b>(c )</b>	Chargers	Dual battery External chargers should be supplied, two numbers of such chargers should be supplied one with both base as well as Rover. If higher number batteries are supplied for achieving the operational time, then additional charger per unit of battery for both base and Rover should be offered.
	<b>(d)</b>	External Power	Cable to connect the system to a 10.8V-28VDC battery should be supplied.
<b>9</b>	<b>NAVIGATIONS MODE</b>		
	<b>(a)</b>	Navigation	Full navigation information in position and stakeout displays, Position, course, speed, bearing and distance to waypoint

SNO		Parameters	Bidder Specification
10	<b>ENVIRONMENTAL SPECIFICATION FOR Receiver</b>		
	(a)	Operational Temperature	-40°C to +65°C
	(b)	Storage Temperature	-40°C to +75°C
	(c )	Humidity	95%
	(d)	Protection against Water, Sand and Dust	IP68 or better: Protection against blowing rain Waterproof to temporary submersion into water (maximum depth of 1m) Dust-tight, protection against blowing dust
	(e)	Drops	Withstands 1m drop onto hard surfaces
11	<b>COORDINATE SYSTEMS</b>		
	(a)	Ellipsoids	All common ellipsoids User-definable ellipsoids
	(b)	Map projections	Mercator projections
	(c )	Geoidal model	Upload geoidal model to system
12	<b>ON BORAD SOFTWARE</b>		
	(a)	Graphics	2D and 3D Graphical representation of points, lines and areas Application result plots
	(b)	Icons	Icons indicating the current status of measure modes, settings, battery etc. It should be possible to configure or see status of the iconed devices by touching on the screen.
	(c )	Function Keys	Direct function keys for quick and easy operation.
	(d)	Configuration sets	Ability to store and transfer all instrument and application configuration settings for different operators, survey tasks etc.
	(e)	Free Coding	Recording codes with optional attributes in between of measurements Manual code entry or selection from a user defined code list

<b>SNO</b>		<b>Parameters</b>		<b>Bidder Specification</b>
	<b>(f)</b>	Thematical Coding	Coding points, lines and areas with optional attributes when measuring Manual code entry or selection from a user defined code list	
	<b>(g)</b>	Quick Coding	Recording a measurement with a point code or free code by entering a numerical quick code from user defined code list	
	<b>(h)</b>	Averaging	Averaging of multiple points within user defined averaging limit	
<b>13</b>	<b>OFFICE PROCESSING SOFTWARE</b>			
	<b>(a)</b>	Operating System	Latest Windows OS	
	<b>(b)</b>	Importing Raw Data	Should be able to import Raw data from the GNSS receiver (All Signal types) as well as RINEX data. Also should be able to import global raw base data as well as precise ephemeris data via internet	
	<b>(c )</b>	Baseline Processing	Should be capable of processing GNSS L1,L2 and L5 raw data	
	<b>(d)</b>	Network Adjustment	Should be able to perform Network Adjustment using Least Square adjustment principle.	
	<b>(e)</b>	Export	Capable of Exporting the data in multiple extensions (DWG,DXF,SHP,KML/KMZ,CSV & Construction Software extensions)	
	<b>(f)</b>	Reporting	Software should be capable of generating reports directly for the surveyed data	
	<b>(g)</b>	COGO	Software should have COGO functionality	
	<b>(h)</b>	RTK Data	Should be able to handle RTK data.	
	<b>(i)</b>	Conventional Data	Should be able to handle data from Total Station, digital level for network adjustment.	
	<b>(j)</b>	Surfaces	The software should be a capable of Surface Modelling, 3D visualization and quick contouring.	
<b>14</b>	<b>ACCESSORIES</b>			
	<b>(a)</b>	Accessory	Complete kit to operate base and rover in static as well RTK mode. All connecting, communication and Power cables, Tripod, Tribrach adaptor with Optical plummet, Hard Case, Li-Ion Battery, Pole Bracket, Range Pole with Bipod etc.	

SNO		Parameters		Bidder Specification
	(b)	RTK Kit	Complete RTK kit for Base and Rover	
	(c)	Base and Rover Radio	Base and Rover Sensor must have support internal 1W radio.	
	(d)	<b>Hardware:</b>	Laptop with latest Windows Operating system with i9 processor, 1TB SDD HDD, 4GB dedicated Graphic card, 8GB RAM or better.	

