

Bidding Document
for
Procurement
of
Pusher Tug + Dumb Barge Flotilla

For

“Capacity Augmentation of National Waterway-
1. (River Ganga) Project”
(Single Stage, Two Part Electronic Bidding)



BID No: IN /IWAI/332937 /GO/ RFB-a

Issued on:
December'2023

Project: Capacity Augmentation of National Waterway –
1 (Jal Marg Vikas Project)

Client: Inland Waterways Authority of India, Ministry of
Shipping, Government of India

Country:
INDIA

Inland Waterways Authority of India,
Ministry of Ports, Shipping & Waterways, Government of India
PROJECT: Capacity Augmentation of National Waterway – 1

NATIONAL COMPETITIVE BIDDING
(Two-Envelope Bidding Process with e-Procurement)

File NO IWAI /WB / NW-1 /14 / 2/2022

Bid no :- IN-IWAI-332937-CW-RFB-a

NAME OF WORK: Procurement of Pusher Tug +Dumb Barge Flotilla	
PERIOD OF SALE OF BIDDING DOCUMENT	FROM (12.12.2023)
TIME AND DATE OF virtual PRE-BID MEETING link shall be shared on CPPP Portal separately	DATE (22.12.2023) 1TIME 15.00 Hrs
LAST DATE AND TIME FOR RECEIPT OF BIDS	DATE (12.01.2024) TIME 15.00 Hrs
* TIME AND DATE OF OPENING	DATE (12.01.2024) TIME 15.30 HOURS OF BIDS – Technical
. The firms that qualify technically shall be notified subsequently for opening of the financial part of their bids.	
PLACE OF OPENING OF BIDS	IWAI , A-13 Sector-1 ; Noida
OFFICER INVITING BIDS :- Project Director (JMVP) ; Inland Waterways Authority of India, A – 13, Sector – 1, Noida – 201301, Uttar Pradesh – INDIA - Telephone No. : (91) 0120-2424544 Email. : vc.iwai@nic.in	

Inland Waterways Authority of India,
Ministry of Ports, Shipping & Waterways, Government of India
Project: Capacity Augmentation of NW-1(Jal Marg Vikas)
Country –India

INVITATION FOR BID (IFB)

Procurement Notice
(Single Stage, Two Part Electronic Bidding with e-procurement)

File no : IWAI /WB/NW-1/14/2/2022

Bid no : IN-IWAI -332937-CW-RFB-a

Dated :-12.12.2023

Loan / Credit No. : IBRD P-87520

1. The Government of India has received financing from the World Bank towards the cost of *Capacity Augmentation of National Waterway – 1 (Jal Marg Vikas)*, project and it is intended that part of the proceeds will be applied to eligible payments under the contract for *Procurement of Inland Vessels*.
2. The Vice Chairman & Project Director (JMVP) *Inland Waterways Authority of India, Ministry of Ports, Shipping & Waterways, Government of India*, now invites online bids from eligible bidders for Supply of (3 Tugs + 6 Dumb Barges) *Inland Vessels to be delivered in 14 to 24 months respectively from the date of award*.
3. 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.
4. Bidding documents are available online from CPPP portal <https://eprocure.gov.in/eprocure/app> for a **non-refundable fee of Rs.6000.00** in the form of Demand Draft/ Cashier's cheque on any Scheduled/Nationalized bank payable at **NOIDA** in favour of **IWAI- Fund (Jal Marg Vikas)** . (Demand Draft to be submitted subsequently as per the procedure described in paragraph 8 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.
For Online payment details are:- **Advising Bank: CANARA BANK**
Bank Account no.: 87781010014534 ; IFSC Code: CNRB0018778
Name of beneficiary: IWAI FUND Jal Marg Vikas ; Branch name: Morna - Sector 18, Noida
5. For submission of the bids, the bidder is required to have Digital Signature Certificate (DSC)_Class-II & above 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.
6. Bids security of the amount specified in the bidding document, drawn in favor of IWAI Fund (Jal Marg Vikas) must be submitted as per the procedure

described in paragraph 8 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.

7. Bids must be submitted online on <https://eprocure.gov.in/eprocure/app> on or before the bid submission deadline, 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)

Inland Waterways Authority of India

Project Management Unit

Address: A-13, Sector – 1

City: Noida, Gautam Buddha Nagar, Uttar Pradesh PIN :- 201301

Country: India ; E-mail ID : vc.iwai@nic.in

before the bid submission deadline, 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.

10. Seal of Office & Address

Vice Chairman & Project Director (JMVP)

Inland Waterways Authority of India

Project Management Unit

Address: A-13, Sector – 1

City: Noida, Gautam Buddha Nagar, Uttar Pradesh PIN :- 201301

Country: India ; E-mail ID : vc.iwai@nic.in

Package no.	Name of Work	Bid Security [*] (Rs)	Cost of Document(Rs.)	Period of Completion
1	2	3	4	5
IN/IWAI/332937/ GO/RFP-a	Procurement of Pusher Tug +Dumb Barge Flotilla	1.70 Crs	6,000.00 including GST.	14 to 24 months

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PART 1 – BIDDING PROCEDURES

Section I. Instructions to Bidders - ITB

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Section I . Instruction to Bidders

A. General

1	Scope of Bid	<p>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 lots (contracts) of this National Competitive Bidding (NCB) procurement are specified in the BDS.</p> <p>1.2 Throughout these Bidding Documents:</p> <p>(a) the term “in writing” means communicated in written form (e.g. by mail, e-mail, fax, telex) with proof of receipt;</p> <p>(b) if the context so requires, “singular” means “plural” and vice versa; and</p> <p>(c) “day” means calendar day.</p>
2	Source of Funds	<p>2.1 The Borrower or Recipient (hereinafter called “Borrower”) specified in the BDS has applied for or received financing (hereinafter called “funds”) from the International Bank for Reconstruction and Development or the International Development Association (hereinafter called “the Bank”) in an amount specified in BDS, toward the project named in BDS The Borrower intends to apply a portion of the funds to eligible payments under the contract for which these Bidding Documents are issued.</p> <p>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 proceeds of the Loan (or other financing).</p>
3	Courpt & Fraudulant Practices	<p>3.1 The Bank requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Section VI.</p> <p>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.</p>

4	Eligible Bidders	<p>4.1 A Bidder may be a firm that is a private entity, a government-owned entity—subject to ITB 4.5—or any combination of such entities in the form of a joint venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the bidding process and, in the event the JV is awarded the Contract, during contract execution. Unless specified in the BDS, there is no limit on the number of members in a JV.</p> <p>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:</p> <ul style="list-style-type: none"> 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 works 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 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
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		<p>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</p> <p>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.</p>
		<p>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.</p> <p>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.</p> <p>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.</p> <p>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</p>

		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	<p>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.</p> <p>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.</p> <p>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.</p>
	B. Contents of Bidding Document	
6	Sections of Bidding Documents	<p>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.</p> <p>PART 1 Bidding Procedures</p> <ul style="list-style-type: none"> ▪ 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 <p>PART 2 Supply Requirement</p> <ul style="list-style-type: none"> ▪ Section VII. Schedule of Requirements <p>PART 3 Contract</p> <ul style="list-style-type: none"> ▪ Section VIII. General Conditions of Contract (GCC) ▪ Section IX. Special Conditions of Contract (SCC) ▪ Section X. Contract Forms <p>6.2 The Invitation for Bids issued by the Purchaser is not part of the Bidding Document.</p> <p>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.</p> <p>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.</p>

7	Clarification of Bidding Documents	7.1 A Bidder requiring any clarification of the Bidding Document shall contact the Purchaser in writing at the Purchaser's address specified in the BDS . The Purchaser will respond in writing to any request for clarification, provided that such request is received prior to the deadline for submission of bids within a period specified in the BDS . The Purchaser shall forward copies of its response to all Bidders who have acquired the Bidding Documents in accordance with ITB 6.3, including a description of the inquiry but without identifying its source. If so specified in the BDS , the Purchaser shall also promptly publish its response at the web page identified in the BDS . Should the clarification result in changes to the essential elements of the Bidding Documents, the Purchaser shall amend the Bidding Documents following the procedure under ITB 8 and ITB 22.2.
8	Amendment of Bidding Documents	<p>8.1 At any time prior to the deadline for submission of bids, the Purchaser may amend the Bidding Documents by issuing addenda.</p> <p>8.2 Any addendum issued shall be part of the Bidding Documents and shall be communicated in writing to all who have obtained the Bidding Documents from the Purchaser in accordance with ITB 6.3. The Purchaser shall also promptly publish the addendum on the Purchaser's web page in accordance with ITB 7.1.</p> <p>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 22.2.</p>
	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 the language specified in the BDS . Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages into the language specified in the BDS , in which case, for purposes of interpretation of the Bid, such translation shall govern.
11	Documents Comprising the Bid	<p>11.1 The Bid shall comprise the following:</p> <ul style="list-style-type: none"> (a) Letter of Bid in accordance with ITB 12; (b) completed schedules , in accordance with ITB 12 and 14 (c) Bid Security or Bid-Securing Declaration, in accordance with ITB 19.1; (d) alternative bids, if permissible, in accordance with ITB

		<p>13;</p> <p>(e) written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 20.2;</p> <p>(f) documentary evidence in accordance with ITB 17 establishing the Bidder's qualifications to perform the contract if its bid is accepted;</p> <p>(g) documentary evidence in accordance with ITB 17 establishing the Bidder's eligibility to bid;</p> <p>(h) documentary evidence in accordance with ITB 16, that the Goods and Related Services to be supplied by the Bidder are of eligible origin;</p> <p>(i) documentary evidence in accordance with ITB 16 and 30, that the Goods and Related Services conform to the Bidding Documents;</p> <p>(j) any other document required in the BDS.</p> <p>11.2 In addition to the requirements under ITB 11.1, bids submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful bid shall be signed by all members and submitted with the bid, together with a copy of the proposed Agreement.</p> <p>11.3 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.</p>
12	Letter of Bid and Price Schedules	<p>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.</p>
13	Alternative Bids	<p>13.1 Unless otherwise specified in the BDS, alternative bids shall not be considered.</p>
14	Bid Prices and Discounts	<p>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.</p> <p>14.2 All lots (contracts) and items must be listed and priced separately in the Price Schedules.</p> <p>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</p> <p>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.</p>

		<p>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, adjustment during the performance of the Contract, a bid submitted prices quoted by the Bidder shall be subject to with a fixed price quotation shall not be rejected, but the price adjustment shall be treated as zero.</p> <p>14.6 If so specified in ITB 1.1, bids are being invited for individual lots (contracts) or for any combination of lots (packages). Unless otherwise specified in the BDS, prices quoted shall correspond to 100 % of the items specified for each lot and to 100% of the quantities specified for each item of a lot. Bidders wishing to offer 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 lots (contracts) are submitted and opened at the same time.</p> <p>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.</p> <p>14.8 Prices shall be quoted as specified in each Price Schedule included in Section IV, Bidding Forms. The dis-aggregation of price components is required solely for the purpose of facilitating the comparison of bids by the Purchaser. This shall not in any way limit the Purchaser's right to contract on any of the terms offered. In quoting prices, the Bidder shall be free to use transportation through carriers registered in any eligible country, in accordance with Section V, Eligible Countries. Similarly, the Bidder may obtain insurance services from any eligible country in accordance with Section V, Eligible Countries. Prices shall be entered in the following manner:</p>
		<p>(a) For Goods manufactured in the Purchaser's Country:</p> <ul style="list-style-type: none"> (i) the price of the Goods quoted EXW (ex-works, ex-factory, ex warehouse, ex showroom, or off-the-shelf, as applicable), including all customs duties and sales and other taxes already paid or payable on the components and raw material used in the manufacture or assembly of the Goods; (ii) any Purchaser's Country sales tax and other taxes which will be payable on the Goods if the contract is awarded to the Bidder; and (iii) the price for inland transportation, insurance, and other local services required to convey the Goods to their final destination (Project Site) specified in the BDS.

		<p>(b) For Goods manufactured outside the Purchaser's Country, to be imported:</p> <ul style="list-style-type: none"> (i) the price of the Goods, quoted CIP named place of destination, in the Purchaser's Country, as specified in the BDS; (ii) the price for inland transportation, insurance, and other local services required to convey the Goods from the named place of destination to their final destination (Project Site) specified in the BDS;
		<p>(c) For Goods manufactured outside the Purchaser's Country, already imported:</p> <ul style="list-style-type: none"> (i) the price of the Goods, including the original import value of the Goods; plus any mark-up (or rebate); plus any other related local cost, and custom duties and other import taxes already paid or to be paid on the Goods already imported. (ii) the custom duties and other import taxes already paid (need to be supported with documentary evidence) or to be paid on the Goods already imported; (iii) the price of the Goods, obtained as the difference between (i) and (ii) above; (iv) any Purchaser's Country sales and other taxes which will be payable on the Goods if the contract is awarded to the Bidder; and (v) the price for inland transportation, insurance, and other local services required to convey the Goods to their final destination (Project Site) specified in the BDS.
		<ul style="list-style-type: none"> (d) for Related Services, other than inland transportation and other services required to convey the Goods to their final destination, whenever such Related Services are specified in the Schedule of Requirements: (e) the price of each item comprising the Related Services (inclusive of any applicable taxes).
		<p>14.9 Deemed Export Benefits</p> <p>Bidder may like to ascertain availability of tax/duty exemption benefits, if any, 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</p>

		<p>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.</p>
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	<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>
17	Documents Establishing the Eligibility &Qualifications of the Bidder	<p>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.</p> <p>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:</p>

		<p>(a) that, if required in the BDS, a Bidder that does not manufacture or produce the Goods it offers to supply shall submit the Manufacturer's Authorization using the form included in Section IV, Bidding Forms to demonstrate that it has been duly authorized by the manufacturer or producer of the Goods to supply these Goods in the Purchaser's Country;</p> <p>(b) that, if required in the BDS, in case of a Bidder not doing business within the Purchaser's Country, the Bidder is or will be (if awarded the contract) represented by an Agent in the country equipped and able to carry out the Supplier's maintenance, repair and spare parts-stocking obligations prescribed in the Conditions of Contract and/or Technical Specifications; and</p> <p>(c) that the Bidder meets each of the qualification criterion specified in Section III, Evaluation and Qualification Criteria.</p>
18	Period of Validity of Bids	<p>18.1. Bids shall remain valid until the date specified in the BDS or any extended date if amended by the Purchaser in accordance with ITB 8. A Bid that is not valid until the date specified in the BDS, or any extended date if amended by the Purchaser in accordance with ITB 8, shall be rejected by the Purchaser as nonresponsive.</p> <p>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.</p> <p>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:</p> <p>(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.</p> <p>(b) In the case of adjustable price contracts, no adjustment shall be made.</p> <p>(c) In any case, bid evaluation shall be based on the bid Price without taking into consideration the applicable correction from those indicated above.</p>
19	Bid Security	<p>19.1. The Bidder shall furnish as part of its bid, either a Bid-Securing Declaration or a bid security, as specified in the BDS, in original form and, in the case of a bid security. In the amount and currency specified in the BDS.</p> <p>19.2. A Bid Securing Declaration shall use the form included in Section IV,</p>

		<p>Bidding Forms.</p> <p>19.3. If a bid security is specified pursuant to ITB 19.1, the bid security shall be a demand guarantee in any of the following forms at the Bidder's option :</p> <ul style="list-style-type: none"> (a) (a an unconditional guarantee issued by a bank or financial institution (such as an insurance, bonding or surety company); (b) an irrevocable letter of credit; (c) a cashier's or certified check; or (d) another security specified in the BDS, <p>from a reputable source from an eligible country. If the unconditional guarantee is issued by a financial institution located outside the Purchaser's Country, the issuing financial institution shall have a correspondent financial institution located in the Purchaser's Country to make it enforceable. In the case of a bank guarantee, the bid security shall be submitted either using the Bid Security Form included in Section IV, Bidding Forms, or in another substantially similar format approved by the Purchaser prior to bid submission. The bid security shall be valid for twenty-eight (28) days beyond the original date of expiry of the bid validity, or beyond any extended date if requested under ITB 18.2.</p> <p>19.4. If a Bid Security is specified pursuant to ITB 19.1, any bid not accompanied by a substantially responsive Bid Security shall be rejected by the Purchaser as non-responsive.</p> <p>19.5. If a Bid Security is specified pursuant to ITB 19.1, 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 42.</p> <p>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.</p> <p>19.7. The Bid Security may be forfeited:</p> <ul style="list-style-type: none"> (a) if a Bidder withdraws its bid prior to the expiry date of the bid validity specified by the Bidder on the Letter of Bid, or any extended date provided by the Bidder; (b) if the successful Bidder fails to: <ul style="list-style-type: none"> (i) sign the Contract in accordance with ITB41; or (ii) furnish a performance security in accordance with ITB 42. <p>19.8. The bid security or Bid- Securing Declaration of a JV must be in the name of the JV that submits the bid. If the JV has not been legally constituted into a legally enforceable JV at the time of bidding, the</p>
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		<p>bid security or Bid-Securing Declaration shall be in the names of all future members as named in the letter of intent referred to in ITB 4.1 and ITB 11.2.</p> <p>19.9. If a bid security is not required in the BDS, pursuant to ITB 19.1, and</p> <ul style="list-style-type: none"> (a) if a Bidder withdraws its bid prior to the expiry date of the bid validity specified by the Bidder on the Letter of Bid, or any extended date provided by the Bidder, or (b) if the successful Bidder fails to: sign the Contract in accordance with ITB 41; or furnish a performance security in accordance with ITB 42; <p>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.</p>
20	Format and Signing of Bid	<p>20.1 The Bidder shall prepare one original of the documents comprising the bid as described in ITB 11 and clearly mark it "ORIGINAL." Alternative bids, if permitted in accordance with ITB 13, shall be clearly marked "ALTERNATIVE." In addition, the Bidder shall submit copies of the bid, in the number specified in the BDS and clearly mark them "COPY." In the event of any discrepancy between the original and the copies, the original shall prevail.</p> <p>20.2 The original and all copies of the bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation as specified in the BDS and shall be attached to the bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the bid where entries or amendments have been made shall be signed or initialed by the person signing the bid.</p> <p>20.3 In case the Bidder is a JV, the Bid shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives.</p> <p>20.4 Any inter-lineation, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the bid.</p>
		D. Submission and Opening of Bids