## Annexure “E”

Schedule “E”

SPECIFICATIONS FOR DGPS RECEIVER			
Sl.no	Parameters	Specification	Bidder Specification
1)	<b>Type:</b>	Receiver with SBAS and Beacon	
2)	<b>Channels:</b>	225 channels or more	
3)	<b>Constellation tracking:</b>	GPS, GLONASS, Galileo, Beidou, SBAS and More	
4)	<b>ANTENNA OPTIONS</b>	GNSS (GPS, Glonass, Galileo, Beidou), MSK Beacon, SBAS	
5)	<b>Position update rate:</b>	upto 50 Hz	
6)	<b>Position format:</b>	Geodetic (WGS84)	
7)	<b>Differential source:</b>	SBAS (WAAS, EGNOS & GAGAN) and DGNSS Beacon	
8)	<b>Horizontal accuracy:</b>	± 0.50m or better	
9)	<b>Keyboard and Display:</b>	VFD/LCD display 16 characters by 2 rows, On/Off key for one button start up or better.	
10)	<b>Operating temperature:</b>	-5°C to +55°C or better	
11)	<b>Storage temperature:</b>	–40 °C to +80 °C (–40 °F to +176 °F)	
12)	Waterproof Dustproof Antenna		
13)	Shock and Vibration as per drop test internationally acceptable.		
14)	<b>POWER:</b>	11-28V DC, Internal Lithium-ion battery (Optional)	
15)	Compatible with Hydrographic Survey software.		
16)	<b>Communication:</b>	USB / Ethernet, RS 232 to connect to Laptop / PC for data communication	
17)	<b>Data Output:</b>	NMEA 0183	
18)	<b>Accessories:</b>	Antenna (s), necessary cable for antenna (15m), USB/Ethernet and PPS cables to interface with Echo sounder and PC.	

## Annexure “F”

### Schedule “F”

<b><u>ECHO SOUNDER CUM DGPS RECEIVER</u></b>			
<b>Sl.no</b>	<b>Parameters</b>		<b>Bidder Specification</b>
<b>1.</b>	<b>Frequency</b>	Single frequency Echo sounder and Single frequency DGPS or better	
<b>2.</b>	<b>LCD display</b>		
<b>3.</b>	<b>Operating Frequency</b>	<ul style="list-style-type: none"> <li>190-225 KHz (Dual Frequency optional with Operating frequency from 24 KHz to 225 KHz).</li> <li>International branded 190 KHz-225 KHz transducer with minimum 30 feet cable length with plug to mate with recorder..</li> </ul>	
<b>4.</b>	<b>Output format should be Compatible with Hydrographic survey software</b>		
<b>5.</b>	<b>Depth range</b>	0.5-60m or higher with selectable intermediate range.	
<b>6.</b>	<b>Depth accuracy</b>	+/- 0.5% of measured depth or better	
<b>7.</b>	<b>Draft offset</b>	User configurable	
<b>8.</b>	<b>Sound Velocity</b>	1400-1600 meters/second	
<b>9.</b>	<b>Data Outputs</b>	NMEA DBT, NMEA DBS	
<b>10.</b>	<b>GNSS Receiver Options</b>	GNSS Receiver of all reputed brand, meeting with all the specifications as per tender Schedule of Requirements	
<b>11.</b>	<b>Vertical Resolution</b>	1 Cm (Depth data)	
<b>12.</b>	<b>Horizontal resolution</b>	0.5m	
<b>13.</b>	<b>Constellation tracking for DGPS</b>	GPS, GLONASS, Galileo, Beidou, SBAS	
<b>14.</b>	<b>Power</b>	11- 30VDC, 115/230V	
<b>15.</b>	RS232/RS422/Ethernet output		
<b>16.</b>	GPS/Nav Integration (optional)		



<b><u>ECHO SOUNDER CUM DGPS RECEIVER</u></b>			
<b>Sl.no</b>	<b>Parameters</b>		<b>Bidder Specification</b>
<b>17.</b>	<b>Geographic position</b>	NMEA-0183 GGA or GLL Format from GPS/DGPS	
<b>18.</b>	<b>Data Outputs</b>	ODEC PMC dt (True Depth & Status) / Atlas / DESO -25 / Odom Digitrac / Odom Echotrac / NMEA DBT, NMEA DBS or NMEA.	
<b>19.</b>	<b>Input Power</b>	11-30 volts D.C. (1.5 amps @ 12V, 0.5 amp @30V.). Power Internal – rechargeable (optional)	
<b>20.</b>	<b>Others</b>		
I.	Antenna cable length	10m	
II.	Transducer, Antenna, User manual. AC and DC power cables, Interfacing Cables with Computers, Spare fuses, Tool Kit.		