21	Sealing and Marking of Bids	<p>21.1. The Bidder shall enclose the original and all copies of the bid, including alternative bids, if permitted in accordance with ITB 13, in separate sealed envelopes, duly marking the envelopes as “ORIGINAL”, “ALTERNATIVE” and “COPY.” These envelopes containing the original and the copies shall then be enclosed in one single envelope.</p> <p>21.2. The inner and outer envelopes shall:</p> <ul style="list-style-type: none"> (a) bear the name and address of the Bidder; (b) be addressed to the Purchaser in accordance with ITB 24.1; (c) bear the specific identification of this bidding process indicated in ITB 1.1; and (d) bear a warning not to open before the time and date for bid opening. <p>21.3 IF ALL ENVELOPES ARE NOT SEALED AND MARKED AS REQUIRED, THE PURCHASER WILL ASSUME NO RESPONSIBILITY FOR THE MISPLACEMENT OR PREMATURE OPENING OF THE BID.</p>
22	Deadline for Submission of Bids	<p>22.1. 22.1 Bids must be received by the Purchaser at the address and no later than the date and time specified in the BDS. When so specified in the BDS, bidders shall have the option of submitting their bids electronically. Bidders submitting bids electronically shall follow the electronic bid submission procedures specified in the BDS.</p> <p>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 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.</p>
23	Late Bid	<p>23.1 The electronic bidding system would not allow any late submission of bids after due date & time as per server time.</p>
24	Withdrawal, Substitution, and Modification of Bids	<p>24.1. A Bidder may withdraw, substitute, or modify its Bid after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization (the power of attorney) in accordance with ITB 20.2, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the bid must accompany the respective written notice. All notices must be:</p> <ul style="list-style-type: none"> (a) prepared and submitted in accordance with ITB 20 and 21 (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked “WITHDRAWAL,” “SUBSTITUTION,” or “MODIFICATION;” and (b) received by the Purchaser prior to the deadline prescribed for submission of bids, in accordance with ITB 22. <p>24.2. Bids requested to be withdrawn in accordance with ITB 24.1 shall be returned unopened to the Bidders.</p> <p>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</p>

		period of bid validity specified by the Bidder on the Letter of Bid or any extension thereof.
25	Bid Opening	<p>25.1. Except as in the cases specified in ITB 23 and 24, the Purchaser shall publicly open and read out in accordance with ITB 25.3 all bids received by the deadline at the date, time and place specified in the BDS in the presence of Bidders' designated representatives and anyone who choose to attend. Any specific electronic bid opening procedures required if electronic bidding is permitted in accordance with ITB 22.1, shall be as specified in the BDS.</p> <p>25.2. First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelope with the corresponding bid shall not be opened, but returned to the Bidder. If the withdrawal envelope does not contain a copy of the "power of attorney" confirming the signature as a person duly authorized to sign on behalf of the Bidder, the corresponding bid will be opened. No bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at bid opening. Next, envelopes marked "SUBSTITUTION" shall be opened and read out and exchanged with the corresponding Bid being substituted, and the substituted Bid shall not be opened, but returned to the Bidder. No Bid substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at bid opening. Envelopes marked "MODIFICATION" shall be opened and read out with the corresponding Bid. No Bid modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Bid opening. Only bids that are opened and read out at Bid opening shall be considered further.</p> <p>25.3. All other envelopes shall be opened one at a time, reading out: the name of the Bidder and whether there is a modification; the total Bid Prices, per lot (contract) if applicable, including any discounts and alternative bids; the presence or absence of a Bid Security, if required; and any other details as the Purchaser may consider appropriate. Only discounts and alternative bids read out at Bid opening shall be considered for evaluation. The Letter of Bid and the Price Schedules are to be initialed by representatives of the Purchaser attending bid opening in the manner specified in the BDS. The Purchaser shall neither discuss the merits of any bid nor reject any bid (except for late bids, in accordance with ITB 25.1).</p> <p>25.4. The Purchaser shall prepare a record of the bid opening that shall include, as a minimum: the name of the Bidder and whether there is a withdrawal, substitution, or modification; the Bid Price, per lot (contract) if applicable, including any discounts, and alternative bids; and the presence or absence of a Bid Security, if one was required. The Bidders' representatives who are present shall be requested to sign the record. The omission of a Bidder's signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidders.</p>

E. Evaluation and Comparison of Bids		
26	Confidentiality	<p>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.</p> <p>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.</p> <p>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.</p>
27	Clarification of Bids	<p>27.1 27.1 To assist in the examination, evaluation, comparison of the bids, and 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 and that is not in response to a request by the Purchaser shall not be considered. The Purchaser's request for clarification and the response shall be in writing. No change, 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 31.</p> <p>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.</p>
28	Deviation Reservations, Omissions	<p>28.1 During the evaluation of bids, the following definitions apply:</p> <ul style="list-style-type: none"> 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	Determination of Responsiveness	<p>29.1 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.</p> <p>29.2 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:</p> <ul style="list-style-type: none"> a. If accepted, would <ul style="list-style-type: none"> i. affect in any substantial way the scope, quality, or

		<p>performance of the Goods and Related Services specified in the Contract; or</p> <p>ii. limit in any substantial way, inconsistent with the Bidding Documents, the Purchaser's rights or the Bidder's obligations under the Contract; or</p> <p>(b) if rectified would unfairly affect the competitive position of other bidders presenting substantially responsive bids.</p> <p>29.3 Bids from Agents, without proper authorization from the manufacturer as per Section IV, shall be treated as non-responsive.</p> <p>29.4 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.</p>
30	Nonconformities , Errors and Omissions	<p>30.1 Provided that a Bid is substantially responsive, the Purchaser may waive any nonconformities in the Bid.</p> <p>30.2 Provided that a bid is substantially responsive, the Purchaser may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the bid related to documentation requirements. Such omission shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.</p> <p>30.3 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 by adding the average price of the item or component quoted by substantially responsive Bidders. 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.</p>
31	Correction of Arithmetical Errors	<p>31.1 Provided that the Bid is substantially responsive, the Purchaser shall correct arithmetical errors on the following basis:</p> <p>(a) if there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of the Purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the line item total as quoted shall govern and the unit price shall be corrected;</p> <p>(b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and</p> <p>(c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures</p>

		<p>shall prevail subject to (a) and (b) above.</p> <p>31.2 Bidders shall be requested to accept correction of arithmetical errors. Failure to accept the correction in accordance with ITB 31.1, shall result in the rejection of the Bid.</p>
32	Conversion to Single Currency	32.1 For evaluation and comparison purposes, the currency(ies) of the Bid shall be converted in a single currency as specified in the BDS.
33	Margin of Preference	33.1 Unless otherwise specified in the BDS, a margin of preference shall not apply.
34	Evaluation of Bids	<p>34.1 The Purchaser shall use the criteria and methodologies listed in this Clause. No other evaluation criteria or methodologies shall be permitted.</p> <p>34.2 To evaluate a Bid, the Purchaser shall consider the following:</p> <ul style="list-style-type: none"> (a) evaluation will be done for Items or Lots (contracts), as specified in the BDS; and the Bid Price as quoted in accordance with clause 14; (b) price adjustment for correction of arithmetic errors in accordance with ITB 31.1; (c) price adjustment due to discounts offered in accordance with ITB 14.3; (d) converting the amount resulting from applying (a) to (c) above, if relevant, to a single currency in accordance with ITB 32; (e) price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITB 30.3; (f) the additional evaluation factors are specified in Section III, Evaluation and Qualification Criteria; <p>34.3 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.</p> <p>34.4 If these Bidding Documents allows Bidders to quote separate prices for different lots (contracts), the methodology to determine the lowest evaluated price of the lot (contract) combinations, including any discounts offered in the Letter of Bid Form, is specified in Section III, Evaluation and Qualification Criteria</p> <p>34.5 The Purchaser's evaluation of a bid will exclude and not take into account:</p> <ul style="list-style-type: none"> (a) in the case of Goods manufactured in the Purchaser's Country, sales and other similar taxes, which will be payable on the goods if a contract is awarded to the Bidder; (b) in the case of Goods manufactured outside the Purchaser's Country, already imported or to be imported, customs duties and other import taxes levied on the imported Good, sales and

		<p>other similar taxes, which will be payable on the Goods if the contract is awarded to the Bidder;</p> <p>(c) any allowance for price adjustment during the period of execution of the contract, if provided in the bid.</p> <p>34.6 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 34.2 (f).</p>
35	Comparison of Bids	<p>35.1 The Purchaser shall compare the evaluated prices of all substantially responsive bids established in accordance with ITB 34.2 to determine the lowest evaluated bid. The comparison shall be on the basis of CIP (place of final destination) prices for imported goods and EXW prices, plus cost of inland transportation and insurance to place of destination, for goods manufactured within the Borrower's country, together with prices for any required installation, training, commissioning and other services. The evaluation of prices shall not take into account custom duties and other taxes levied on imported goods quoted CIP and sales and similar taxes levied in connection with the sale or delivery of goods.</p>
36	Qualification of the Bidder	<p>36.1 The Purchaser shall determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated and substantially responsive bid meets the qualifying criteria specified in Section III, Evaluation and Qualification Criteria.</p> <p>36.2 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.</p> <p>36.3 Prior to Contract award, the Purchaser will verify that the successful Bidder (including each member of a JV) is not disqualified by the Bank due to noncompliance with contractual SEA/SH prevention and response obligations. The Purchaser will conduct the same verification for each subcontractor proposed by the successful Bidder. If any proposed subcontractor does not meet the requirement, the Purchaser will require the Bidder to propose a replacement subcontractor.</p> <p>36.4 An affirmative determination shall be a prerequisite for award of the Contract to the Bidder. A negative determination shall result in disqualification of the bid, in which event the Purchaser shall proceed to the next lowest evaluated bid to make a similar determination of that Bidder's qualifications to perform satisfactorily.</p>
37	Purchaser's Right to Accept Any Bid, and to Reject Any or All	<p>37.1 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 bids submitted and specifically, bid securities,</p>

	Bids	shall be promptly returned to the Bidders.
		F. Award of Contract
38	Award Criteria	38.1 Subject to ITB 37.1, 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.
39	Purchaser's Right to Vary Quantities at Time of Award	39.1 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 specified in the BDS, and without any change in the unit prices or other terms and conditions of the bid and the Bidding Documents.
40	Notification of Award	<p>40.1 Prior to the date of expiry of the Bid validity, the Purchaser shall notify the successful Bidder, in writing, that its Bid has been accepted. The notification letter (hereinafter and in the Conditions of Contract and Contract Forms called the "Letter of Acceptance") shall specify the sum that the Purchaser will pay the Supplier in consideration of the supply of Goods (hereinafter and in the Conditions of Contract and Contract Forms called "the Contract Price"). At the same time, the Purchaser shall also notify all other Bidders of the results of the bidding and shall publish in <i>UNDB online</i> the results identifying the bid and lot (contract) numbers and the following information:</p> <ul style="list-style-type: none"> (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. <p>40.2 Until a formal Contract is prepared and executed, the notification of award shall constitute a binding Contract.</p> <p>40.3 The Purchaser shall promptly respond in writing to any unsuccessful Bidder who, after notification of award in accordance with ITB 40.1, requests in writing the grounds on which its bid was not selected.</p>
41	Signing of Contract	<p>41.1 Promptly after notification, the Purchaser shall send the successful Bidder the Contract Agreement.</p> <p>41.2 Within twenty-eight (28) days of receipt of the Contract Agreement, the successful Bidder shall sign, date, and return it to the Purchaser.</p> <p>41.3 Notwithstanding ITB 41.2 above, in case signing of the Contract Agreement is prevented by any export restrictions attributable to the Purchaser, to the country of the Purchaser, or to the use of the products/goods, systems or services to be supplied, where such export restrictions arise from trade regulations from a country supplying those</p>

		<p>products/goods, systems or services, the Bidder shall not be bound by its bid, always provided however, that the Bidder can demonstrate to the satisfaction of the Purchaser and of the Bank that signing of the Contract Agreement has not been prevented by any lack of diligence on the part of the Bidder in completing any formalities, including applying for permits, authorizations and licenses necessary for the export of the products/goods, systems or services under the terms of the Contract.</p>
42	Performance Security	<p>42.1 Within twenty eight (28) days of the receipt of notification of award from the Purchaser, the successful Bidder, if required, shall furnish the Performance Security in accordance with the GCC, subject to ITB 34.5, using for that purpose the Performance Security Form included in Section X, Contract Forms, or another Form acceptable to the Purchaser. If the Performance Security furnished by the successful Bidder is in the form of a bond, it shall be issued by a bonding or insurance company that has been determined by the successful Bidder to be acceptable to the Purchaser. A foreign institution providing a bond shall have a correspondent financial institution located in the Purchaser's Country.</p> <p>42.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security. In that event the Purchaser may award the Contract to the next lowest evaluated Bidder, whose bid is substantially responsive and is determined by the Purchaser to be qualified to perform the Contract satisfactorily.</p>

SECTION II – BIDDING DATA SHEET	
ITB Clause Reference	A. General
ITB 1.1	The number of the Invitation for Bids is : IN –IWAI-332937 -GO-RFP -a
ITB 1.1	The Purchaser is: Vice Chairman & Project Director Inland Waterways Authority of India, Ministry of Ports, Shipping and Waterways, Government of India
ITB 1.1	The name of the NCB work is: Procurement of 3.no of Pusher Tug + 6 No of Dumb Barge Flotilla as per technical specifications . The detailed scope of work is provided in Section VII. The identification number of the work is: NCB is: Bid No.: IN –IWAI-332937 -GO-RFP-a
	The Intended Completion Date is 24 months from the Date of Award.
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	The Borrower is Government of India. The Purchaser is Inland Waterways Authority of India, Ministry of Ports, Shipping & Waterways, Government of India Loan or Financing Agreement amount: 317.22 million US Dollar The Purchaser is Inland Waterways Authority of India, The name of the Project is: Capacity Augmentation of National Waterway – 1 (Jal Marg Vikas)
ITB 2.1	The name of the Project is “Capacity Augmentation of National Waterway – 1 (Jal Marg Vikas Project)”
ITB 4.1	Bids from consortium are acceptable and shall be treated the same way as that of JV mentioned in the bidding documents Maximum number of members in the Joint Venture (JV) shall be: (Three) 3. It is not mandatory to get the JV registered, interested bidders are requested to submit a JV Agreement duly notarized in India. A statement to the effect that all members of the joint venture shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms, shall be included in the authorization nominating a Representative or member in charge, as well as in the Bid and in the Agreement [in case of a successful bid]. The joint venture agreement should define precisely the division of assignments to each member of JV All members of JV should have active participation in the execution during the currency of the contract. This should not be varied/ modified subsequently without prior approval of the Purchaser
ITB 4.4	A list of debarred firms and individuals is available at the Bank’s external website www.worldbank.org/debarr .

	B. Contents of Bidding Documents
ITB 7.1	<p>Electronic –Procurement System</p> <p>The Purchaser shall use the following electronic-procurement system to manage this Bidding process:</p> <p>https://eprocure.gov.in/eprocure/app</p> <p>Requests for clarification should be received by the Purchaser no later than 14 days prior to deadline for submission of bids.</p> <p>The clarifications can be sought / sent by e-mail or by hard copy on the following address:</p> <p>Vice Chairman & Project Director, Jal Marg Vikas Project Inland Waterways Authority of India A-13, Sector-1, Noida, Gautam Buddha Nagar, UP – 201301 +91 120 2424544 ... Email: vc.iwai@nic.in;</p> <p>Requests for clarification should be received by the Purchaser no later than Date of Pre-bid Meeting.</p>
	<p>A Pre-Bid meeting shall take place.</p> <p>A Pre-Bid meeting will take place, at the following date, time and place:</p> <p>Date: (T+10) Time: 15.00 Hrs IST (Where T is date of Release of Tender)</p> <p>Place: IWAI Noida or Virtual Meet Link will be shared on CPPP Portal</p> <p>Pre-Bid Queries should reach the Purchaser at the following address or by E-Mail no later than Date of Pre-bid Meeting.</p> <p>Vice Chairman & Project Director, Jal Marg Vikas Project Inland Waterways Authority of India A-13, Sector-1, Noida, Gautam Buddha Nagar, UP – 201301 +91 120 2424544 ... Email: vc.iwai@nic.in</p>
	<p>In the event of the specified date of pre-bid meeting being declared a holiday for the Purchaser, the meeting will be held at the appointed time and location on the next working day.</p> <p>Non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder. The person attending the pre-bid conference should have valid authorization from the authorized signatory of the prospective bidder. The prospective bidders shall intimate the name of the representative(s) (not more than two from one organization) to the above e-mail address.</p>
ITB 8.1	<p>The addendum will appear on the e-procurement system .and email notification is also automatically sent to those bidders who have started working on this tender.</p>
	C. Preparation of Bids
ITB 10.1	<p>The language of the bid is: English</p> <p>All correspondence exchange shall be in English language.</p> <p>Language for translation of supporting documents and printed literature is English.</p>

ITB 11.2	No deviation is allowed
ITB 11.2(j)	The Bidder shall submit the documents with its bid as stated in Section III and Section-IV. (documents in support of Qualification Requirements)
ITB 11.3	<p>The Bidder shall submit the following documents in its Bid:</p> <ul style="list-style-type: none"> ▪ On-line – Financial Part in .xls ▪ Scanned copy of letter of Bid - financial part
ITB 12	<p>Added at the end of 12.1</p> <p>Note for Bidders:</p> <p>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 11.3 and 12.3 should also be uploaded on this website.</p> <p>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 bid submission deadline, 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.</p> <p>12.4 For submission of original documents, the Purchaser's address is: Vice Chairman & Project Director (JMVP) Inland Waterways Authority of India Project Management Unit Address: A-13, Sector – 1 City: Noida, Gautam Buddha Nagar, Uttar Pradesh Pin Code: 201301 Country: India ; E-mail ID : vc.iwai@nic.in</p>
	Alternative Bids “ shall not be ” considered.
ITB 14.5	The prices quoted by the Bidder shall not be subject to adjustment during the performance of the contract.
ITB 14.6	<p>Bids are being invited for only one lot as specified in BDS clause 1.1. Prices quoted for the lot (contract) shall correspond to at least 100 per cent of the items specified for the lot (contract).</p> <p>Prices quoted for each item of the lot shall correspond at least to 100 percent of the quantities specified for this item of the lot.</p>
ITB 14.7	The Incoterms edition is Incoterms 2010.
ITB 14.8	<p>Add the following as sub-clause 14.8</p> <p>Any delay in procurement of the construction equipment / machinery /goods as a result of the above shall not be a cause for granting any extension of time.</p> <p>Place of Destination: EX Works.</p>

	<p>“Final destination (Project Site)”:-, Kolkata, West Bengal, India</p> <p>Address of the consignee:</p> <p>Director – IWAI ; Inland Waterways Authority of India</p> <p>Ministry of Ports, Shipping and waterways ,(Govt of India(</p> <p>P-78 Garden Reach Road Kolkata. – 700043 (West Bengal)</p>
ITB 14.9	<p>Deemed Export Benefits</p> <p>Bidder may like to ascertain availability of tax/duty exemption benefits, if any, 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</p> <p>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.</p>
ITB 15.1	The prices shall be quoted by the bidder in INR
ITB 16.3	<p>For this purpose of Technical Evaluation, the Bidder shall submit the following</p> <ol style="list-style-type: none"> Technical Literature. Item description of the essential technical parameters. Performance Characteristic of the equipment Drawing or Data Deviations and Exceptions to the provisions of Section VII Schedule of Requirements, along with the bid. Deviations and exceptions mentioned elsewhere in the Bid shall not be considered.
ITB 16.4	Period of time the Goods are expected to be functioning (for the purpose of spare parts): 25 years
ITB 17.2.a	Manufacturer’s authorization is: required as per proforma in Section IV.
ITB 17.2.b	After Sales service is...Required , which shall be provided by the Supplier or alternatively by its Agent in case of a foreign bidder.
ITB 18.1	The bid validity period shall be 120 days from the date of opening of bid.

ITB 18.3.a	The bid price shall be adjusted by the following factor(s) - NOT Applicable
ITB 19.1	<p>A Bid Security shall be required in the form of an unconditional Bank Guarantee.</p> <p>The Bidder shall furnish a bid security for INR 1.70 Crs Cost of Bidding Document of Rs 6,000/- inclusive of GST by Demand Draft or RTGS. [Note: using the Two-envelope Bidding, the process requires including Bid Security to be submitted in the Technical Part.]</p> <p>In case, the Bid security shall be in the form of a Bank Guarantee as per format attached or through e-Bank Guarantee or Demand Draft or Online Cash Transfer</p> <p>The Bank Guarantee issued in paper shall become operative only when the Bank Guarantee advice transmitted through SFMS is advised to the Beneficiary by the Advising Bank</p> <p>Bank details are as given below:</p> <p style="padding-left: 40px;">Advising Bank: CANARA BANK Bank Account no.: 87781010014534 IFSC Code: CNRB0018778 Name of beneficiary: IWAI FUND Jal Marg Vikas Branch name: Morna – Sector 18, NOIDA Address: B 16 /17, Ground Floor, Sector-18 NOIDA – 201301</p>
ITB 19.3 d	Other types of acceptable securities are: Not Applicable
ITB 19.8	The Bid Security of a JV shall be in the name of the JV that submits the bid or in the name of lead member if the same is not constituted.
ITB 19.9	Not applicable
ITB 20.1	<p>The bidders shall submit the following ‘Original Documents’ at the following address before the deadline for opening of bids (i. e upto 03.00 PM on 04. 01.2024) either by registered post/speed post/courier or by hand, failing which the bids will be declared non-responsive. The Bidder is solely responsible for to ensure submission of the requisite original documents before the stipulated time and date and the Purchaser will not be responsible for postal or courier delays.</p> <p>a) Original bid security in prescribed format as indicated in ITB 19</p> <p>b) Original written confirmation authorizing the signatory of the Bid to demonstrate the authority of the signatory to sign the bid on behalf of the Bidder as indicated in ITB 20.2</p> <p>c) Original affidavit vouching for the correctness of the information furnished and documents uploaded on the Letter head of the firm;</p>

ITB 20.1	<p>The above Original Documents should be inserted in an envelope and the envelope shall be sealed and addressed to the Purchaser at the address given below .</p> <p>The envelope shall bear the following identification marks:</p> <p>ICB / NCB No.: IN/IWAI/ 332937 / GO / RFB</p> <p>for supply of 3 no of Pusher Tug + 6 no of Dumb Barge Flotilla</p> <p>Not to open before: The date and time mentioned above (Date & Time 03.00PM)</p> <p>2. Addressed to the Purchaser:</p> <p>The Project Director, Project Management Unit CANW-1 Project, Address: A-13, Sector – 1 City: Noida, Gautam Buddha Nagar, Uttar Pradesh Pin 201301</p> <p>3. The envelope should Bear the Name and address of the Bidder:</p> <p>If the above envelope containing the original documents is not sealed and marked as required, the Purchaser will assume no responsibility for the misplacement or premature opening of the envelope.</p>
ITB 20.2	<p>The written confirmation of authorization to sign on behalf of the Bidder shall consist of:</p> <p>Legally valid Power of Attorney is required to demonstrate the authority of the signatory to sign the Bid; and</p> <p>In the case of Bids submitted by an existing or intended JV , if permitted as per ITB 4.1, the authorization shall be evidenced by a Power of Attorney signed by legally authorized signatories of all the members.” Such authorizations shall be submitted.</p>
	<p>D. Online Submission and Opening of Bids</p>
ITB 21.1	Class of DSC required is: Class-II and above
ITB 21.1 Preparation of Bids	<p>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.</p> <p>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 authorized certifying agency of Government of India</p> <p>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.</p>

ITB 22.1	<p>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.</p> <p>21.4 Physical, Email, Telex, Cable or Facsimile bids will be rejected as non-responsive.</p>
	<p>Both Technical and Financial Bids shall be uploaded on-line in separate electronic envelopes,</p> <p>The deadline for uploading of bids on the e-portal is: Date: 10.01.2024 Time: 1500 hrs. IST or as amended from time to time.</p>
	<p>ITB 23.1 The e- Procurement system would not allow any late submission of bids after due date and time as per server system. After electronic online proposal submission, the system generates a unique identification number which is time stamped. This shall be considered as acknowledgement of the bid submission.</p>
	<p>ITB 24.1 Re-submission of the bid is “ not allowed” , if withdrawn.</p>
	<p>ITB 25.1 The online Bid Opening of Technical Parts of the Bids shall take place Date: 10.01.2023 Time: 15.30 Hrs IST or as amended from time to time. Purchasers Address is: Vice Chairman & Project Director (JMVP) Inland Waterways Authority of India Project Management Unit , Address: A-13, Sector – 1 City: Noida, Gautam Buddha Nagar, Uttar Pradesh – 201301</p>
ITB 25.3	<p>The online Price Bid Opening shall take place after completion of Technical Evaluation, Date and Time shall be updated on the eprocure web site</p>
<h2 style="text-align: center;">E. Evaluation and Comparison of Bids</h2>	
ITB 32	<p>that prices shall be quoted in INDIAN RUPEES (INR) ONLY.</p>
ITB 33	<p>33.1 A margin of domestic preference “shall not” apply.</p>
ITB 34.2	<p>Bid evaluation: The Bids shall be evaluated based on the eligibility & qualification criteria mentioned in Section-III In case a bidder fails to meet the eligibility & qualification criteria, their bids shall be treated as non- responsive and financial bids of such bidders shall not be opened.</p> <p>A substantially responsive bid is one that conforms to all the terms, conditions, and specifications of the tender document without material deviation or reserve action. A material deviation or reservation is one:</p>

	<p>a) that affects in any substantial way the scope, quality, or performance of the Works.</p> <p>b) that limits in any substantial way, inconsistent with the tender document, the Buyer's rights, or the bidder's obligations under the contract; or</p> <p>c) whose rectification would affect unfairly the competitive position of other bidders presenting substantially responsive bids. Further, a bid will not be considered substantially responsive if the bidder has not offered to undertake all the items of the work as listed in Bill of Quantity (BoQ).</p> <p>d) The estimated effect of price adjustment (if any) provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be considered while evaluating bids.</p>
ITB 34.6	<p>The adjustments shall be determined using the following criteria, from amongst those set out in Section III, Evaluation and Qualification Criteria</p> <p>a. Deviation in Delivery schedule: YES 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 4 months/ 16 weeks) of stipulated delivery period will be treated as non-responsive.</p> <p>b. Deviation in payment schedule: NO. 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 2.5% per annum.</p> <p>c. Cost of Recommended mandatory spare parts, and services: Yes, 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.</p> <p>d. Availability in the Purchaser's Country of spare parts and after- sales services for the equipment offered in the bid – Applicable in case the spares and after-sale services are not available then such a bid will be summarily rejected.</p> <p>e. 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> <p style="text-align: center;">F.Award of Contract</p>
ITB 39.1	<p>The maximum percentage by which quantities may be varied is: +/- 15%</p>

ITB 40	<p>Award of Contract</p> <p>The Buyer shall issue a LOA / NOA to the selected Bidder. It may also notify all other Bidders about the decision taken (if requested by other Bidders).</p> <p>The Ship Builder is expected to commence the Assignment / job at the location specified by him in his proposal.</p>
ITB 42	<p>Performance Security</p> <p>The Ship Builder furnish the Performance Security within (21) days of receipt of LOA / NOA will sign the contract after fulfilling all the formalities / pre-conditions mentioned in the Conditions of Contract in Section VII including submission of performance bank guarantee, within 28 days of issuance of the LOA.</p>
ITB 43	<p>New Clause added:</p> <p>The Tender / Bid related complaints may be submitted / addressed to</p> <p>Vice Chairman & Project Director (JMVP)</p> <p>Inland Waterways Authority of India</p> <p>Project Director, Jal Marg Vikas Project</p> <p>A-13, Sector-1, Noida, Gautam Buddha Nagar, UP – 201301.</p> <p>Email: vc.iwai@nic.in</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.

Contents

1. Margin of Preference (ITB 37)
2. Evaluation (ITB 30 & ITB 34)
3. Qualification (ITB 30.1 & ITB 34.5)

1. Margin of Preference (ITB 34.5)

.. Not Applicable

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

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

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

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

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

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

If, as a result of the preceding comparison, the lowest evaluated bid is from Group C, all bids from Group C shall be further compared with the lowest evaluated bid from Group A, after adding to the evaluated bid price of goods offered in the bid for Group C, for the purpose of this further comparison only, an amount equal to 15% (fifteen percent) of the respective CIP (named place of destination) bid price for the goods to be imported and already imported. Both prices shall include unconditional discounts and be corrected for arithmetic errors. If the bid from Group A is the lowest, it shall be selected for award. If not the lowest evaluated bid from Group C shall be selected.

TECHNICAL PART

1. Qualification (ITB 32)

1.1 Post-qualification Requirements (ITB 32.1)

After determining the technically responsive bid in accordance with ITB 34, the Purchaser shall determine whether the Bidders, whose bids have been determined to be substantially technically responsive to the bidding document, meet the qualification criteria, using only the requirements specified. Requirements not included in the text below shall not be used in the evaluation of Bidder's qualifications.

(A) If Bidder is a Manufacturer (Original Equipment Manufacturer of Dumb Barges or Push Tugs or Both).

(i) Financial Capability

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

The Bidder should have Minimum **Average Annual Financial turnover of INR 25.49 Crs** or an equivalent amount in a freely convertible currency, calculated as total certified payments received for contracts in progress or completed, within the last three (3) Financial years as on 31st March 2023. .

The bidder should have **financial solvency** of not less than **INR 33.98 Crs** and submit the scan copy of Solvency certificate from a Nationalized/scheduled/foreign National Bank as the documentary evidence countersigned by Indian Scheduled Bank.

Note: Financial year shall, for the purposes of a Bid hereunder, mean the Accounting Year followed by the Government of India (April 01 to March 31)

In case of a Joint Venture, the lead member should meet at least 50% of the qualification requirement and the total of qualification requirements should be met by adding the qualifications of all members of JV.

(ii) Experience and Technical Capacity

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

The Bidder shall be a manufacturer, who has designed, manufactured, supplied, erected and commissioned equipment of the same or similar type and capacity during last seven (7) years (Calendar year 2015 to 2022).

The Bidder should have successfully supplied & commissioned Similar goods / equipment during last (7) seven years prior to the date of Bid submission of Bid.

3 similar completed Works each costing not less than the amount equal to Rs 33.98 Crs each

Or

2 similar completed Works each costing not less than the amount equal to 42.49 Crs each

or

1 similar completed Works costing not less than the amount equal to 67.97 Crs .

Note: The value of the “Completed Work(s)” considered by the Bidders shall be rounded off to the nearest two digits

To demonstrate the above, the bidder shall furnish the details of experience and past performance for the equipment offered and for those of similar nature and submit Performance Statement as per “Performa for Performance Statement” given under Section IV The Bidder shall submit the user’s satisfaction certificate on the letterhead of the user / user department / ministry / government.

*(Similar goods / equipment means Design, construction & supply of inland / sea going vessels ; Barges ; Tugs or both of same or higher capacity.)

For similar works experience of parent company / subsidiary / sister Company of the Bidder shall not be considered unless the parent company / subsidiary / sister company is part of the JV / Consortium participating in the Bid.

- The bidder must have the Ship Building Yard along with requisite facilities of his own or same **on Lease / Rent basis** existing on the day of submission of bid. (**Proof for the same must be submitted.**)
- The bidder must confirm that all the facilities exist in his factory for inspection and testing and these will be made available to the Purchaser or his representative for inspection.
- The Bidder shall provide the **Details of Service Centers in India** and information on service support facilities that would be provided for after the warranty period for the Major Equipment; like Main Propulsions and other equipment.

(iii.) Documentary Evidence:

The Bidder should furnish documentary evidence to demonstrate that the Goods it offers meet the technical & qualification requirements.

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 Manufacturer shall demonstrate the above qualifications (i) ,(ii), (iii), through relevant documentary proof as mentioned at (i) ,(ii), (iii), above and

The Bidder shall demonstrate that it has successfully completed at least two (2) contracts of similar goods in the past (3) years.

To demonstrate this the bidder shall submit copies of contract agreement.

The Bidder (Authorized representative of the Manufacturer) shall demonstrate that bidder, has been in the business of supplying of Vessels , Barges, Tugs during past Three years and has supplied and Serviced the supplied equipment during the period.

To demonstrate this, the bidder shall furnish Performance Statement for last three years-as per Performa for Performance Statement.

C. In Case of Joint Venture

Bidders quoting as Joint Venture meeting with the above requirement in together in full, can also be considered provided:

- (i) The Joint Venture (JV) shall furnishes a legally enforceable JV Agreement in the prescribed format assuring full guarantee and warranty obligations as per GCC and SCC for the goods offered; and
- (ii) The bidders may also submit a bid having a joint venture with the firm of adequate experience in the design construction & supply of the equipment offered.
- (iii) The Lead Partner of JV may have tie up with experienced Design Consultant / Firm for Design, Preparation of the Drawing, obtaining approval from classification and statutory bodies as well as model testing and construction, commissioning, test & trial of the equipment.

1.2 Documentation in support of Qualifying Criteria:

The Bidder shall enclose with its Bid the self-attested scanned copy of all necessary documentary evidence of credentials in support of meeting the Bid Qualification Criteria,

viz

- a) Certificate(s) from its statutory auditors specifying Financial Turn Over;
- b) Certificate(s) confirming that the Bidder has completed similar works from User / Owner.
- c) For Authorized agents - legally enforceable authorization in the prescribed format;
- d) For JV Partners- the JV Partners shall furnish a jointly & severally enforceable JV agreement
- e) The bidder should furnish the certificate for having delivered the Vessels / Equipment on time from the Owner.
- f) Details of having the infrastructure facilities w.r.t

- 1. Ship Building Yard along with requisite facilities

2. Existing facilities for inspection and testing in the factories.
3. Details of Service Centers and information on service support facilities in India.
4. Training facilities.

g) Self-Declaration from Bidder including any /JV Member

That, in the last 3 (three) years, they have neither failed to perform on any contract,

as evidenced by imposition of a penalty by an arbitral or judicial authority or a judicial pronouncement or arbitration award against the Bidder, /JV Member or Associate or the said penalty has been accepted by the Bidder, Consortium/JV Member or Associate, as the case may be, nor have been expelled from any project or contract by any public entity nor have had any contract terminated by any public entity for breach by such Bidder, Consortium Member or Associate.