## Annexure “G”

### Schedule “G”

Sl.no	TENDER SPECIFICATION – 1. SINGLE BEAM ECHO SOUNDER		Bidder Specification
1)	Single frequency Hydrographic Echo sounder for installing in the survey launches & boats.		
2)	Suitable for minimum continuous operation.		
3)	Compatible with Hydrographic Survey Software’s like Hypack Max/PDS or other reputed international brands with continuous recording in the computer.		
4)	<b>Operating Frequency</b>	190-225 KHz (Dual Frequency optional with Operating frequency from 24 KHz to 225 KHz).	
5)	<b>Built-in digitizer</b>		
6)	<b>Phasing</b>	User Selectable	
7)	<b>Depth range</b>	0.5-60m or higher with selectable intermediate range.	
8)	<b>Depth Resolution</b>	0.1m	
9)	<b>Depth Alarm</b>	Shallow and deep	
10)	<b>Depth accuracy</b>	+/- 0.5% of measured depth	
11)	<b>Draft offset</b>	User configurable	
12)	<b>Sound Velocity</b>	1400-1600 meters/second	
13)	<b>LCD Display</b>	Back-lighting: Electro-luminescent	
14)	<b>GPS/ NAV Integration.</b>		
15)	<b>NMEA 0183 Input</b>		
16)	<b>Geographic position</b>	NMEA-0183 GGA or GLL Format from GPS/DGPS	
17)	<b>Data Outputs</b>	RS232/ 422 Output	
	NMEA DBT		
	NMEA DBS		
18)	<b>Power Operation</b>	11- 36V DC, 115/230V	
19)	<b>Input Power</b>	10-30 volts DC (1.5 amps @ 12V, 0.5 amp @30V.)	

Sl.no	TENDER SPECIFICATION – 1. SINGLE BEAM ECHO SOUNDER		Bidder Specification
20)	Chart Record	High-Contrast Thermal Paper	
21)	Operation controls for off/standby/on, range selector, Sensitivity, chart speed, fix marks and range. Echogram to indicate transmission mark, zero mark & bed profile.		
	<b><u>TRANSDUCER</u></b>		
22)	International branded 190 KHz-225 KHz transducer with minimum 30 feet cable length with plug to mate with recorder.		
23)	Nominal Impedance	50/60 ohms	
24)	Beam width	8-9 degrees	
25)	Housing Material	Brass/ SS	
26)	Piezo Material	Barium Titanate or better	
27)	Anodized Aluminum Pipe in four pieces to be joined by threads with fitting accessories (complete) for outboard vessel/Boat.		
28)	User manual. AC and DC power cables, Interfacing Cables with Computers & GPS, Spare fuses, Tool Kit.		
	<b><u>2. Transducer for Echo Sounder</u></b>		
1.	International branded 190 KHz-225 KHz transducer compatible with Bathy 500 MF/DF Echo sounders with minimum 30 feet cable length with plug to mate with recorder.		
2.	Nominal Impedance: 50 ohms		
3.	Beam width: 8-9 degrees @-3dB		
4.	Housing Material: Brass/ SS (with urethane acoustic window)		
5.	Piezo Material: Barium Titanate or better		
6.	Anodized Aluminium Pipe in four pieces to be joined by threads with fitting accessories (complete) for outboard vessel/Boat.		

## Annexure “H”

### Schedule “H”

<b>1. Water Sampler</b>		
<b>Sl.no</b>	<b>Parameters</b>	<b>Bidder Specifications</b>
1.	The standard water sampler of any reputed brand should be simple tube type sampler which can be lowered into the water by rope. Upon reaching the desired depth, the messenger should activate the closing mechanism or release the closing mechanism, so that it closes the lid of the sampling tube in the water at that depth and sampler to be recovered by rope. To retrieve the water sample, open lid and save the water sample.	
2.	Non-metallic free-flushing sampling bottles activated by Messenger when individually or serially attached to hydrocable. Sequential closure by remote command.	
3.	<b>Size</b>	Capacity between 1.0 to 2.0 litre including messenger
4.	<b>Materials</b>	PVC housing, end stoppers, Push rod, air vent screw and petcock. Stainless steel wire clamp bolts and wing nuts.
5.	End stopper closure band of latex tubing. Buna-N O-ring seals. Nylon monofilament lanyards with brass snap hook. Maximum working temperature is 60°C (140°F).	
6.	<b>End closure</b>	Stopper with spherical section sealing surface held firmly against O-ring seal by internal latex tubing.
7.	<b>Drainage</b>	Air vent thumbscrew at top, petcock near base.
8.	<b>Mounting</b>	To hold wire up to 1/4” (6.35mm).
9.	<b>Deliverables</b>	Bottle, wire clamp bolts with wing nuts, latex tubing and wire mounting lanyards. Standard Messenger.

10.	<b>Empty Weight</b>	2.0 / 3.0 Kg	
11.	<b>Full Weight</b>	Minimum 3.0 Kg and maximum 4.5 Kg	
<b>2. Bottom Sampler</b>			
<b>1.</b>	The Grab Type Bottom Sampler to be quantitative sampler with precise sampling area to achieve nearly undisturbed samples in soft grounds. It should consist of a sturdy-walled metal cabinet equipped with two spring-loaded jaws which are released by a messenger. Two light plates cover the top opening of the sampler to prevent the sample from being washed out during ascent		
<b>2.</b>	Sampler for collecting bottom sediments for biological, hydrological and environmental studies.		
<b>3.</b>	Stainless steel, electro polished surface, small model manufactured from 3 mm plate with a surface area of 225 to 250 cm <sup>2</sup> weight approx. 5 kg. Depth of operation: 0.5m to 25m		