1.3 Bids By Joint Venture or Consortium

1. The Joint Venture/ consortium can be entered between two or more firms and limited to maximum three firms.
 2. The lead partner can be an Indian/ Foreign company.
 3. The lead member must have highest share of participation in a JV/Consortium.
 4. There shall be a Joint Venture agreement/ Memorandum of Understanding specific for the contract between the constituent firms, indicating clearly, amongst other things, the proposed distribution of responsibilities both financial as well as technical for execution of the work amongst them.
 5. A copy of the Joint Venture Agreement/ MOU in accordance with requirements mentioned shall be submitted along with the bid.
 6. The Letter of Intent to enter into a JV/ consortium agreement should contain at least the following:-
 - a) Name of the Lead Partner
 - b) Clearly mentioned Percentage share of JV/consortium members.
 - c) “all the partners shall jointly and severally liable for the execution of the contract in accordance with the contract terms”
 7. Lead partner’s authorization shall be evidenced by submitting a power of attorney, duly notarized, signed by the legally authorized signatories of all the partners /members of JV / Consortium.
 8. The Lead Partner shall be authorized to incur liabilities and to receive instructions for and on behalf of the partners of the Joint venture, whether jointly or severally, and entire execution of the contract (Including payment) shall be carried out exclusively through the partner-in-charge.
- (A copy of the said authorization shall be furnished in this Bid duly signed by all the JV partners.)**

9. In the event of default by any partner, in the execution of his part of the contract, the Purchaser shall be so notified within 30 days by the Lead Partner, or in the case of the Lead Partner being the defaulter, by the partner nominated as partner-in-charge of the remaining Joint venture/consortium.
The partner-in-charge shall, within 60 days of the said notice, assign the work of the defaulting partner to any other equally competent party acceptable to the Purchaser to ensure the execution of that part of the contract, as envisaged at the time of bid.
Failure to comply with the above provisions will make the contractor liable for action by the Purchaser under the conditions of contract.
10. Notwithstanding the permission to assigning the responsibilities of the defaulting partner to any other equally competent party acceptable to the Purchaser as mentioned in sub clause above, all the partners of the Joint venture / consortium will retain the full and undivided responsibility for the performance of their obligations under the contract and/ or for satisfactory completion of the Works.
11. The bid submitted shall contain all relevant information for each member of JV/consortiums per the requirement stipulated under clause of ITB.

h) Nature / Type of Bidder: Bidder Eligibility Criteria -
The Bidders shall meet the following pre-qualification criteria:

- (a) Bidder should be one among the renowned organizations those are Private entities, Government entities or government owned entity in the Buyer's country may participate only if they can establish that they (i) operate under commercial law and (ii) are not dependent agencies of the Buyer.
- (b) The Bidder shall meet the Qualification criteria of executing
- (c) "Similar Works" of the value as mentioned above.
 - i. The Bidder shall indicate the value of the order executed by him together with the details of name of the party, order value, scope of work / component breakup,
 - ii. Completion period stipulated in the order and actual completion period.
 - iii. The completion certificate, awarded by the client should have a mention of start date, date of completion and value of the work executed by the Bidder.
- (d) In case the work was performed by the Bidder in a JV,
 The same shall be supported by a client certificate enumerating the claimant share also.
- (e) In case the work was performed by the bidder as a sub- Ship Builder,

The bidder shall submit similar completion certificate awarded to it by the main Ship Builder and countersigned by the Buyer / Client of the main Ship Builder along with .

- Copy of work order / letter of award.
- letter of work agreement

alone shall not suffice Bidders claim for executing the Similar Works.

- Submitting completion certificate from the client on its letter head along with supporting documents as mentioned above is mandatory to qualify. (Work undertaken in last three years)

i) Design of the vessels

- a. **The bidder shall develop the design of the vessels based on the technical specification supplied by the Buyer.** Any details missed out in the specification but mandatory for the safety and operations of the vessel must be included by the bidder. The bidder must undertake the design, construction, and supply of vessels as per the terms and conditions and contract agreed.
- a. **The design must be based on Classification Society Rules and IV Rules of 2022.** The design document must be approved by the Classification Society.
- b. The bidder should have adequate qualified and skilled work force for undertaking the design, construction of Vessels as per the scope of work.

j) Quality Assurance Plan

- a) **The bidder shall comply with the Quality Assurance Plan** for execution of the work and meeting the standards required as per the Administrative Authority / Class rules and regulations (IV Act 2021 and IV Rules 2022).
- b) The bidder shall comply with the provision of Statutory Authority applicable in relation to execution of works.
- c) The ship construction team should have to undertake total responsibilities of the preservation of machines/ equipment's/vessels and total safety and security of the same during the construction phase including keeping the vessel under construction and after construction in a neat and clean condition.
- d) The construction team shall be provided with safety gears / kit by the bidder as per provision of labour / marine act/practice.
- e) The ship building yard must be competitive and provide smart solutions to the Buyer.
- f) The value additions can be offered through strict compliance of following:
 - i. ISO 9001:2015 Quality Management System

- ii. ISO 14001:2015 Environment Management System
- iii. ISO 45001:2018 OHSAS
- iv. ISO 50001 Energy Management System
- v. ISO 27001 Information Security Management System

k) The Bidder shall also indicate the following:

- (a) The Bidder shall have adequate resources for successful execution of the services and should be financially solvent. Bidder shall provide a solvency certificate from any nationalized / scheduled bank in India.
- (b) The Bidder shall be income tax assesses and accordingly the Bidder shall submit copy of Income Tax Return (ITR) filed by the Bidder for the last three financial years.
- (c) The Bidder shall comply with the guidelines of Atmanirbhar Bharat
- (d) The Bidder must furnish details of supplies made by him in the last five years in proforma attached in Section IV

l) Bidder should not have been debarred /

blacklisted during the last three financial years. However, hiding of the facts or non-compliance by the bidder in this regard would be punishable under existing law and would lead to rescinding or termination of the work if information relating to debarment or blacklisting is brought to knowledge of the Buyer even during the currency of the contract brought forward at a later stage. Bidder to furnish the Declaration in this regard.

m) The Bidder must be registered with appropriate authorities

- a) under Employees Provident Fund (EPF) and
- b) Employees State Insurance Act (ESI).
- c) The Bidder shall submit copies of EPF & ESI certificates.
- d) The Bidder shall submit an undertaking of submitting the Labour License (i.e. registration under Contract Labour (Regulation & Abolition) Act 1970) within 21 days of issuance of Letter of Acceptance (LOA).
- e) Further, the Bidder shall also submit an undertaking to the extent that the employees are paid not less than the remuneration notified under this contract.

FINANCIAL PART

- **Margin of Preference (ITB 37) – Not Applicable**
- **Evaluation (ITB 30, 31, and 34)**
- **Evaluation Criteria (ITB 30.1 & 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. (as per Incoterms specified in the BDS)**

The Goods specified in the List of Goods are required to be delivered within the acceptable time range (after the earliest and before the final date, both dates inclusive) specified in Section 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. Not Applicable.**

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

(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).

(ii) 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.

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

An adjustment equal to the cost to the Purchaser of establishing the minimum service facilities and parts inventories, as outlined in BDS Sub-Clause 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. Not Applicable**

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.

(g) Specific additional criteria

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

SECTION IV – BIDDING

FORMS Table of Forms

Sl.no	Details of the Form	Page No
	LETTER OF BID – TECHNICAL PART	
	BIDDER INFORMATION FORM	
	JOINT VENTURE PARTNER BIDDER INFORMATION FORM	
	BID SECURITY (BANK GURANTEE) FORMAT	
	PERFORMANCE STATEMENT (FOR MANUFACTURER	
	PROFORMA FOR PERFORMANCE STATEMENT	
	FOR BIDDER AS AUTHORIZED EPRESENTATIVE	
	LETTER OF BID - FINANCIAL PART	
	PRICE SCHEDULE: GOODS MANUFACTURED OUTSIDE THE PURCHASER'S COUNTRY, TO BE IMPORTED	
	PRICE SCHEDULE: GOODS MANUFACTURED OUTSIDE THE PURCHASER'S COUNTRY, ALREADY IMPORTED	
	PRICE SCHEDULE: GOODS MANUFACTURED IN THE PURCHASER'S COUNTRY,	
	PRICE & COMPLETION SCHEDULE - RELATED SERVICES	

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.
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 of Bid Submission:

Bid No:.....

ICB ;/ NCB No.: IN-IWAI-332937.-GO-RFB

To: [insert complete name of Purchaser]

We, the undersigned Bidder, hereby submit our Bid, in two parts,

namely: (a) the Technical Part, and
(b) the Financial Part.

In submitting our Bid, we make the following declarations:

- (a) **No reservations:** We have examined and have no reservations to the Bidding Documents, including Addenda No. issued in accordance with ITB 8;
- (b) **Eligibility:** We meet the eligibility requirements and have no conflict of interest in accordance with ITB 4;
- (c) **Bid/Proposal-Securing Declaration:** 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) **Conformity:** 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) **Bid Validity Period:** 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) **Performance Security:** If our bid is accepted, we commit to obtain a performance security in accordance with the Bidding Documents;
- (g) **One Bid per Bidder:** 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) **Suspension and Debarment:** 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) **State-owned enterprise or institution:** We are not a government owned entity/ We are a government owned entity but meet the requirements of ITB 4.5
- (j) **Binding Contract:** 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) **Not Bound to Accept:** We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive;
- (l) **Fraud and Corruption:** 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 ** [insert complete name of person duly
authorized to sign the Bid on authorized to
behalf of the Bidder sign the Bid]

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

Signature of the person [insert signature of person whose name and capacity are
above 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.

1. 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 of Bid Submission:

Bid No:.....

ICB ;/ NCB No.: IN-IWAI-332937.-GO-RFB

Page _____ of _____ pages

- | | | |
|---|---|---|
| 1 | Bidder's Legal Name | [insert Bidder's legal name] |
| 2 | In case of JV, legal name of each party | [insert legal name of each party in JV] |
| 3 | Bidder's actual or intended Country of Registration | [insert actual or intended Country of Registration] |
| 4 | Bidder's Year of Registration | [insert Bidder's year of registration] |
| 5 | Bidder's Legal Address in Country of Registration: | [insert Bidder's legal address in country of registration] |
| 6 | Bidder's Authorized Representative Information | Name: [insert Authorized Representative's name]
Address: Representative's Address
Telephone/ Representative's telephone/fax numbers
Fax numbers
Email Representative's email address
Address |
| 7 | Attached are copies of original documents of | |

[check the box(es) of the attached original documents]

- ✓ Articles of Incorporation or Registration of firm named in 2, above, in accordance with ITB Sub-Clauses 4.1 and 4.2.
- ✓ In case of government owned entity from the Purchaser's country, documents establishing legal and financial autonomy and compliance with commercial law, in accordance with ITB Sub-Clause 4.5.

2. Joint Venture Partner 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 of Bid Submission:

Bid No:.....

NCB No.: IN-IWAI-332937.-GO-RFB

Page _____ of _____ pages

- 1 Bidder's Legal Name [insert Bidder's legal name]
- 2 JV partners , legal name [insert JV party legal name]
- 3 JV's Party Country of Registration [insert JV's Party country of registration]
- 4 JV's Party Year of Registration: [insert JV's Part year of registration]
- 5 JV's Party Legal Address in [insert JV's Party legal address in country of
Country of Registration registration]
- 6 JV's Party Authorized Representative Name: [insert name of JV's Party
Information authorized representative]
Address: address of JV's Party
Telephone/ telephone/fax numbers of JV's
Fax numbers Party
Email email address of JV's Party
Address
- 7 Attached are copies of original documents of

[check the box(es) of the attached original documents]

- ✓ Articles of Incorporation or Registration of firm named in 2, above, in accordance with ITB Sub-Clauses 4.1 and 4.2.
- ✓ In case of government owned entity from the Purchaser's country, documents establishing legal and financial autonomy and compliance with commercial law, in accordance with ITB Sub-Clause 4.5.

3. Forms of Bid Security

Form of Bid Security - Bank Guarantee

[Guarantor letterhead or SWIFT identifier code]

Bank Guarantee No. [insert guarantee reference number] Date...[insert date of issue]

WHEREAS, _____ [name of Bidder]³ (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 _____⁴ 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
 - (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 45 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 _____ WITNESS _____

SIGNATURE OF THE BANK

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.

4. 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

³ In the case of a JV, the bidder should be stated as "a Joint Venture consisting of, and".

⁴ 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. 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 of Bid Submission:

Bid No:.....

NCB No.: IN-IWAI-332937.-GO-RFB

Page _____ of _____ pages

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.

6. DECLARATION FOR CLAIMING TAX/ DUTY EXEMPTION⁵

(Name of the Project)

Bid No.

⁵ 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. 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) _____

* 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.

Sexual Exploitation and Abuse (SEA) and/or Sexual Harassment Performance Declaration

[The following table shall be filled in by the Bidder, each member of a Joint Venture and each subcontractor proposed by the Bidder]

Bidder's Name: *[insert full name]*

Date: *[insert day, month, year]*

Joint Venture Member's or Subcontractor's Name: *[insert full name]*

NCB No. and title: *[insert ICB number and title]*

Page *[insert page number]* of *[insert total number]* pages

SEA and/or SH Declaration in accordance with Section III, Qualification Criteria, and Requirements
<p>We:</p> <p><input type="checkbox"/> (a) have not been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations</p> <p><input type="checkbox"/> (b) are subject to disqualification by the Bank for non-compliance with SEA/ SH obligations</p> <p><input type="checkbox"/> (c) had been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations, and were removed from the disqualification list. An arbitral award on the disqualification case has been made in our favor.</p>
<p><i>[If (c) above is applicable, attach evidence of an arbitral award reversing the findings on the issues underlying the disqualification.]</i></p>

Sexual Exploitation and Abuse (SEA) and/or Sexual Harassment Performance Declaration

[The following table shall be filled in by the Bidder, each member of a Joint Venture and each subcontractor proposed by the Bidder]

Bidder's Name: *[insert full name]*

Date: *[insert day, month, year]*

Joint Venture Member's or Subcontractor's Name: *[insert full name]*

NCB No. and title: *[insert ICB number and title]*

Page *[insert page number]* of *[insert total number]* pages

SEA and/or SH Declaration in accordance with Section III, Qualification Criteria, and Requirements
<p>We:</p> <p><input type="checkbox"/> (a) have not been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations</p> <p><input type="checkbox"/> (b) are subject to disqualification by the Bank for non-compliance with SEA/ SH obligations</p> <p><input type="checkbox"/> (c) had been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations, and were removed from the disqualification list. An arbitral award on the disqualification case has been made in our favor.</p>
<p><i>[If (c) above is applicable, attach evidence of an arbitral award reversing the findings on the issues underlying the disqualification.]</i></p>

7. PERFORMANCE STATEMENT (FOR MANUFACTURER)

[Please see ITB Clause 11.2 (k) and Section III-
Evaluation and Qualification Criteria]

**Performance Statement for a period of last seven (7) Financial years
i.e Financial year 2016-17 ; 2017 -18; 2018-19; 2019-20 ; 2020-21;
2021-22 ; 2022-23 Financial year wise**

<u>Orderplaced by (fulladdressof Purchaser)and contactdetails (e- mailand phoneno.)</u>	<u>Order No. and date</u>	<u>Description andquantity ofordered equipment</u>	<u>Value of order</u>	<u>Dateof completio nof delivery</u>	<u>Remarks indicating reasonsforlate delivery.ifany</u>	<u>Hasstheequipment beensatisfactorily functioningtothe satisfactionof purchaser?</u>
1	2	3	4	5	6	7
Year 2016-17						
Year 2017 -18						
Year 2018 -19						
Year 2019 -20:						
Year 2020-21						
Year 2021-22						
Year 2022 -23						

8. PROFORMA FOR PERFORMANCE STATEMENT (FOR BIDDER AS AUTHORIZED REPRESENTATIVE)

[Please see ITB Clause 11.2 (k) and Section III-
Evaluation and Qualification Criteria]

**Performance Statement for a period of last seven (7) Financial years
i.e Financial year 2016-17 ; 2017 -18; 2018-19; 2019-20 ; 2020-21;
2021-22 ; 2022-23 Financial year wise**

NCB No. _____

Date of opening

Lot No.: _____

Name of the Firm _____

<u>Orderplaced by (fulladdressof Purchaser)and contactdetails (e- mailand phoneno.)</u>	<u>Order No. and date</u>	<u>Description andquantity ofordered equipment</u>	<u>Value of order</u>	<u>Dateof completio nof delivery</u>	<u>Remarks indicating reasonsforlate delivery,ifany</u>	<u>Hasthe equipment been satisfactorily functioningto the satisfaction of purchaser?</u>
1	2	3	4	5	6	7
Year 2016-17						
Year 2017 -18						
Year 2018 -19						
Year 2019 -20:						
Year 2020-21						
Year 2021-22						
Year 2022 -23						

Signature and seal of the Bidder _____

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.

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 of Bid Submission:

Bid No:.....

NCB No.: IN-IWAI-332937.-GO-RFB

Page _____ of _____ pages

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) **Bid Validity Period:** 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) **Total Price:** The total price of our Bid, excluding any discounts offered in item (c) below, is:

In case of only one lot, total price of the Bid.

[insert the total price of the bid in words and figures];

In case of multiple lots, total price of each lot.....

[insert the total price of each lot in words and figures];

In case of multiple lots, total price of all lots (sum of all lots).....

[insert the total price of all lots in words and figures];

- (c) **Discounts:** 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) **Commissions, gratuities and fees:** 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) **Binding Contract:** 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 ** [insert complete name of person duly
authorized to sign the Bid on authorized to
behalf of the Bidder sign the Bid]
Title of the person signing the Bid [insert complete title of the person signing the Bid]
Signature of the person named [insert signature of person whose name
above and capacity are shown
above]
Date signed insert date of signing] day of [insert month],
[insert
rt
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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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.]

3. PRICE SCHEDULE FOR SUPPLY AS PER SCHEDULE OF REQUIREMENTS

					Prices in Rs			Date: _____ NCB No: _____ Alternative No: _____ Page No _____ of _____	
1	2	3	4	5	6	7	8	9	10
Line Item No	Description of Goods	Country of Origin	Delivery Date	Quantity and physical unit [insert number of units to be supplied and name of the physical unit]	Unit price EXW [including GST as applicable]	Total EXW price per line item [including GST as applicable] (Col. 5+6)	Price per line item for inland transportation, insurance and other services required to convey the Goods to their final destination (ITB 14.8 (a)(iii))	Any other taxes if payable per item if Contract is awarded (in accordance with ITB 14.8(a)(ii))	Total Price per line item (Col. 7+8+9)
[insert number of the item]	[insert name of Good]		[insert quoted Delivery Date]	Nos	[insert EXW unit price including GST as applicable]	[insert total EXW price including GST as applicable, per line item]	[insert the corresponding price per line item]	[insert any other taxes if payable per line item if Contract is awarded]	[insert total price per item]
1	Dumb Barges as per Technical Specification			6 nos					
2	Pusher Tugs as per Technical Specification			3 nos					
3	Recommended Spares for 2000 hrs Operation								
4	Mandatory Spares								
								Total Price Rs	
Name of Bidder [insert complete name of Bidder] Signature of Bidder [signature of person signing the Bid] Date [insert date] Note: (a) The bidder shall give list of spares for 2 years operation (or as required for the period specified in the evaluation criteria) separately indicating description, quantity, unit price and total price in the above format, - (for those items whose scope of supply includes spare parts as per technical specification).									

Price Schedule: Goods Manufactured Outside the Purchaser's Country, to be Imported

(Group C bids, goods to be imported)

Date: _____

ICB No: _____

Currencies in accordance with ITB Sub-Clause 15

Alternative No: _____

Page N^o _____ of _____

1	2	3	4	5	6	7	8	9
Line Item N ^o	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price CIP[insert place of destination] in accordance with ITB 14.8 (b)(i)	CIP Price per line item (Col. 5x6)	Price per line item for inland transportation and other services required in the Purchaser's country to convey the Goods to their final destination specified in BDS	Total Price per Line item (Col. 7+8)
[insert number of the item]	[insert name of good]	[insert country of origin of the Good]	[insert quoted Delivery Date]	[insert number of units to be supplied and name of the physical unit]	[insert unit price CIP per unit]	[insert total CIP price per line item]	[insert the corresponding price per line item]	[insert total price of the line item]
1	Dumb Barges as per Technical Specification			6 No.				
2	Pusher Tugs as per Technical Specification			3 nos				
3	Recommended Spares for hours of Operation.							
4.	Mandatory Spares							
							Total Price	

Price Schedule: Goods Manufactured Outside the Purchaser's Country, already imported											
			(Group C bids, Goods already imported) Currencies in accordance with ITB Sub-Clause 15						Date: _____ ICB No: _____ Alternative No: _____ Page N ^o _____ of _____		
1	2	3	4	5	6	7	8	9	10	11	12
Line Item N ^o	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price including Custom Duties and Import Taxes paid, in accordance with ITB 14.8 (c)(i)	Custom Duties and Import Taxes paid per unit in accordance with ITB 14.8 (c)(ii) , [to be supported by documents]	Unit Price net of custom duties and import taxes, in accordance with ITB 14.8 (c) (iii) (Col. 6 minus Col.7)	Price per line item net of Custom Duties and Import Taxes paid, in accordance with ITB 14.8 (c)(i) (Col. 5-8)	Price per line item for inland transportation and other services required in the Purchaser's country to convey the goods to their final destination, as specified in BDS in accordance with ITB 14.8 (c) (v)	GST and other taxes paid or payable per item if Contract is awarded (in accordance with ITB 14.8 (c)(iv)	Total Price per line item (Col. 9+10)
[insert number of the item]	[insert name of Goods]	[insert country of origin of the Good]	[insert quoted Delivery Date]	[insert number of units to be supplied and name of the physical unit]	[insert unit price per unit]	[insert custom duties and taxes paid per unit]	[insert unit price net of custom duties and import taxes]	[insert price per line item net of custom duties and import taxes]	[insert price per line item for inland transportation and other services required in the Purchaser's country]	[insert sales and other taxes payable per item if Contract is awarded]	[insert total price per line item]
1	Dumb Barges as per Technical Specification			6 No.							
2	Pusher Tugs as per Technical Specification			3 nos							
3	Recommended Spares for ... hours of Operation										
4	Mandatory Spares										
										Total Bid Price	
Name of Bidder [insert complete name of Bidder] Signature of Bidder [signature of person signing the Bid] Date [insert date]											

Price Schedule: Goods Manufactured in the Purchaser's Country

Purchaser's Country

(Group A and B bids)

Currencies in accordance with ITB Sub-Clause 15

Date: _____

ICB No: _____

Alternative No: _____

Page N^o _____ of _____

1	2	3	4	5	6	7	8	9	10
Line Item N ^o	Description of Goods	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price EXW	Total EXW price per line item (Col. 4 x 5)	Price per line item for inland transportation and other services required in the Purchaser's Country to convey the Goods to their final destination	Cost of local labor, raw materials and components from with origin in the Purchaser's Country % of Col. 5	GST and other taxes payable per line item if Contract is awarded (in accordance with ITB 14.8 (a)(ii))	Total Price per line item (Col. 6+7)
[insert number of the item]	[insert name of Good]	[insert quoted Delivery Date]	[insert number of units to be supplied and name of the physical unit]	[insert EXW unit price]	[insert total EXW price per line item]	[insert the corresponding price per line item]	[Insert cost of local labor, raw material and components from within the Purchase's country as a % of the EXW price per line item]	[insert sales and other taxes payable per line item if Contract is awarded]	[insert total price per item]
1	Dumb Barges as per Technical Specification		6 No.						
	Pusher Tugs as per Technical Specification		3 nos						
2	Recommended Spares for hours of Operation								
3	Mandatory Spares								
								Total Price	

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

4. PRICE AND COMPLETION SCHEDULE - RELATED SERVICES						
		Prices in Rs			Date: _____ NCB No: _____ Alternative No: _____ Page N ^t _____ of _____	
1	2	3	4	5	6	7
Service N ^t	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)
[insert number of the Service]	[insert name of Services after modifying as appropriate deleting inapplicable items from the following]	[insert country of origin of the Services]	[insert delivery date at place of final destination per Service]	[insert number of units to be supplied and name of the physical unit]	[insert unit price per item]	[insert total price per item]
	Performance or supervision of the on-site assembly and/or start-up of the supplied Goods					
	Furnishing of tools required for assembly and/or maintenance of the supplied Goods					
	Furnishing of detailed operations and maintenance manual for each appropriate unit of supplied Goods					
	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					
	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					
Name of Bidder [insert complete name of Bidder] Signature of Bidder [signature of person signing the Bid] Date [insert date]				Total Bid Price Rs		

1. LIST OF GOODS AND DELIVERY SCHEDULE

Line Item N ^o	Description of Goods	Quantity	Physical unit	Final (Site) Destination as specified in BDS	Delivery (as per Incoterms) Date			
					Earliest Delivery Date	Latest Delivery Date		Bid Security in Indian Rupees ²
[insert item No]	[insert description of Goods]	[insert quantity of item to be supplied]	[insert physical unit for the quantity]	[insert place of Delivery]	[insert the number of days following the date of effectiveness the Contract]	[insert the number of days following the date of effectiveness the Contract]		

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

2. List of Related Services [ITB Clause 14.8(b)] and Completion Schedule

Service	Description of Service	Quantity ¹	Physical Unit	Place where Services shall be performed	Final Completion Date(s) of Services
[insert Service No]	[insert description of Related Services] [Insert after modifying as appropriate deleting inapplicable items from the following:]	[insert quantity of items to be supplied]	[insert physical unit for the items]	[insert name of the Place]	[insert required Completion Date(s)]
	Performance or supervision of the on-site assembly and/or start-up of the supplied Goods				
	Furnishing of tools required for assembly and/or maintenance of the supplied Goods				
	Furnishing of detailed operations and maintenance manual for each appropriate unit of supplied Goods				
	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				
	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				

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)]

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

Under ITB 4.7(b) and 5.1: 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.⁶ 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;⁷
 - 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;⁸
 - (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;⁹
 - (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;¹⁰
 - (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

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

⁷ 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.

⁸ 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.

⁹ 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.

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

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,¹¹ 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 nominated¹²;
- (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."

¹¹ 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.

¹² 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.

PART 2 - SUPPLY REQUIREMENTS

SECTION VII – SCHEDULE OF REQUIREMENTS

- 1 LIST OF GOODS AND DELIVERY SCHEDULE
- 2 LIST OF RELATED SERVICES AND COMPLETION
SCHEDULE
- 3 TECHNICAL SPECIFICATIONS
- 4 DRAWINGS
- 5 INSPECTIONS AND TESTS

TECHNICAL SPECIFICATIONS

**Part-A. Technical Specifications for 06 Nos Dumb
Barge.**

**Part-B. Technical Specifications for 03 Nos. Steel
Hull 15T Pusher Tug**

Part-A. Technical Specifications for 6 Nos Dumb Barge.

1	General	
1.1	Intent	<p>The purpose of this document (hereinafter called the “Specifications”) is to outline the technical and functional requirements for the supply and delivery of Six Nos. 825 T Dumb Barges (hereinafter called the “Vessel”) for the Inland Waterways Authority of India.</p> <p>The vessel including all its material, equipment, piping, workmanship, etc., shall be in accordance with these specifications, and to the requirements of the Classification Society, IV Act 2021, IV Rules 2022 as also regulatory bodies, which are mentioned hereinafter and shall be fully documented as required by these bodies.</p> <p>All fittings, arrangements, systems and equipment not mentioned in the specifications but required under Classification rules, IV Act 2021, IV Rules 2022 and other statutory requirements shall be provided at no extra cost. Anything not described or left out of this specification, but being considered as normal and necessary for the intended services, shall be supplied and fitted without extra charge.</p>
1.2	Design Conditions and Basic Requirements	
1.2.1	Design Conditions	<p>The following ambient conditions are to be considered for the operation of vessel: -</p> <ul style="list-style-type: none"> • Maximum outside air temperature of 45°C with 90% relative humidity • Air temperature of 50°C with 90% relative humidity in the barge space. • Maximum water temperature of 32 C. • Atmospheric pressure of 760 mm Hg.
	General :	<p>The Vessel shall be designed and built-in accordance with the requirements of the rules and regulations of:</p> <ul style="list-style-type: none"> • Any Classification Society who is member of International Association of Classification Society(IACS) • The Inland Vessel Act2021 and rules framed thereafter which includes: <ul style="list-style-type: none"> • Rule-1: Inland Vessels • Rule-2: Inland Vessels (Survey & Certification) Rules 2022 • Rule-3: Inland Vessels (Registration and other technical issues) Rules 2022 • Rule-4: Inland Vessels (Manning) Rules,2022 • Rule-5: Inland Vessels (Crew & Passenger Accomodation) Rules 2022 • Rule-6: Inland Vessels (Safe Navigation, communication and Signals) Rules 2022 • Rule-7: Inland Vessel (Life Saving Appliances)Rules. 2022. • Rule-8: Inland Vessels (Fire Fighting Appliance) Rules 2022.

		<ul style="list-style-type: none"> • Rule-9: Inland Vessels (Prevention and containment of Pollution) Rules 2022. • Rule-10: Inland Vessels (Insurance, Limitation of Liability and Obligation of Service Providers and Service Users) Rules 2022. • And any other rules being framed from time to time. 																								
1.2.2	Basic Requirements	The Vessels are intended for operation in all weather conditions in the National Waterway-1 & 2 and Indo Bangladesh Protocol Route. The vessel shall be utilized for transporting bulk cargo																								
1.3	<u>Description of the Vessel</u>	<p>Dumb Barge</p> <table border="1"> <tr> <td>1</td><td>Length Overall</td><td>55 m</td></tr> <tr> <td>2</td><td>Beam Moulded</td><td>12 m</td></tr> <tr> <td>3</td><td>Depth</td><td>3.5 m</td></tr> <tr> <td>4</td><td>Draft</td><td>1.8 m</td></tr> <tr> <td>5</td><td>Air Draft</td><td>8 m</td></tr> <tr> <td>6</td><td>Power</td><td>Photo electric panel for 24 V DC Sup on battery for lighting and fans</td></tr> <tr> <td>7</td><td>Cargo in Hold</td><td>42 m x 9m x 4 m</td></tr> <tr> <td>8</td><td>Accommodation with small kitchen, sanitary, sleeping cabin (in single cabin)</td><td>2 men</td></tr> </table> <p>Manual winch. Bow anchors as per Equipment No calculation. The above dimensions may marginally change during the detail design stage which shall not be more than +/- 5%.</p> <p>Detailed design and development of detailed specifications have to be done by the shipyard designer.</p>	1	Length Overall	55 m	2	Beam Moulded	12 m	3	Depth	3.5 m	4	Draft	1.8 m	5	Air Draft	8 m	6	Power	Photo electric panel for 24 V DC Sup on battery for lighting and fans	7	Cargo in Hold	42 m x 9m x 4 m	8	Accommodation with small kitchen, sanitary, sleeping cabin (in single cabin)	2 men
1	Length Overall	55 m																								
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1.3.1	<u>Dolphin Pingers</u>	<p>Dolphin pingers</p> <ul style="list-style-type: none"> • Installation of pingers in the vessel to deflect dolphins. • Installation of anti-vibration pads in the vessel to reduce generation. • Modified propeller guards for the vessels. • Bio toilets/ STP on the vessels • Oil spill control kit along with Safety kits like Personal Protective Equipment (PPE's), life jackets etc are kept onboard dredgers. 																								
1.3.2	<u>Zero Waste Discharge</u>	The vessel should be equipped with the requirements as per provisions Inland Vessel Act 2021 and the Inland Vessel (Prevention and Containment of Pollution Rules 2022).																								
1.4	Classification, Regulations and Certificates																									
1.4.1	Classification and Regulation	<p>a) The vessel shall be constructed in accordance with the rules and regulations of any classification society being a member of IACS (International Association of Classification Society).</p> <p>b) The vessel shall be registered, as dumb barge under the IWT Directorate, of respective State Govt., as per the relevant rules and regulations of I.V Act of 2021 and IV</p>																								

		<p>Rules 2022</p> <p>c) Life Saving appliances, Navigational aids, Fire Fighting appliances and the light and sound signals shall conform to the requirements of IV rules 2022 and regulations of IWT Directorate, as framed by the state government where the vessel is to be registered.</p> <p>d) All costs and fees for inspection and approval of Statutory Bodies for the necessary certificates shall be borne by the Builder.</p>
1.4.2	Certificates	<p>The builder shall obtain the following certificates/documents and deliver to the owner at the time of the vessel's delivery. The original certificates with three copies shall be handed over prior to delivery or framed and kept onboard as the case may be,</p> <p>A. Issued by appropriate authorities as applicable for this class of vessel.</p> <ol style="list-style-type: none"> Inclining Experiment Report. Trim and Stability booklet. Certificate of tonnage (GT/NT). <p>B. To be Issued by Class</p> <ol style="list-style-type: none"> Classification Certificate. All Certificates of material, machinery and equipment. <p>C. To be Issued by Builder</p> <ol style="list-style-type: none"> Builder's Certificate. Official Deadweight Certificates. <p>D. To be issued by others Certificate of anchors, chain cables, shackles, hawsers, mooring ropes and equipment.</p> <p>E. Certificate of nautical / navigation instruments Navigation light, Mast light Certificate. Magnetic compass Certificate.</p> <p>f) All costs and fees for inspection and approval of classification Societies and Statutory bodies for the necessary certificate shall be borne by the Builder.</p>
1.4.3	Stability, Draught and Trim	<p>a) The vessel shall have ample stability under all loading conditions and operating conditions. No permanent or fixed ballast shall be used. The stability particulars shall also comply with the load line requirements.</p> <p>b) The Builder shall keep stringent record of all weights going onboard, during the construction. On completion of the vessel an inclining test in the presence of the Owner and Statutory authorities, shall be carried out to determine the center of gravity and lightship weight of the vessel. A trim and stability booklet shall be prepared incorporating the result of the inclining test. This booklet shall contain all operating conditions and other necessary information regarding general stability of the vessel.</p>

		<p>c) The vessel shall not trim by stem at any loading condition. Docking condition shall be with minimum aft trim with necessary ballast, gravity and lightship of the vessel. A trim and stability booklet shall be prepared incorporating the result of the inclining test. This booklet shall contain all operating conditions, and other necessary information regarding general stability of the vessel. Directorate IWT, of respective State Govt, shall duly approve this and one set shall be placed on board the vessel.</p>
1.4.4	Materials and Workmanship	<p>All material used for the construction of the vessel shall be of approved quality. Hull material shall have good welding qualities. All material used for the construction of the vessel shall be of approved quality. Hull material shall have good welding qualities. The workmanship shall be to the satisfaction of the Class and the Owner.</p>
1.4.5	Specification Survey, Construction Supervision and Inspection	<p>The Owner's consultants shall carry out Specification survey and shall inspect the work at any stage during the construction of the vessel.</p> <p>Any defective or sub-standard work, which was pointed out during inspection, by the surveyors or the owner's representative, shall be rectified by the Builder at no extra cost.</p>
1.4.6	<u>Drawings, Schemes, Calculations and Manuals</u>	<p>The Builder shall prepare all classification/statutory construction/ working drawings and as fitted drawings and submit to Owner for approval.</p> <p>The Shipyard / Designer shall submit all approved drawings and documents to Owners.</p> <p>Following plan will be provided.</p> <ol style="list-style-type: none"> General Arrangement Lines Plan with Offset Table Transverse Section Profile, Deck & Bottom Construction Plans Transverse Bulkheads Equipment No. Calculation Schematic Piping Arrangement of systems Welding Schedule Shell Expansion Disposition of Anodes, Draft mark & Docking plan. Anchor Windlass Foundation, Hawse Pipe & Anchor Pocket, mooring arrangement Accommodation Layout Engine Room layout Details of Bollards & arrangement Tank Testing Plan Tank Capacity Plan Hatch, Manhole & Ladder Plan Windows & Door Plan Tonnage Computation Safety Plan Light, Sound & Shape Signals Details of Gen set Foundation

		<p>w) DG Set Exhaust Piping System</p> <p>x) Details of Railing & Bulwark</p> <p>y) Hydrostatics & Cross Curves of Stability Data</p> <p>z) Inclining Experiment Procedure.</p>
		<p>aa) Preliminary Trim & Intact Stability Booklet</p> <p>bb) Preliminary damage stability booklet.</p> <p>cc) Floodable length curve</p> <p>dd) Protected and Unprotected openings</p> <p>ee) Watertight integrity plan</p> <p>ff) Midship Section</p> <p>gg) Watertight bulkhead frame sections & NWT Frame sections</p> <p>hh) Shear force and bending moment diagram</p> <p>ii) Freeboard Calculation</p> <p>jj) Deck arrangement plan</p> <p>kk) Bilge and fire fighting system arrangement plan</p> <p>ll) Sounding, filling & vent system</p> <p>mm) fresh water system</p> <p>nn) FO system</p> <p>oo) DG cooling system</p> <p>pp) Sanitary grey and black water system</p> <p>qq) Exhaust system</p> <p>rr) Fender arrangement</p> <p>ss) Outfitting drawings</p> <p>tt) Final intact stability booklet</p> <p>uu) Final damage stability booklet</p> <p>vv) River trial report</p> <p>ww) Trial Formats</p> <p>xx) Details of Sea Chest inlet</p> <p>yy) Electrical Load Chart</p> <p>zz) SLD Electrical Diagram / Booklet</p>
		<p>a) The charges for the approval of the Classification drawings shall be borne by the Builder.</p> <p>b) Before delivery of the vessel the Builder shall submit one set of good quality of electronic drawing and for prints of all drawings including "As Fitted" drawings.</p> <p>c) Three sets of as fitted drawings (for structural, piping, outfitting etc.), report of various tests and inspections made, detailed lists of all standard and extra spare parts, inventory tools and additional tools, maintenance, spare parts and other instruction manuals, schemes, calculations, all test reports, trial reports final trim and stability booklet, etc., necessary for the operation, maintenance and repair of the vessel shall be submitted to the Owner at the time of delivery</p> <p>d) The following drawings shall be laminated, framed and fitted on board:</p> <ol style="list-style-type: none"> i. General Arrangement Plan ii. Life Saving Appliances Plan iii. Capacity Plan