**Schedule “I”**

<b><u>FTP Server and Data Storage System</u></b>			
<b><u>Specifications for storage 300TB RAW- 3 Qty. (NOIDA, Kolkata and Patna)</u></b>			
<b>S.No.</b>	<b>Features</b>	<b>Qualifying Minimum Requirements for each unit</b>	<b>Bidder Specification</b>
1	No. of Storage Units	<b>1</b>	
2	Rack mount	NAS Controller Should be rack mounted with a form factor of not less than 2U	
3	Processor	Dual processor of hexa Core each. Shall be Intel Intel® Xeon-Silver 4208 (2.1GHz/8-core/85W) only. Optional: Should be Dual controller Active Active Architecture where each controller should have Hexa core processor	
4	Memory	64GB Dual Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory or higher, scalable to 384GB DDR4 RAM	
5	Hard Drives	Shall be supplied with minimum of 300 TB RAW drives in Raid 5/6. Optional: Offered NAS Storage shall have separate dedicated SSD drives for Operating system in Raid 1+0.	
6	Storage expandability	1. Offered NAS controller shall support at-least 28 internal LFF Slots and shall be offered with at- least 24 LFF Slots. 2. Offered storage shall also have capability to attach additional drive enclosures. NAS shall support at-least 1000TB of external capacity using 14/16/18TB drives.	
7	Network Connectivity	Min. 4 X 1Gbps auto sensing NICs ports and shall be further scalable to additional 8 numbers of 10Gbps ethernet port.	
8	Protocols support	ISCSI, FTP/FTPS/SFTP, CIFS/SMB 3.1.1, HTTP, HTTPS, NFS 4.1, WebDev etc.	
9	Fault Tolerance for internal drives	Offered NAS shall support Raid 0, Raid 1, Raid 1+0, Raid 5 and Raid 6 for internal drives. Offered Raid controller shall have minimum of 4GB flash back write cache.	

10	Fault Tolerance for external drives	Offered NAS shall support Raid 0, Raid 1, Raid 1+0, Raid 5 and Raid 6 for external drives. Supported Raid controller shall have minimum of 4GB flash back write cache.	
11	Network Client Types Support	Should support Windows 10, Windows 2016/2019, , HP-UX, AIX, SOLARIS, Linux etc.	
12	Operating System	The storage system should have Microsoft Windows Server IOT 2019 - 64 bit edition (NAS optimized ) including powered OS drivers or proprietary from the OEM.	
13	De-duplication	Optional: Offered NAS shall have block based De-duplication which can be enabled for all required volumes. De-duplication engine shall have:1. Flexibility to decide the multiple schedules when de-duplication process can be run.2. Flexibility to limit the time period of de-duplication process so that production operations remains intact.3. Flexibility to bypass the recent files under the de-duplication process so that production operations remains intact.4. License for De-duplication shall be provided.5. Shall support more than 64TB of file system for de-duplication.	
14	File screening and quota management	1. Offered NAS shall have support for file screening so that administrator can ensures that users shall not be able to store unwanted files on offered NAS device. 2. Offered NAS shall have Quota management for both Volume and Directory. 3. Software for both File screening as well as Quota management shall be provided.	
15	File Management	1. Shall have flexibility to expire or move files to different folder / Location / Volumes / drives on the basis of polices like day of creation / modification / access of on the basis of file pattern like extension. 2. Shall also be able to expire or move files to different folder / Location / Volumes / Drives on the basis of content classification within files.	
16	SAN storage (iSCSI based)	Integrated iSCSI for block access over LAN.	
17	Snapshots	Point in time copies of your data to guard against data corruption.	
18	Encryption and compression	Shall have support for encryption and Compression. License for both of same shall be offered.	

19	Cloud Integration	Offered NAS shall be able to integrate with Microsoft Azure - running with valid subscription with following features: 1. Azure File Sync 2. Azure backup	
20	Replication	Offered NAS shall also be supported with leading NAS replication softwares in the industry and shall also have 100TB license for replication through DFS-R. Optional: The Storage System shall support Synchronous & Asynchronous Replication for both Block and File Protocols.	
21	Web Based Management	Shall have web based interface to manage and monitor system health, capacity, performance, hardware events, quotas, snapshots, authentication and network services	
22	Capacity Insights	Capacity planning with a granular historical utilization dashboard with growth rate and usage trends	
23	Power Supply and FAN	Offered NAS shall also have Hot Plug redundant power supply and FAN	
24	Rack	Required Rack to install the storage should be provided by OEM/bidder	
<b><u>Specifications for storage 120 TB RAW - 4 Qty. (Swaroopganj, Farakka, Sahibganj and Varanasi)</u></b>			
<b>S.No.</b>	<b>Features</b>	<b>Qualifying Minimum Requirements for each unit</b>	
1	No. of Storage Units	<b>1</b>	
2	Rack mount	NAS Controller Should be rack mounted with a form factor of not less than 2U	
3	Processor	Dual processor of hexa Core each. Shall be Intel® Xeon-Silver 4208 (2.1GHz/8-core/85W) only. Optional: Should be Dual controller Active Active Architecture where each controller should have Hexa core processor	
4	Memory	64GB Dual Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory or higher, scalable to 384GB DDR4 RAM	
5	Hard Drives	Shall be supplied with minimum of 120 TB RAW drives in Raid 5/6. Optional: Offered NAS Storage shall have separate dedicated SSD drives for Operating system in Raid 1+0.	



6	Storage expandability	1. Offered NAS controller shall support at-least 28 internal LFF Slots and shall be offered with at- least 24 LFF Slots. 2. Offered storage shall also have capability to attach additional drive enclosures. NAS shall support at-least 1000TB of external capacity using 14/16/18TB drives.	
7	Network Connectivity	Min. 4 X 1Gbps auto sensing NICs ports and shall be further scalable to additional 8 numbers of 10Gbps ethernet port.	
8	Protocols support	ISCSI, FTP/FTPS/SFTP, CIFS/SMB 3.1.1, HTTP, HTTPS, NFS 4.1, WebDev etc.	
9	Fault Tolerance for internal drives	Offered NAS shall support Raid 0, Raid 1, Raid 1+0, Raid 5 and Raid 6 for internal drives. Offered Raid controller shall have minimum of 4GB flash back write cache.	
10	Fault Tolerance for external drives	Offered NAS shall support Raid 0, Raid 1, Raid 1+0, Raid 5 and Raid 6 for external drives. Supported Raid controller shall have minimum of 4GB flash back write cache.	
11	Network Client Types Support	Should support Windows 10, Windows 2016/2019, , HP-UX, AIX, SOLARIS, Linux etc.	
12	Operating System	The storage system should have Microsoft Windows Server IOT 2019 - 64 bit edition (NAS optimized ) including powered OS drivers or propriatary from the OEM.	
13	De-duplication	Optional: Offered NAS shall have block based De-duplication which can be enabled for all required volumes. De-duplication engine shall have: 1. Flexibility to decide the multiple schedules when de-duplication process can be run. 2. Flexibility to limit the time period of de-duplication process so that production operations remains intact. 3. Flexibility to bypass the recent files under the de-duplication process so that production operations remains intact. 4. License for De-duplication shall be provided. 5. Shall support more than 64TB of file system for de-duplication.	
14	File screening and quota management	1. Offered NAS shall have support for file screening so that administrator can ensures that users shall not be able to store unwanted files on offered NAS device. 2. Offered NAS shall have Quota management for both Volume and Directory. 3. Software for both File screening as well as Quota management shall be provided.	

15	File Management	1. Shall have flexibility to expire or move files to different folder / Location / Volumes / drives on the basis of polices like day of creation / modification / access of on the basis of file pattern like extension. 2. Shall also be able to expire or move files to different folder / Location / Volumes / Drives on the basis of content classification within files.	
16	SAN storage (iSCSI based)	Integrated iSCSI for block access over LAN.	
17	Snapshots	Point in time copies of your data to guard against data corruption.	
18	Encryption and compression	Shall have support for encryption and Compression. License for both of same shall be offered.	
19	Cloud Integration	Offered NAS shall be able to integrate with Microsoft Azure - running with valid subscription with following features: 1. Azure File Sync 2. Azure backup	
20	Replication	Offered NAS shall also be supported with leading NAS replication softwares in the industry and shall also have 100TB license for replication through DFS-R. Optional: The Storage System shall support Synchronous & Asynchronous Replication for both Block and File Protocols.	
21	Web Based Management	Shall have web based interface to manage and monitor system health, capacity, performance, hardware events, quotas, snapshots, authentication and network services	
22	Capacity Insights	Capacity planning with a granular historical utilization dashboard with growth rate and usage trens	
23	Power Supply and FAN	Offered NAS shall also have Hot Plug redundant power supply and FAN	
24	Rack	Required Rack to install the storage should be provided by OEM/bidder	

**Specifications for Layer 2 Access Switch- 1 Qty on each location**

**24 Ports Access Switch**

<b>S.No.</b>	<b>Parameters</b>	<b>Specification</b>
<b>1</b>	<b>Architecture</b>	
a	19" Rack Mountable	
b	20 RJ-45 autosensing 10/100/1000 ports, 4 x dual personality 1G SFP (copper/fiber) ports and 4 SFP+ 1/10GbE ports populated with minimum 2 * 10G Multimode Transceivers	
c	The switch have 1 dual-personality (RJ-45 or USB micro-B) serial console port	
d	1GB SDRAM, 2GB Flash memory and 12 MB Packet buffer size	
e	switching capacity of 128 Gbps	
f	95 million pps switching throughput	
g	The Switch support 32000 MAC address	
h	Internal redundant power supply from-day-1	
i	Routing table size of 2000 entries (IPv4), 1000 entries (IPv6)	
j	The switch support Auto-MDIX to provide automatic adjustments for straight-through or crossover cables on all 10/100 and 10/100/1000 ports	
<b>2</b>	<b>Features</b>	
a	The switch support HTTP redirect function	
b	The switch support User role to defines a set of switch- based policies in areas such as security, authentication, and QoS. A user role can be assigned to a group of users or devices, using switch configuration	
c	The switch support Per-port tunneled node to provides a secured tunnel to transport network traffic on a per-port basis to a Controller. Authentication and network policies will be applied and enforced at the Controller	