		<ul style="list-style-type: none"> iv. Tank sounding chart v. Safety plan vi. Bilge Scheme vii. Electrical key diagram <p>e) Three sets of instruction books, operation and maintenance manuals, spares, catalogues in original (Soft and hard) shall be handed over to the Owner.</p> <p>f) Three copies of the list of suppliers of all the fittings and equipment used on board with their addresses and phone/fax numbers shall be supplied to Owner/Owner's representative.</p> <p>g) Ship's book, an operating manual for the entire vessel shall be made and supplied.</p>
2.0	Spare Parts, Inventories and Tools	<p>a) Spare parts, inventories and tools shall be supplied in accordance with:</p> <p>b) The requirements of the rules and regulations of the Classification Society (the list of standard spares as required by the Classification Society shall be submitted to the Owner).</p> <p>c) The Builder's / manufacturer's standard supply of spares for five years operation.</p> <p>d) The parts shall be administrated, packed and preserved properly. Suitable racks shall be provided on board for storage.</p>
3.0	Tests and Trails	
3.1	General	<p>a) All tests and trails required for the vessel and her equipment shall be performed in compliance with the statutory / classification / Owner's requirements.</p> <p>b) The Builder shall prepare and submit a detailed program of the relevant trials to the Owner and Class for approval.</p> <p>c) Any defect/shortfall pointed out by the surveyors/owner during the tests and trails, shall be rectified by the builder at no extra cost.</p> <p>d) All costs involved in conducting the trails shall be borne by the Builder.</p>
3.2	Welding	<p>a) The vessel shall be of all welded steel construction. All openings and holes in the structure shall be made with the consent of Class and shall be suitably compensated for strength. Welding processes and welders shall be approved by the Class.</p> <p>b) Welding shall be of high quality and shall be performed by skilled personnel. Necessary precautions shall be taken to eliminate deformations. All surfaces shall be cleaned from rust and grease before welding. Approved manual, semi-automatic or automatic welding techniques shall be adopted for the construction using coated electrodes of approved make. A regular x-ray testing as per Class rules shall be carried out to test the standard of welds. Builder shall submit inspection and testing plan to the owner for approval.</p>
3.3	Tank Testing	All tanks and watertight or oil tight compartments shall be

		tested in the presence of the Surveyor and Owner's representative and shall comply with the rule requirements. The tests shall be carried out after completion of the construction and prior to commencement of painting. At the time of testing all welds at boundary surfaces shall be clean and free from primer/paint/oil etc. Immediately after testing these entire weld surfaces, which are cleared of any defects, shall be coated with primer/paint.
3.4	Inclining Test	Before the trials and with the vessel in a condition as complete as possible, an inclining test shall be conducted to ascertain the lightship displacement and center of gravity in the presence of Owner's representative, Class / IWT. The inclining test report approved by Class / IWT shall be made available to the Owner's representative.
3.5	Dock trials	Dock trials shall be carried out in accordance with a programme agreed upon by the Owner or their authorized representatives. A report on the performance of various dock trails in the format to be agreed upon shall be submitted to the Owner or their authorized representatives
3.6	Delivery	The vessel shall be delivered and accepted at Kolkata. After the trials and the approval of Owner and Classification Society of these trails with reports etc. the vessel shall be handed over to the Owner in a proper and clean condition with at least 50% of liquid stores on board. The costs of transportation, additional painting, checking trails and handing over and with the stores specified above shall be to the account of the Builder. All relevant documents, certificates, tools, inventories, spare parts etc. shall be on board at the time of handing over.
4.0	Photographs	The Builder shall take photographs of the vessel at various stages of construction and shall submit them along with the monthly report to the Owner. On completion of the vessel, additional photographs shall be taken for framing purposes.
5.0	Hull Structure	
5.1	General	<ul style="list-style-type: none"> a) The vessel shall be of all welded steel construction and all structure shall be designed and constructed in accordance with the Classification Society's requirements for inland vessels. b) All scantlings shall be in accordance with the rule requirements of any classification society who is member of IACS. Bottom shell and main deck in the cargo hold region shall be longitudinally framed. All bulkheads, side shell and main deck and bottom in other areas may be transversely framed. c) Continuity of structural members in basic hull structure shall be maintained. Where members are discontinuous the continuity shall be provided by means of suitable tapers, overlaps, and/or brackets.
5.2	Material	Structural steel of hull construction shall be IRS/LR Grade "A"/Equivalent. All materials including casting and forging shall be

		<p>of qualities complying with the requirements of the Classification Society. Material test certificate of the Class / accredited laboratory must be provided.</p> <p>All structural steel shall be free from rust, pitting, cracks, laminations, and similar defects. In case of any such defects being noticed, the plates etc. shall be renewed for the extent necessary to the approved quality/standards.</p> <p>Large size plates shall be used for the construction of hull as far as practicable.</p>
5.3	Preparation of Materials and Welding	<ol style="list-style-type: none"> a. Steel plates deformed during transportation, shall be faired by rolling before use. b. Before the steel plates and rolled sections are used for construction, rust and mill scale shall be removed by means of sand blasting. The surface finish shall be Sa 2.5. Immediately after the sand blasting, one coat of inorganic zinc silicate primer shall be applied as a temporary protection. c. All welding shall be as per the requirements of the Classification society. During the welding operations all necessary precautions shall be taken, so that welds of high standards are obtained. All surfaces shall be professionally cleaned and free from rust, grease etc. prior to commencement of welding. Plates shall be cut using automatic gas cutting as much as possible. Overhead welding shall be minimized and therefore necessary provisions shall be taken for down-hand welding wherever practical. Welding procedures including edge preparation and welding scheme shall be approved by the Classification Society wherever necessary. d. Burnt out shop primer shall be removed by wire brushing and the surface repaired immediately after welding operations except at tank boundaries, which may be painted after tank testing. e. Welding shall be performed only with electrodes of approved make and by qualified welders. A regular check on the quality of welding shall be carried out to the satisfaction of the Classification society/Owner. Alignment and welding sequence to reduce uneven surface of hull, deckhouse, decks etc. shall be followed. If considered necessary by the Class/Owner additional measures shall be taken to improve the quality of the weld. f. Decks, bulkheads, deckhouses, and other construction which are deformed due to welding shall be faired to the satisfaction of the Class/Owner. g. On the berth, the hull and sections shall be earthed adequately. Clamps, dogs and other means to bring material and equipment in the right position, shall be removed in such a way that no mechanical damages take place and no visual marks are left.

5.4	Hull Form	The hull shall be double hard chine construction with a transom stern and spoon bow.
5.5	Bottom Construction	The vessel shall have double hull construction. Bottom shell, inner bottom and main deck and the bottom shall be longitudinally framed. Additional strengthening considering grab loading to be considered. Plate thickness in way of sea chest and bilge wells shall be at least 2 mm more than required by rules
5.6	Side Shell Plating and Framing	The side shall be longitudinally framed and stiffened by combination of stringers, web frames at 1.8m frame spacing along cargo hold.
5.7	Deck Structure	The vessel shall have main deck, shall be stiffened and shall be supported by a combination of girders, transverse webs as approved by class. The main deck in way of deck cargo shall be adequately strengthened. A level surfaced / beams shall be provided in way of the deck cargo. The construction, materials, arrangement and fittings in the accommodation spaces shall comply with the statutory requirements applicable to this class of vessel.
5.8	Bulk heads	<ul style="list-style-type: none"> a. The vessel shall have transverse watertight bulkheads. All bulkheads shall be vertically stiffened. b. The Vessel shall be divided into 4 (Four) compartments namely the after peak compartment, Cargo Hold 1, Cargo Hold 2, and Fore Peak compartment. Two Diesel Generator set shall be provided. The Generator shall be capable of taking the entire electrical load of the vessel.
5.9	Aft end Construction	The vessel shall have a plane transom stern. The collision bulkhead shall be vertically stiffened.
5.10	Fore peak Compartment	Fore peak compartment shall be efficiently stiffened.
5.11	Chain Locker	<ul style="list-style-type: none"> a. 1 nos. chain locker shall be provided. b. Chain lockers shall be of self-stowing type with 20% more than the required capacity with bilge well/mud box at the bottom and shall be located as shown in the General Arrangement plan. c. Sufficient clearance above the top of stowed chain shall be maintained with arrangements to fix the end links d. A suitably sized steel grating or perforated plating of removable or removable type shall be laid above the mud box, adequately supported to take the weight of chain
6.0	Hull Preservation	
6.1	General	<ul style="list-style-type: none"> a. Painting specification giving details of painting and method of application shall be submitted to the owner for approval. b. The colours of finish coats shall be in accordance with the Owner's colour scheme and those of primer coats shall be in accordance with the manufacturer's recommendations. Alternate coatings shall be of different colours for easy identification. Pipelines shall be marked with a colour code system approved by the Owner.

		c. Equipment, which the builder shall purchase, shall be painted according to each manufacturer's standard and the damaged part, after installation shall be touched up with one coat of finish paint of compatible kind.																																	
6.2	Surface Preparation	<p>a. Surfaces of all structural steel plates and sections to be used for fabrication shall be sand blasted to Sa 2.5 and immediately primed with inorganic zinc silicate type shop primer according to the Boulder's standard.</p> <p>b. Dry film thickness of shop primer shall be approximately 15 microns.</p> <p>c. The steel surface of fittings such as pipe supports, grating supports, auxiliary machinery seats, etc. shall be sand blasted to Sa 2.5 or pickling treated.</p> <p>d. Pipes of over 250 mm diameter shall be blasted to Sa 2.5 and pipes with 250 mm diameter and below, small pieces of pipes, seats etc. shall be power cleaned with wire brush or disc sander to St 3 or pickling</p> <p>e. Prior to the application of main system, all weld spatters, rust grease and other contaminants shall be removed by wire brushing from the surface.</p> <p>f. Prior to the first coating the surface preparation shall be as per the following table:</p> <table border="1"> <thead> <tr> <th>No</th><th>Location</th><th>Standard</th></tr> </thead> <tbody> <tr> <td>1</td><td>Bottom and boot top</td><td>Sa 2.5</td></tr> <tr> <td>2</td><td>Topside</td><td>Sa 2.5</td></tr> <tr> <td>3</td><td>Fresh water and Water ballast</td><td>St 3.0 (Mechanical and power tool cleaning)</td></tr> <tr> <td>4</td><td>Weather deck</td><td>St 3.0</td></tr> <tr> <td>5</td><td>Deck house exterior</td><td>St 3.0</td></tr> <tr> <td>6</td><td>Cofferdam</td><td>St 3.0</td></tr> <tr> <td>7</td><td>Fuel oil and Lubricating oil tanks</td><td>St 3.0</td></tr> <tr> <td>8</td><td>Double bottom spaces and</td><td>St 3.0</td></tr> <tr> <td>9</td><td>Cargo Holds</td><td>St 3.0</td></tr> <tr> <td>10</td><td>Void spaces</td><td>St 3.0</td></tr> </tbody> </table> <p>Prior to subsequent coats damaged areas due to burning and welding and prolonged exposure during fabrication shall be cleaned by abrasive blasting to Sa 2.5. Other spaces shall be power tool cleaned to St 3.0.</p>	No	Location	Standard	1	Bottom and boot top	Sa 2.5	2	Topside	Sa 2.5	3	Fresh water and Water ballast	St 3.0 (Mechanical and power tool cleaning)	4	Weather deck	St 3.0	5	Deck house exterior	St 3.0	6	Cofferdam	St 3.0	7	Fuel oil and Lubricating oil tanks	St 3.0	8	Double bottom spaces and	St 3.0	9	Cargo Holds	St 3.0	10	Void spaces	St 3.0
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6.3	Execution of Painting	a. Painting work shall be executed in accordance with the Builder's painting practice and paint manufacturer's recommendations. Copper alloy, aluminium alloy, stainless steel, non-ferrous material, and galvanized surfaces shall not be painted unless specifically required. Time intervals between application of coats shall have different colours for identification. No painting exposed to weather shall be carried out in adverse weather conditions. Application shall be done with the help of airless spray as far as possible. Where spraying is not																																	

		<p>practicable, brush or roller shall be employed.</p> <p>b. Record of temperature and humidity and DFT shall be maintained during the painting work and submitted to owner.</p> <p>c. Before launching, the outside hull below the waterline shall be painted with sufficient coats for adequate protection. Non-slip paint be applied on the main deck open and passage.</p> <p>d. Dry film thickness shall be measured by magnetic dry film gauges or equivalent in the presence of owner and paint manufacturer. Thickness shall be measured after completion of anti-corrosive coatings and / or the final coating in accordance with Builder's practice to Owner's approval.</p> <p>e. On the edges of small holes such as slots, drain holes, scallops, irregular manual weld beads and corners of flame cut free edges to structures, air holes, etc. one additional stripe coat shall be applied before or after the first coat.</p> <p>f. Builder shall provide three years guarantee for painting work carried out on under water area, ballast and freshwater tanks.</p>		
6.4	Paint scheme	Painting scheme in general shall be as given below (painting scheme for parts or spaces, which are not specified, shall be similar to surrounding space or comparable spaces)		
Sl No	Description	Type of Coat	Thickness in (Microns)	No of Coats
A	OUTER HULL			
1	Bottom, Underwater hull upto deep load line, Bilge keel, Sea chest	Epoxy primer	25	1
		Coal Tar Epoxy	100	1
		Chlorinated rubber sealer coat	30	1
		Conventional Anti fouling	100	
2	Top side area including bulwark outside	Epoxy primer	25	1
		Coal Tar Epoxy	100	1
		Chlorinated rubber sealer coat	30	1
		Chlorinated rubber finish	30	2
3	Bulwark Inside	Zinc Rich Primer	40	1
		Alkyd deck paint	30	2
4	Vessel Name, Port of Registry, Hull Marking	Alkyd Gloss Finish	30	2
B	TANK			
1	Fresh Water Tank	Epoxy primer	25	1
		Pure Epoxy	100	2
2	Fore peak tanks / Water ballast tanks	Coal Tar Epoxy	100	1
3	Oil Tanks	Red Brown Epoxy and one coat of respective Oil.		
4	Aft peak and other Void Spaces	Bituminous Solution	80	1
	Inside of fuel oil tanks, lubricating oil tanks and other tanks for oils shall be treated with the oil carried in them.			
C	EXPOSED DECK & SUPERSTRUCTURE			
1	Exposed steel decks	Zinc Chromate	40	1

	including wheelhouse top and 150mm dados around all deck structure and machinery seats on deck.	Primer		
		Non-Skid alkyd deck paint	40	2
2	Outside exposed bulkheads, superstructure, handrails, stanchions, stays and ladders	Zinc Chromate Primer	40	1
		Alkyd Gloss Finish	40	1
3	Port Light Screen	Zinc Chromate Primer	40	1
		Alkyd Gloss Finish	40	1
4	Standard Light Screen	Zinc Chromate Primer	40	1
		Alkyd Gloss Finish	40	1
6.4.1	Paint scheme	The builder may propose alternate painting scheme and submit for Owner’s approval.		
7	Accommodation			
7.1	General	a. Accommodation for 4 Crew shall be arranged as mentioned in Section 1.3. The relevant statutory rules regarding construction, material, space, and fireproof partitioning shall be compiled with. b. All accommodation spaces shall be designed to have a clear height to 2000 mm.		
7.2	Accommodation and Utility Space			
7.2.1	Crew Accommodation	Accommodation for the vessels crew shall be provided in the aft. The furniture and other fittings shall comply crew accommodation rules. Forced air supply ventilation system is to be provided. Toilet, Bath and galley with necessary fittings and amenities shall be provided.		
7.2.2	Store	One vessel store shall be provided below main deck. Wooden racks shall be provided.		
7.3	Insulation	a. The portion of the compartment facing weather shall be insulated in accordance with the statutory rules. b. In place where rules for insulation against fire, heat and sound shall be applied at the same time, only the highest insulation thickness need be applied.		
7.4	Doors. Windows and Scuttles	a. All doors shall be of such construction, finish and operation so as to suit their location and purpose. b. The sill height of doors shall be in accordance with the requirements of Classification society/statutory rules as applicable and the clear heights of door openings for all cabins and public spaces shall be 1900 mm from the steel deck to top of the opening. c. All doors shall be provided with suitable doorstoppers and securing arrangements. Door eyebrow shall be provided over exposed weather doors d. Windows and scuttles shall be provided as per BIS where applicable. Whether steel plate is cut to fit the		

		<p>windows/scuttles adequate compensation shall be provided.</p> <p>e. The type, size, location and number of doors, windows and scuttles shall be as per approved plans. All wheelhouse windows shall be selected so as to minimize heat transfer.</p> <p>f. All door openings exposed to weather shall be provided with additional doors with mosquito nets.</p>
8	Ventilation system	<p>a. Supply fans of sufficient capacity shall be provided for ventilation in the accommodation areas and exhaust fans shall be provided for Galley pantry, toilets and stores.</p> <p>b. Watertight covers shall be arranged on all ventilation inlets as required by load line regulations. Fire dampers shall be fitted to all ventilators as required by rules.</p>
9	Miscellaneous	
9.1	Piping & Valves	<p>a. All piping schematic drawings shall be approved by Owner/Class and Statutory Authorities. Pipes shall have suitable expansion arrangements wherever necessary and pipe material shall be suitable for the fluid that it will carry and shall comply with rule requirements.</p> <p>b. All valves shall be of approved type. Valves fitted to the hull shall be of Cast steel body with internals of bronze/Stainless steel.</p>
9.2	Insulation	<p>a. In general, the surface of machinery, equipment, pipes and tanks whose surface temperature is more than 60° C shall be insulated.</p> <p>b. Pipes shall be tested and painted (when necessary) before insulation is applied.</p> <p>c. The insulation materials shall be fire resistant and shall be arranged in such a way that operation and maintenance are not hindered.</p>
9.3	Nameplates	<p>a. Engraved A1/Brass nameplates shall be provided on each pump, engine, valve loose tanks etc., and where necessary for safety and control, the function and the medium used in that respective place shall be indicated on nameplates</p> <p>b. All Vent/Filling/Sounding pipes shall be provided with nameplates for identification above main deck.</p> <p>c. The nameplates fitted on weather decks and on aluminium parts shall be of stainless steel. The lettering on nameplates shall be black, however on safety and emergency valves red coloured lettering shall be adopted.</p>
9.4	Instruments	<p>The scales of instruments for pressures, temperatures etc., shall be such that the working range is not more than 70% to 80% of the full scales. The maximum allowed values shall be marked with a red line on the scale. Instruments shall have a minimum scale length of at least 8 cm.</p> <p>The pressure gauges shall be marked in Bars.</p> <p>The temperature gauges shall be provided with scales marked in degrees centigrade. Gauges for temperatures over 300° C</p>

		shall be of the pyrometer type.
9.5	Cargo Hatch Covers	Two cargo holds should be covered with hatch covers to avoid rainwater ingress into holds. Cargo hatch covers shall be constructed with light weight steel structures & easy movable type over rollers with telescopic arrangement. Sufficient no. of ropes & winches to be provided for safe handling of cargo. Sufficient slope to be provided to hatch covers towards port and starboard side to make rainwater drained continuously.
10	Electrical system	
10.1	General	<ul style="list-style-type: none"> a. The complete electrical installation and workmanship shall be in accordance with the rules and regulations of the classification societies and statutory authorities applicable to this type of vessel. b. The electrical rotating machinery, transformers and other electrical equipment shall work satisfactorily at an ambient temperature of 45° C. All the electrical equipment shall be arranged for easy accessibility for repair and replacement. c. The equipment installed shall work satisfactorily at voltage and frequency variations as specified by Class d. Each control panel shall be provided with relevant drawing, wherein the fuse ratings of feeders shall be clearly mentioned. e. All the relevant electrical drawings and plans including load chart shall be submitted to Owner for approval prior to placement of orders for equipment/installations.
10.2	Power Supply	
10.2.1	General	A diesel engine driven alternator of suitable capacity will be provided for supplying single phase 220 volt, 50 Hz power for pump and for all other electrical fittings. Provision for shore supply connection shall be made for powering the 220 volts system while the vessel is at any terminal.
10.2.2	Main Supply	<p>The generators shall be continuously rated and shall have class „F“ insulation, suitably tropicalized and shall be designed for a temperature rise, after continuous full load working, not exceeding the temperature limits specified by the classification society.</p> <p>The vessel shall have a 50 Hz. A.C. supply power generation.</p>
10.2.3	Shore supply	A shore supply box completes with a supply cable 50 m long with necessary plug and socket fittings, necessary switch, fuses, voltmeter, frequency meter and phase sequence indicator shall be provided on the main deck. A voltage available indicating lamp shall be provided on the panel. All cable, insulation, etc., shall suit the location and duty requirement shall comply with relevant rules.

10.3	Lighting and Cabin fans	<p>a. The crew cabin lighting installation consists of a network of 220 V A.C. system. The network is to be powered from 4 nos. solar panels erected on the top of the crew cabin which may be connected to 2 nos. 25 plate suitable rechargeable batteries through a 500 watt capacity inverter with suitable voltage regulator. There will also be provision for power connection from the 220 V A.C. system from the alternator.</p> <p>b. In general, all the light fittings shall be of weatherproof, drip proof or non-watertight as required by the location and shall be suitable for marine application.</p> <p>c. In general, 2 x 20 Watts fluorescent fittings shall be used. However, stores, level gauge lighting and weather deck lighting may be incandescent type. Illumination levels in various areas shall comply with the rules of classification society and relevant statutory authorities as applicable to this class of vessel.</p> <p>d. The fittings shall be installed for easy maintenance as far as practicable. In addition to the above</p> <p>e. 24 VDC lighting shall be provided as per rules.</p> <p>f. <u>Lighting for Accommodation</u> All the cabin and passage lights shall be of fluorescent type. Switches and sockets in accommodation shall be of flush type. Watertight fittings shall be used in the toilets and gallery. Hinged type chart table lights with incandescent lamp and dimmer shall be provided.</p> <p>g. Portable Lights number 40 Watts, 220 V portable hand lamps shall be provided with watertight socket and 8 meters flexible cable.</p> <p>h. Cabin Fans Adequate number of circulating fans shall be provided in cabins and other living spaces.</p>
10.4	Navigational Lights	<p>Two sets of electrical navigational lights shall be provided as per rules.</p> <p>One set shall be powered by the emergency supply. The other set shall be powered from the regular power supply. Navigational lights shall be controlled from a control panel mounted on bridge console. The panel shall indicate the status of the lamps and shall give an audible alarm in case of fused bulb. Signal light of approval make shall be fitted as per rules.</p>
11	Other Systems	
11.1	Sewage System	<p>One number Sewage holding tank of adequate capacity shall be provided. One sewage bypass line shall be provided for overboard discharge in case of emergency. All discharges shall be arranged with sufficient slope towards the main sewage drain and connected to the sewage-holding tank.</p> <p>Sewage overboard discharge shall be arranged below the light ballast waterline.</p> <p>Discharge from showers, sinks and washbasins shall be trapped through individual water traps and led overboard or to the holding tank separately. Approved type of storm valves shall be provided at the overboard discharge ends as per the rules.</p>

		One sewage discharge pump of 2m ³ /hr @2 bar capacity (screw type) shall be provided for discharging sewage from holding tank. One hand pump semi rotary type shall be provided as standby.
11.2	Domestic Fresh Water System	<p>Fresh water storage tanks of total capacity of about 2m³ shall be provided for catering to the requirements of the crew.</p> <p>One freshwater overhead tank of 250 lt. Capacity shall be provided. Fresh water pump of 2m³/hr @2 bar shall be provided for transferring Fresh water from storage tank. One semi rotary hand pump shall be provided as stand by.</p> <p>Fresh water connections to Galley, Mess, Water coolers etc. shall be passed through UV Sterilizers.</p>
11.3	Sanitary Water System	River water connection shall be supplied to all toilet flushes, toilets, and galley. One overhead tank of 250 ltr capacity shall be provided. Supply of river water to the overhead tank shall be through a pump.
11.4	Anchor winch	A mechanical winch for anchor hoisting shall be provided. The diesel engine of the genset will be coupled to the anchor winch on one side for anchor hoisting.
11.5	Hatch Covers	For protecting the cargo from rain and other weather conditions cargo hold to be covered with steel hatch covers with suitable roller and telescopic type arrangement for easy opening, closing and locking of the same.
11.6	Pushing Knees	As the barges are to be pushed by the Pusher Tug, robustly fabricated Pushing transoms appropriately located and of matching size with those of pusher tug to be provided at the aft of the barges.
12	List of documents to be supplied by the builder	
12.1	Basic Design Drawings	<ol style="list-style-type: none"> 1. General arrangement plan 2. Lines Plan 3. Docking Plan
12.2	Calculations	<ol style="list-style-type: none"> 1. Equipment number calculations 2. Hydrostatic particulars 3. Tonnage calculations 4. Freeboard and minimum bow height 5. Trim and stability calculations (Preliminary)
12.3	Structural drawings	<ol style="list-style-type: none"> 1. Midship / Typical transverse section 2. Profile, Decks and Bottom plan 3. Watertight / Oil tight bulkheads 4. Shell expansion 5. Hawse pipe details 6. Welding schedule 7. Fore peak and aft peak structure 8. Hatch cover details of Cargo hold 9. Hatch opening details

Part-B. Technical Specifications of Steel Hull 15T Pusher Tug (3 Nos)

1	General	
1.1	Intent of the Specifications	<p>The intent of this document (hereinafter called the “Specifications”) is to outline the technical and functional requirements for the design, construction, and supply of 3 nos Pusher Tugs (hereinafter called the “Vessel”) for the Inland Waterways Authority of India. The Tug to be designed for pushing 2 no. Dumb Barges.</p> <p>The vessel including all its material, equipment, piping, machinery, workmanship, etc., shall be in accordance with these specifications and to the requirements of the classification Society as also regulatory bodies, which are mentioned hereinafter and shall be fully documented as required by these bodies.</p> <p>All fittings, arrangements, systems, and equipment not mentioned in the specifications but required under Classification rules and other statutory requirements shall be provided at no extra cost. Anything not described or left out of this specification but being considered as normal and necessary for the intended services, shall be supplied, and fitted without extra charge.</p>
1.2	Design Conditions and Basic Requirements	
1.2.1	Design Conditions	<p>The following ambient conditions are to be considered for the selection of equipment and machinery: -</p> <ul style="list-style-type: none"> - Maximum outside air temperature of 45°C with 90% relative humidity. - Air temperature of 50°C with 90% relative humidity in the engine room. - Maximum river water temperature of 32°C. - Atmospheric pressure of 760 mm Hg.
1.2.2	Basic Requirements	<p>The Vessels are intended for operation in all weather conditions in the National Waterway no. 1 & 2 (River Brahmaputra) Indo-Bangladesh protocol route through Bangladesh and accordingly it should be suitable for operation in Zone-1 (maximum significant wave height of 2.0 m).</p> <p>The following basic requirements apply to the Pusher Tug:</p> <ol style="list-style-type: none"> a. The Vessel with its installations, systems and equipment shall be able to fulfill all described tasks, duties and capacities when operating under the design conditions mentioned above. b. The main dimensions to be chosen in such a way that the maximum draught will be less than 1.8 m and with a trim of less than 0.15 m for the Vessel in working

		<p>condition with 50% stores on board</p> <ul style="list-style-type: none"> c. The Vessel to be constructed and built for inland waters and as such classified by any other classification society who is member of IACS. The building to be carried out under the survey of this classification society having the class notation for both hull and machinery. d. The Vessel shall be able to sail continuously at a speed of 6.5 knots while pushing two loaded barges of 825 ton capacity each. e. The Vessel shall have a good speed control, directional stability and maneuvering qualities over the full speed range and shall be designed with a twin-screw propulsion system f. The Vessel shall have an own fuel storage capacity of at least 60 tonnes and a freshwater storage of about 20 tonnes and stores for three weeks sailing. g. All materials, equipment and machinery required for the construction of the Vessel shall be of high quality and suitable for marine use and for the prescribed services. All workmanship entering construction and finishing of the work shall be of first-class standard in accordance with good shipbuilding practice, suitable for the purpose intended and to the satisfaction of the classification society. h. For passing bridges the maximum height of the Vessel above waterline to be less than 8 m i. Special measures to be taken to protect the equipment and engines against the effects of sand/dust-storms.
1.3	Liability and Obligations of Contractor	<ul style="list-style-type: none"> a. The Contractor has to convince himself and confirm at the time of submitting the tender that the Vessel will be designed and built-in accordance with this Specification and will be able to fulfill all prescribed requirements, capacities and performances. b. The Contractor will take the full responsibility in all respects, without any reserve, for the design, the construction, supplies, trials, efficient working of all systems on board, transport, and delivery of the Vessel. c. The approval of the Class of plans, orders, calculations, drawings or delivered materials and tools does not exempt the Contractor from his responsibility to deliver the Vessel with all installations in agreement with this Specification. If some parts do not work satisfactorily during the trials or during the guarantee period, these parts must be replaced or altered by the Contractor at its own cost, to the satisfaction of the Owner and Class during the building period, the contractor must take effective precautions to prevent damage by fire or water. After launching, the vessel is to be effectively and

		tightly moored in sufficient depth.																																													
		<p>The Vessel will be a twin-screw propelled pusher tug pushing two dumb barges, type of propulsion ie Azimuth propulsion system , and operating in protected (Inland) waters, such as the river Ganges (NW-1), Brahmaputra (NW- 2) in India and Indo Bangladesh protocol route through Bangladesh. The hull will be constructed of steel and the vessel will be classified as Pusher Tug for inland water operations</p> <p>The approximate principal dimensions and characteristics are as follows: -</p>																																													
1.4	Description of Pusher Tug.	<p>A) Tug - Pusher Tug (IV Tug)</p> <table border="1"> <tr><td>1</td><td>Length Overall</td><td>25 m</td></tr> <tr><td>2</td><td>Breadth</td><td>9 m</td></tr> <tr><td>3</td><td>Depth</td><td>3 m</td></tr> <tr><td>4</td><td>Draft (design)</td><td>1.6 m</td></tr> <tr><td>5</td><td>Air Draft</td><td>8 m</td></tr> <tr><td>6</td><td>Main Engine</td><td>2 x 485 KW in rating A (heavy, Uninterrupted duty); Reversible Gear Box with propellers (in Nozzles)</td></tr> <tr><td>7</td><td>DG</td><td>2 X 30 KW</td></tr> <tr><td>8</td><td>Speed *</td><td>6.5 knots while Pushing & 10 knots while free running</td></tr> <tr><td>9</td><td>DO Tank</td><td>60 T</td></tr> <tr><td>10</td><td>Fresh Water Tank</td><td>25 T</td></tr> <tr><td>11</td><td>Lub oil Tank</td><td>2T</td></tr> <tr><td>12</td><td>Sludge</td><td>5T</td></tr> <tr><td>13</td><td>Black Water</td><td>10T</td></tr> <tr><td>14</td><td>Crew accommodation</td><td>12</td></tr> <tr><td>15</td><td>Bollard Pull</td><td>15 T</td></tr> </table> <p>Twin Rudder, blades with high efficiency profile behind each propellers. Deck Machinery and Bow anchors as per Equipment No calculation.</p> <p><i>* Speed of vessel in deep, calm waters with clean hull</i></p> <p>The above dimensions may marginally change during the detail design stage which shall not be more than +/- 5%.</p>	1	Length Overall	25 m	2	Breadth	9 m	3	Depth	3 m	4	Draft (design)	1.6 m	5	Air Draft	8 m	6	Main Engine	2 x 485 KW in rating A (heavy, Uninterrupted duty); Reversible Gear Box with propellers (in Nozzles)	7	DG	2 X 30 KW	8	Speed *	6.5 knots while Pushing & 10 knots while free running	9	DO Tank	60 T	10	Fresh Water Tank	25 T	11	Lub oil Tank	2T	12	Sludge	5T	13	Black Water	10T	14	Crew accommodation	12	15	Bollard Pull	15 T
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1.4.1	<u>Dolphin Pingers</u>	<p>Dolphin pingers</p> <ul style="list-style-type: none"> • Installation of pingers in the vessel to deflect dolphins. • Installation of anti-vibration pads in the vessel to reduce noise generation. • Modified propeller guards for the vessels. • Bio toilets/ STP on the vessels • Oil spill control kit along with Safety kits like Personal Protective Equipment (PPE's), life jackets etc are kept onboard dredgers. 																																													

1.4.2	<u>Zero Waste Discharge</u>	The vessel should be equipped with the requirements as per provisions Inland Vessel Act 2021 and the Inland Vessel (Prevention and Containment of Pollution Rules 2022).										
1.5	Complement:	<div>Following accommodation for the Vessel’s Compliments to be provided-</div> <table><tr><th>Complement</th><th>Number</th></tr><tr><td>Master</td><td>2-(1 double berth with attached toilet & Shower)</td></tr><tr><td>Driver</td><td>2-(1 double berth with attached toilet & Shower)</td></tr><tr><td>Crew & Ratings</td><td>8-(4x2 2 tier bunks)</td></tr><tr><td>Max. Complement</td><td>12</td></tr></table> <div>The hull will be subdivided by watertight transverse and longitudinal bulkheads into several compartments. The Master & Driver accommodation and the wheelhouse cabin shall be built on deck. Other crew and rating to be accommodated below deck. Width of about 6.0 m. Propulsions and steering to have provision to be remotely controlled from the wheelhouse.</div>	Complement	Number	Master	2-(1 double berth with attached toilet & Shower)	Driver	2-(1 double berth with attached toilet & Shower)	Crew & Ratings	8-(4x2 2 tier bunks)	Max. Complement	12
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Max. Complement	12											
1.6	Design and Model Test:	<div>a. On completion of the basic design, the model testing of the vessel to be constructed shall be carried out in a reputed and recognized model testing towing tank in the presence of Owners representative for confirming the propulsive power, speed, draft etc. at the earliest.</div> <div>b. The model test shall be carried out individually for the tug and tug-barge flotilla in tandem for assessing the propulsion & maneuverability.</div>										
1.7	<i>Classification, Regulations and Certificates</i>	<div><i>The Vessel shall be designed and built-in accordance with the requirements of the rules and regulations of:</i></div> <div><ul style="list-style-type: none"><i>Any Classification Society who is member of International Association of Classification Society(IACS)</i><i>The Inland Vessel Act2021 and rules framed thereafter which includes:</i><ul style="list-style-type: none"><i>Rule-1: Inland Vessels</i><i>Rule-2: Inland Vessels (Survey & Certification) Rules 2022</i><i>Rule-3: Inland Vessels (Registration and other technical issues) Rules 2022</i><i>Rule-4: Inland Vessels (Manning) Rules,2022</i><i>Rule-5: Inland Vessels (Crew & Passenger Accomodation) Rules 2022</i><i>Rule-6: Inland Vessels (Safe Navigation, communication and Signals) Rules 2022</i><i>Rule-7: Inland Vessel (Life Saving Appliances)Rules. 2022.</i><i>Rule-8: Inland Vessels (Fire Fighting Appliance) Rules 2022.</i></div>										