S.No.	Parameters	Specification
d	The Switch should support Static IP Visibility to do accounting for clients with static IP address	
<b>3</b>	<b>Quality of Service (QoS)</b>	
a	The switch support Traffic prioritization (IEEE 802.1p) to allows real-time traffic classification into eight priority levels mapped to eight queues	
b	The switch support Layer 4 prioritization to enable prioritization based on TCP/UDP port numbers	
c	The switch support Class of Service (CoS) to sets the IEEE 802.1p priority tag based on IP address, IP Type of Service (ToS), Layer 3 protocol, TCP/UDP port number, source port, and DiffServ	
d	The switch support Rate limiting to sets per-port ingress enforced maximums and per-port, per-queue minimums	
e	The switch Provide graceful congestion management	
<b>4</b>	<b>IPv6 Feature</b>	
a	The switch support IPV6 host to enable switches to be managed in an IPv6 network	
b	The switch support Dual stack (IPV4 and IPV6) to transition from IPv4 to IPv6, supporting connectivity for both protocols	
c	The switch should support MLD snooping to forward IPv6 multicast traffic to the appropriate interface	
d	The switch support ACL and QoS for IPv6 network traffic	
e	The switch support static and RIPng protocols for IPV6	
<b>5</b>	<b>Security</b>	
a	The switch support RA guard, DHCPv6 protection, dynamic IPv6 lockdown, and ND snooping	
b	The switch have Energy-efficient design	

S.No.	Parameters	Specification
c	The switch support Energy-efficient Ethernet (EEE) to reduce power consumption in accordance with IEEE 802.3az	
d	The switch support very low latency, increased packet buffering, and adaptive power consumption	
e	The switch have facility to allow for increased performance by selecting the number of queues and associated memory buffering that best meet the requirements of the network applications	
<b>6</b>	<b>Convergence</b>	
a	The switch support IP multicast routing and PIM Sparse and Dense modes to route IP multicast traffic	
b	The switch support IP multicast snooping and data-driven IGMP	
c	The switch support LLDP-MED (Media Endpoint Discovery)	
d	The switch support IEEE 802.1AB Link Layer Discovery Protocol (LLDP)	
e	The switch support Local MAC Authentication	
<b>7</b>	<b>Resiliency and high availability</b>	
a	The switch have stacking ports from day-1 with 100 Gbps stacking bandwidth and cable upto 10 switches per stack.	
b	The switch support Virtual Router Redundancy Protocol (VRRP)	
c	The switch support IEEE 802.1s Multiple Spanning Tree	
d	The switch support IEEE 802.3ad link-aggregation-control protocol (LACP) and port trunking	
e	The switch provide easy-to-configure link redundancy of active and standby links	
<b>8</b>	<b>Management</b>	

<b>S.No.</b>	<b>Parameters</b>	<b>Specification</b>
a	The switch support SNMPv1, v2, and v3	
b	The switch support Zero-Touch Provisioning (ZTP)	
c	The switch support cloud based management platform offers simple, secure, and cost effective way to manage switches	
d	The Switch support Built-in programmable and easy to use REST API interface	
<b>9</b>	<b>Manageability</b>	
a	The switch support Dual flash images	
b	The switch allow assignment of descriptive names to ports	
c	Find-Fix-Inform	
d	The switch have the capability to find and fixes common network problems automatically, then informs administrator	
e	The switch allow multiple configuration files to be stored to a flash image	
f	The switch support RMON, XRMON, and sFlow	
g	The switch provide advanced monitoring and reporting capabilities for statistics, history, alarms, and events	
h	The switch support ingress and egress port monitoring enable network problem solving	
i	The switch support Unidirectional link detection (UDLD)	
j	The switch support IP service level agreements (SLA) for voice	
<b>10</b>	<b>Layer 2 switching</b>	
a	The switch support IEEE 802.1Q (4094 VLAN IDs) and 2K VLANs simultaneously	

<b>S.No.</b>	<b>Parameters</b>	<b>Specification</b>
b	The switch support Jumbo packet support	
c	The switch support IEEE 802.1v protocol VLANs	
d	The switch support Rapid Per-VLAN Spanning Tree (RPVST+)	
e	The switch support GVRP and MVRP	
f	The switch support encapsulation (tunneling) protocol for overlay network that enables a more scalable virtual network deployment	
<b>11</b>	<b>Layer 3 routing and Services</b>	
a	The switch support DHCP server	
b	The switch support minimum 256 static IP routing	
c	Routing Information Protocol (RIP)	
d	The switch support Static routing for IPv4 and IPv6	
e	The switch support OSPFv2 and OSPFv3 protocols for routing between access and the next layer on the LAN.	
f	The switch support Policy-based routing	
<b>12</b>	<b>Security</b>	
a	The switch support IEEE 802.1X, Web-based authentication, MAC-based authentication	
b	The switch support Multiple IEEE 802.1X users per port	
c	The switch support Concurrent IEEE 802.1X, Web, and MAC authentication schemes per port and accept up to 32 sessions of IEEE 802.1X, Web, and MAC authentications	
d	The switch support Access control lists (ACLs)	

S.No.	Parameters	Specification
e	The switch provide IP Layer 3 filtering based on source/destination IP address/subnet and source/destination TCP/UDP port number	
f	The switch support RADIUS/TACACS+	
g	The switch support Secure Sockets Layer (SSL), SSHv2	
h	The switch support Port security, MAC address lockout, STP BPDU port protection, STP root guard, Dynamic ARP protection	
i	The switch support DHCP protection	
j	The switch support Per-port broadcast throttling	
k	The switch support Private VLAN	
<b>13</b>	<b>Environmental and Regulatory Compliance</b>	
a	Support IEEE 802.3az Energy-efficient Ethernet (EEE) to reduce power consumption	
b	Operating temperature: 0° to 55°C, Operating humidity: 15% to 95% non-condensing	
c	Switch conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 or equivalent Indian Standard like IS-13252:2010 or better for Safety requirements of Information Technology Equipment.	
d	Switch conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B or equivalent Indian Standard like IS 6873 (Part 7): 2012 or better for EMC (Electro Magnetic Compatibility) requirements.	
<b>14</b>	<b>Warranty and Support</b>	
a	The switch be offered with minimum three years hardware warranty with NBD Shipment and software updates/upgrades from OEM directly	
b	The switch EAL2/NDPP common criteria certified	



## Annexure “J”

Schedule “J”

<u>Hydrographic Survey Software Hysweep and Hypack</u>			
<u>Sl.no</u>	<u>Parameters</u>		<u>Bidder Specification</u>
<u>1</u>	<u>Hydrographic Survey Software Hysweep</u>		
	Hydrographic Survey Software Hysweep hardlocks with licenses for data acquisition	<i>Latest version of two nos.</i>	
<u>2</u>	<u>Hydrographic Survey Software Hypack</u>		
	Hydrographic Survey Software Hypack hardlocks with licenses for data acquisition and data processing	<i>Latest version of three nos.</i>	

## Annexure “K”



**CHECK LIST FOR SUBMISSION OF DOCUMENTS**

Sl. No.	Section as per Tender	Clause no.	Page no.	Detail of Tender Clause	Requirement as per tender	Insert Page no. as per submitted document
1				Participation in	Schedule-A:- Shallow Water Multi Beam Echo Sounder System with O & M (03 yrs) and CAMC (02 yrs)	
					Schedule-B:-Side Scan Sonar	
					Schedule-C:-ADCP (Acoustic Doppler Current Profiler)	
					Schedule-D:- RTK DGPS	
					Schedule-E:-DGPS Receiver	
					Schedule-F:- Echo Sounder Cum DGPS Receiver	
					Schedule-G:- Single Beam Echo Sounder and Transducer for Echo Sounder	
					Schedule-H:- Water Sampler and Bottom Sampler	
					Schedule-I:- FTP Server and Data Storage System	
					Schedule-J:-Hydrographic Survey Software Hysweep and Hypack	
2	IFB	6, 8	5	Tender Fee as per NIT of tender, Copy Original Demand draft proof	Tender Fees = Rs. 5,900/- (Inclusive of Taxes) is in total for one or multiple schedules	
3	IFB	Clause 8	5	Affidavit on Undertaking for True & Genuineness of bid with bid acceptance as per NIT of Tender as Per ITB 12.3 page no. 20	Submitted by Original Affidavit	
4	Section II Bid Data Sheet Section IV	BDS ITB 19.1 & 19.3 Form no. 15	40-41 74-75	Form of Bid Security as per Schedules Schedule A-5,42,000.00 Schedule B- 2,44,000.00 Schedule C-1,78,000.00 Schedule D- 2,59,000.00 Schedule E- 72,000.00 Schedule F-77,000.00 Schedule G-99,000.00 Schedule H-12,500.00 Schedule I-4,17,000.00 Schedule J- 71,000.00	Required	
5	Section III	1.1 A. (e)	49-50	Minimum Bank Solvency	Bank Solvency: The minimum amount of Bank Solvency shall be:	

Sl. No.	Section as per Tender	Clause no.	Page no.	Detail of Tender Clause	Requirement as per tender			Insert Page no. as per submitted document
	<b>Technical part Qualification criteria</b>			The Bidder shall submit Bank Solvency certificate from a nationalized / scheduled bank in India for a minimum amount as mentioned above. The Bank Solvency certificate submitted by the Bidder shall not be older than six (06) months from the Bid Submission Last Date.	Schedule	Equipment	Rupees	
					A	Shallow Water Multi Beam Echo Sounder System with O & M (03 yrs) and CAMC (02 yrs) :	1,08,36,610	
					B	Side Scan Sonar	48,81,356	
					C	ADCP (Acoustic Doppler Current Profiler)	35,59,322	
					D	RTK DGPS	51,80,000	
					E	DGPS Receiver	14,40,000	
					F	Echo Sounder Cum DGPS Receiver	15,39,840	
					G	Single Beam Echo Sounder and Transducer for Echo Sounder	19,76,271	
					H	Water Sampler and Bottom Sampler	2,44,746	
					I	FTP Server and Data Storage System	83,31,732	
					J	Hydrographic Survey Software Hysweep and Hypack	14,04,000	
6	<b>Section II Bid Data Sheet</b>	<b>BDS. ITB 20.2</b>	<b>41</b>	Power of Attorney :- Supported by a board Resolution, if applicable	Required			
7	Section IV	1-A	54-55	Letter of Bid - Technical Part	Required			
8	Section II	BDS ITB 18.1	40	Bid Validity - 120 days	Letter of bid to be submitted with acceptance			
9	Section IV	Form no .2	58	Bidder Information Form	Required			
10	<b>Section III Evaluation and Qualification Criteria (B Technical part )</b>	1.1 A (a)	48	The Bidder shall furnish documentary evidence (CA Certificate) that it meets the following financial requirement(s):	Schedule	Equipment	Annual Turnover during the preceding 05 Years (in ₹)	
					A	Shallow Water Multi Beam Echo Sounder System with O & M (03 yrs) and CAMC (02 yrs) :	1,08,36,610	
					B	Side Scan Sonar	48,81,356	
					C	ADCP (Acoustic Doppler Current Profiler)	35,59,322	
					D	RTK DGPS	51,80,000	

Sl. No.	Section as per Tender	Clause no.	Page no.	Detail of Tender Clause	Requirement as per tender				Insert Page no. as per submitted document
					E	DGPS Receiver	14,40,000		
					F	Echo Sounder Cum DGPS Receiver	15,39,840		
					G	Single Beam Echo Sounder and Transducer for Echo Sounder	19,76,271		
					H	Water Sampler and Bottom Sampler	2,44,746		
					I	FTP Server and Data Storage System	83,31,732		
					J	Hydrographic Survey Software Hysweep and Hypack	14,04,000		
					<b>For multiple Schedules (in Rs.)</b>		<b>Sum of bidding Schedules</b>		
11		ITB 36.2 Form no 18	79	Performa for performance statement					
12	<b>Section III Evaluation and Qualification Criteria (B Technical part )</b>	1.1 A (b)	48-49	(b) Experience  The Bidder shall furnish documentary evidence to demonstrate that it meets the following experience requirement(s) during the last 07 years :- (Similar works means supply / services of Hydrographic / Marine / Navigation survey equipment for Schedule A to J, supply of Server for Schedule K and supply of Hydrographic software for Schedule L during the last 07 years.)	<b>Schedule</b>	<b>1 similar</b>	<b>2 similar</b>	<b>3 similar</b>	
					Schedule A	2,16,73,220	1,35,45,763	1,08,36,610	
					Schedule B	97,62,712	61,01,695	48,81,356	
					Schedule C	71,18,644	44,49,153	35,59,322	
					Schedule D	1,03,60,000	64,75,000	51,80,000	
					Schedule E	28,80,000	18,00,000	14,40,000	
					Schedule F	30,79,680	19,24,800	15,39,840	
					Schedule G	39,52,542	24,70,339	19,76,271	
					Schedule H	4,89,491	3,05,932	2,44,746	
					Schedule I	1,66,63,545	1,04,14,716	83,31,772	
					Schedule J	28,08,000	17,55,000	14,04,000	

Sl. No.	Section as per Tender	Clause no.	Page no.	Detail of Tender Clause	Requirement as per tender	Insert Page no. as per submitted document
13	Section I & Section IV	ITB clause 11.2(i) BDS ITB 17.2 (b) (i) Form no.16	19, 40, 76	Manufacturers authorization form	Required	
14	Section II	ITB clause 16.3	23	Documentary evidence may be in the form of literature, drawing or data, and shall consist of a detailed item by item description of the essential technical and performance .	Required	
15	Section III, Technical Part	1.1 A. (c ) Annexure “A” to “K”	49 178-209	Technical Specification Compliance Statement	Required	
16	Section VII		124-127	List of goods and delivery	Required	
17	Other information's					