		<ul style="list-style-type: none"> • <i>Rule-9: Inland Vessels (Prevention and containment of Pollution) Rules 2022.</i> • <i>Rule-10: Inland Vessels (Insurance,Limitation of Liability and Obligation of Service Providers and Service Users) Rules 2022.</i> <p><i>And any other rules being framed from time to time.</i></p>
		<p>a. The Vessel shall be built under the inspection of the Classification Society and to be classified as a twin-screw propelled pusher tug suitable for inland waterways. The Owners and their representatives / consultants shall also inspect the construction of the vessel and carry out the specification survey.</p> <p>b. The main diesel units and other machineries and equipment will also be subject to the rules and regulations of the Class and certificates must be supplied covering these engines and machineries. The vessels to have a class notation of IWL of any other classification society</p> <p>c. Where in the Specification and the material are more than those required by the Class, the former will overrule those of the Class.</p>
1.7.1		<p>The builder shall obtain the following certificates/documents and deliver to the owner at the time of the vessel's delivery.</p> <p>The original certificates with three copies (hard and soft) shall be handed over prior to delivery or framed and kept onboard as the case may be.</p> <p>a) Issued by appropriate authorities as applicable for this class of vessel.</p> <ol style="list-style-type: none"> 1) Inclining Experiment Report. 2) Trim and Stability booklet. 3) Certificate of tonnage (GT/NT). 4) Certificate of Registry <p>b) To be issued by classification society</p> <ol style="list-style-type: none"> 1) Classification Certificate 2) All Certificates of machinery and equipment. <p>c) To be issued by Builders</p> <ol style="list-style-type: none"> 1) Builder's Certificate. 2) Official Deadweight Certificates. <p>d) To be issued by others (mainly the classification society, MMD, Dock Labour Board and other statutory/recognized agency):</p> <ol style="list-style-type: none"> a. Certificate of anchors, chain cables, shackles, hawsers, mooring ropes and equipment <p>e) Certificate of nautical/navigation instruments.</p>

		<p>1) Navigation light, Mast light Certificate.</p> <p>2) Magnetic compass Certificate.</p> <p>i. Other usual certificates including those (when applicable for inland vessels) of compass, anchor, hawser, navigation lights, lifesaving equipment, freeboard etc. issued by recognized authorities concerned shall also be furnished to the Owner.</p> <p>ii. The vessel will be registered with the IWT Directorate, of respective State Govt as per the relevant rules and regulations of Inland Vessel Act, 2021 conforming to Inland Vessel Rules 2022 and the builder will furnish all necessary documents required for the registration of the vessel. Life Saving appliances, Navigational aids, Fire Fighting appliances and the light and sound signals shall conform to the requirements of IV rules 2022 and any other regulations of IWT Directorate, as framed by the state government where the vessel is to be registered.</p> <p>iii. All costs and fees for inspection and approval of Class and Regulation Bodies for the necessary certificates shall be borne by the Contractor.</p>
1.8	Stability, Draught and Trim	<p>a. The Vessel is to have positive intact stability in usual service conditions complying with the requirements of the Regulatory bodies concerned.</p> <p>b. The vessel is to be designed to achieve adequate stability in all conditions of loading without use of permanent water ballast or solid ballast.</p> <p>c. The Builder is to carry out trim and stability calculations for the following conditions</p> <ol style="list-style-type: none"> Departure conditions with 100% consumables. Arrival Condition with 10% consumables. Dry docking condition with 10% supplies at departure condition. <p>d. Trim of the vessel under any loading condition to not exceed 1% of LBP and the Trim by bow not to be allowed under any loading condition.</p> <p>e. In loaded arrival condition with homogeneous cargo and passenger at full load design draught, the Vessel to be almost at even keel.</p> <p>f. Bending moment and shear force not to exceed the corresponding permissible figures in all the loading conditions mentioned above.</p> <p>g. "Departure Condition" to be based on full supplies and "Arrival Condition" on approximately 10% supplies of departure condition.</p> <p>h. Bending moment and shear force diagram to be included for all loading condition in final booklet. The Builder shall keep stringent record of all weights</p>

		<p>going onboard, during the construction.</p> <p>1</p> <ul style="list-style-type: none"> i. Final trim and stability calculations to be calculated based on lightweight and the position of center of gravity of the Vessel obtained from inclining experiment. The final booklet to be prepared in the format approved by Statutory Authority. If final trim and stability booklet is under process of approval by the Class and / or concerning Authorities, the Builder to provide the provisionally approved trim and stability booklet upon the delivery of the Vessel. The Builder to deliver the final booklet to the Buyer before the expiry of provisionally approved one. j. Following values to be used as specific gravity for Trim and stability calculation: <ul style="list-style-type: none"> a. Fresh water @ 1.0 T/m³ b. Diesel Oil @ 0.85 T/m³ c. Lub Oil @ 0.9 T/m³ k. The Trim and Stability booklet shall be approved by statutory authority of the State where the vessel would be registered.
1.9	Standards and Building Methods	<ul style="list-style-type: none"> a. The construction and outfitting of the Vessel shall be carried out in accordance with good marine practice, using materials, outfit, machinery, and equipment produced in compliance with recognized marine standards and to the rules and regulations of the Classification Society b. The Contractor's and/or Manufacturers' standard can be applied after approval of the Owners or their consultants/ specification surveyors of those items which are not covered by the requirements of the Classification Society. c. All materials, equipment's and machineries not covered under Class requirements are to at least conform with the applicable BIS standards and same to be procured after obtaining approval of the Owners/Owners representatives d. Building methods shall agree with good marine practice and are to be approved by the Classification Society. The workmanship shall be to the satisfaction of the classification society and the Owner.
1.10	Supervision and Inspection	<ul style="list-style-type: none"> a. The Vessel, its machinery, outfit, and equipment shall be inspected and tested by the various governing bodies concerned in accordance with the agreed QAP, meeting requirements of their respective rules. The inspections and tests shall be in accordance with the rules and regulations of the Class. b. Any defective or sub-standard work, which was pointed out during inspection, by the surveyors or the owner's representative, shall be rectified by the Builder at no extra cost.

		<p>c. The Builder shall submit a monthly report of the progress of the construction of the vessel to the Owner or their consultants who shall carry out Specification survey and shall inspect the work at any stage during the construction of the vessel.</p> <p>d. The reports of inspection and testing shall be submitted to the Classification Society and the Owner or their consultants/specification surveyors. The Classification Society or the Owners consultants are entitled to reject and refuse work and material which do not comply with the specified requirements. The Contractor will admit the Surveyors to all places where work related to this Contract is being carried out and shall grant free access to any premises where equipment is stored, where work is stored or where work is being sub-contracted. The Contractor shall also give all necessary information and render assistance to enable the Classification Society to carry out their inspections efficiently. Supervision by the Classification Society does not release the Contractor from any of his obligations under the Contract.</p> <p>e. The Contractor will put at the disposal of Owners Consultants /specification surveyors one room of a suitable size with telephone connection. At least two tables and chairs to be provided along with requisite cupboards for files/documents. Appropriate facilities are also to be provided.</p> <p>f. The Contractor shall enforce his own effective inspection and quality control of materials and workmanship including that of his sub-contractors during the execution of the Contract.</p>
1.11	Alterations and Additions	<p>a. No alterations will invalidate the Contract or absolve the Contractor from his responsibilities taken under the Contract. Eventual consequences in price and/or time of delivery in respect to any alteration, to be settled in accordance with the Contract.</p> <p>b. If the Contractor requires any reasonable alterations or additions to the Specifications and/or the plans/drawings approved by the Class, the Contractor may make such alterations or additions to the extent that such alterations or additions shall not involve a substantial change in the principal performance and characteristics of the Vessel, provided always that the Contractor shall make a written request to the Owner for approval, and explain fully all consequences of the proposed alteration(s). The contractor shall raise a Design Change Request with time and cost implication and only after approval from Owners must commence the change / work.</p>

1.12	Drawings, Schemes, Calculations and Manuals	<ul style="list-style-type: none"> a. The Builder shall prepare all classification/statutory construction/working drawings and as fitted drawings and submit to Owner for approval. b. The charges for the approval of the Classification drawings shall be borne by the Builder. c. Before delivery of the vessel the Builder shall submit three set of scanned drawing in DVD /PEN DRIVE AND four prints of all drawings including “As Fitted” drawings. d. Three sets of as fitted drawings (for structural, machinery, piping, outfitting and electrical), arrangement of withdrawal and installation of steerable, propulsion system, reports of various tests and inspections made, detailed lists of all standard and extra spare parts, inventory tools and additional tools, maintenance, spare parts and other instruction manuals, schemes, calculations, all test reports, trial reports, final trim and stability booklet, etc., necessary for the operation, maintenance and repair of the vessel shall be submitted to the Owner at the time of delivery. e. The following drawings shall be laminated, framed and fitted on board: <ul style="list-style-type: none"> a. General Arrangement Plan b. Life Saving Appliances Plan c. Capacity Plan d. Tank sounding chart e. Safety plan f. Bilge, Ballast, and Fire Scheme g. Electrical key diagram h. Docking plan.
		<p>Following plan shall be provided by the builder.</p> <ul style="list-style-type: none"> 1. General Arrangement 2. Lines Plan with Offset Table 3. Transverse Section 4. Profile, Deck & Bottom Construction Plans 5. Transverse Bulkheads 6. Equipment No. Calculation 7. Schematic Piping Arrangement of systems 8. Welding Schedule 9. Shell Expansion 10. Disposition of Anodes, Draft mark & Docking plan 11. Anchor Windlass Foundation, Hawse Pipe & Anchor arrangement 12. Accommodation Layout 13. Engine Room layout 14. Details of Bollards & arrangement 15. Tank Testing Plan 16. Tank Capacity Plan and tank sounding calibration chart

		<p> 17. Hatch, Manhole & Ladder Plan 18. Windows & Door Plan 19. Tonnage Computation 20. Safety Plan 21. Light, Sound & Shape Signals 22. Details of ME , GB & Gen set Foundation 23. ME & DG Set Exhaust Piping System 24. ME Starting System 25. Details of Steering gear arrangement 26. Details Stern gear arrangement 27. Details of propeller 28. Details of rudder and rudder arrangement plan 29. Details of Engine girder and gear box girder plan 30. Chock fasting calculation 31. Skeg Construction 32. Details of Railing & Bulwark 33. Hydrostatics & Cross Curves of Stability Data 34. Inclining Experiment Procedure 35. Preliminary Trim & Intact Stability Booklet 36. Preliminary damage stability booklet. 37. Floodable length curve 38. Protected and Unprotected openings 39. Watertight integrity plan 40. Midship Section 41. Watertight bulkhead frame sections & NWT Frame sections 42. Shear force and bending moment diagram 43. Freeboard Calculation 44. Deck arrangement plan 45. Bilge and fire fighting system arrangement plan 46. Sounding, filling & vent system 47. Fresh water system 48. FO system 49. DG cooling system 50. Sanitary grey and black water system 51. Fender arrangement 52. Outfitting drawings 53. Final intact stability booklet 54. Final damage stability booklet 55. River trial report 56. Trial Formats 57. Details of Sea Chest inlet 58. Electrical Load Chart 59. SLD Electrical Diagram / Booklet </p> <p> a. Three sets of instruction books, operation and maintenance manuals, spares, catalogues (hard and soft copies) given by the original machinery suppliers for all the machinery and instruments installed shall be handed over to the Owner. b. Three copies of the list of supplier of all fittings and equipment used on board with their addresses and phone / fax numbers shall be supplied to owner / owners </p>
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		<p>representative</p> <ul style="list-style-type: none"> c. Vessel book, an operating manual for the entire vessel shall be made and supplied. d. Log book of preservation routines undertaken by the Builder during the construction period shall also be provided to the Owner's
1.13	Planning and Progress of Work	<p>No construction or manufacture of any part of the Vessel shall be commenced before the drawings has been approved. Within 2 weeks after signing the Contract, a program of the complete design, model testing, preparation of drawings, build plan, fitting-out and testing of the Vessel, with data of delivery of the principal parts, will be furnished by the Contractor to the Owner. As soon as a delay occurs in the progress according to this program, the Contractor will inform the Owner immediately and will take all necessary measures to correct this delay to the satisfaction of the Owner. A monthly progress report to be submitted to the Owners. A PERT chart in MS Projects or any suitable Project Management tools indicating the project design and construction schedule with logical colour code to be submitted to Owners.</p>
1.14	Spare Parts, Inventories and Tools	<p>Inventories and tools shall be provided in accordance with the Builder's / manufacturer's standard supply. Manufacturers recommended spares for 2000 hrs. Operation to be supplied for major machineries and equipment without extra cost. Major machineries and equipment to include Main Engines, Auxiliary Engines, and Anchor Handling Winch. List of spares to be supplied along with manufacturer's recommendations to be forwarded on selection of major machineries and equipment to Owners for approval.</p> <p>The parts shall be administrated, packed and preserved properly. Suitable racks shall be provided on board for storage.</p>
1.15	Tests and Trials	<ul style="list-style-type: none"> a. All tests and trials required for the vessel and her equipment shall be performed in compliance with the statutory/classification/Owner's requirements. Test and Trials protocol shall be prepared by the builder and approval of Class and Owners be taken. b. The Builder to prepare and submit a detailed programme of the relevant tests and trials pertaining to all machinery, outfit equipment (eg. Boat davits, Life raft davits, windlass, mooring fittings etc.), accommodation outfits (eg. Air-conditioning, Ventilation etc) to the Buyer, and if mandatory, to Class/statutory authorities for approval c. Any defect/shortfall pointed out by the surveyors/owner during the tests and trails, shall be rectified by the builder at no extra cost. d. All costs involved in conducting the trials shall be borne

		by the Builder
1.16	Model Tests	<p>The Builder is to carry out the following tank tests/calculations:</p> <ol style="list-style-type: none"> Resistance test at the designed and ballast draught Shallow Water, Resistance test at the designed and ballast draught Self-propulsion test with stock propeller at designed and ballast draught. Propeller open water test for designed propeller (The propeller to be designed to absorb propulsion power corresponding to NCR of main diesel engine at an rpm corresponding to MCR rpm of main diesel engine as reduced by the gear box at design draught). <p>Final self-propulsion test with designed propeller</p> <ol style="list-style-type: none"> The designed and ballast draught; Maneuvering and sea keeping calculation ; Wake measurement at designed draft & at service speed with designed propeller ; Cavitation calculations at designed draft & at service speed with designed propeller. <p>The above tests must be witnessed by the Owner's representative</p>
1.17	Shop Tests	<ol style="list-style-type: none"> Main generators, thrusters, and other major equipment to be tested or inspected according to the manufacturers' practices by using available facilities in the manufacturers' shop. If test conditions deviate from practical conditions, calculations (carried out by the manufacturer or Contractor) are to be added to the test reports, showing that the basic requirements regarding capacities, torque, power, revolutions etc. will be fulfilled. Instruments and measuring equipment to be tested and calibrated at the manufacturers' workshops. Reports of tests and calibrations to be submitted to the Classification Society and Owners for approval. Testing of water tightness of steel constructions to be carried out in accordance with the requirements of the Classification Society. Testing of welds for steel constructions are to be in accordance with the Class requirements. Buyer to have the option to attend the test. All major electric equipment's to be tested as per IEC 60034 guidelines.
1.18	Installation trials	<p>When the Vessel is completely equipped to the satisfaction of both the Owners and the Classification Society, the installation trials shall be carried out (at or near to the Contractor's shipyard). The Vessel with all installations, systems, equipment, winches, piping systems, hydraulic installations, electric/electronic installation, ventilation, etc. to be tested by the Contractor to prove their good working, capacities, and characteristics, separately as well as</p>

		simultaneously working with other installations.
1.19	Inclining Experiment	<ul style="list-style-type: none"> a. When the Vessel is nearly completed, an inclining experiment for the vessel to be carried out as per the procedure described in the IMO resolution A-749 to ascertain the position of center of gravity and weight of the Vessel in lightship condition at the Builder's quay in the presence of the Owners' rep and the Class's and/or Authority's Surveyor. b. The inclining experiment is to be conducted by shifting weight and by measuring the Vessel's heel using at least two pendulums. The trial protocol shall be prepared by builder and approved by Class and / or Authority
1.20	Technical Trails	<ul style="list-style-type: none"> a. Before commencing the technical trials, the Contractor shall prepare and submit a detailed trial program showing the method, sequence and time schedule of the trials to the Owner and Class for approval. b. The Contractor shall perform the following tests and trials in accordance with the trial program approved by and in the presence of the Owner and Class <ul style="list-style-type: none"> 1) Speed trials. 2) Crash stop astern and crash stop ahead 3) Steering- and turning tests 4) Maneuvering tests at slow speed 5) Endurance test of 2 hrs. sailing on 100% CSR and 2 hours at pushing conditions 6) Anchoring test
1.21	Checking Trails	<ul style="list-style-type: none"> a. Shortly before and after the transport/shipment of the Vessel to the place of delivery the vessel must be dry-docked in the presence of the Owners and Class for examination of the underwater part of the Vessel, for cleaning, restoring the paint system and when applicable for applying the last coat of paint. b. On delivery of the Vessel the Contractor shall perform a checking trial at a river water area near the site of delivery in the presence of the Class and Owner. c. All test data and measurements must be collected by the Contractor and these reports shall be submitted to the Class & Owner's. Final reports to be delivered in 3-fold. d. Well in time before the tests and trials mentioned above are to be carried out, the Contractor shall prepare and submit detailed programs of the relevant trials showing methods, sequences, time schedules, characteristics to be measured, type of measurements, instruments etc. to the Class e. The costs of these tests and trials are for account of the Contractor, including those for additional measuring devices and means. f. If under tests or trials any part of the Vessel fails to fulfil adequately the specified requirements, the faulty shall be altered, removed or replaced and the test shall repeat at the Contractor's expense.

1.22	Welding	<p>a. The vessel shall be of all welded steel construction.</p> <p>b. All openings and holes in the structure shall be made with the consent of the classification society and shall be suitably compensated for strength. All welding processes as well as welders shall be approved by the Class.</p> <p>c. Welding shall be of high quality and shall be performed by skilled and classification society approved personnel. Necessary precautions shall be taken to eliminate deformations. All surfaces shall be cleaned from rust and grease before welding. Approved manual, semi- automatic or automatic welding techniques shall be adopted for the construction using coated electrodes of approved make. A regular x-ray testing as per classification society rules shall be carried out to test the standard of welds. Builder shall submit inspection and testing plan to the owner for approval.</p>
1.23	Tank Testing	<p>All tanks and watertight or oil tight compartments shall be tested in the presence of the Surveyor and Owner's representative and shall comply with the rule requirements. The tests shall be carried out after completion of the construction and prior to commencement of painting. At the time of testing all welds at boundary surfaces shall be clean and free from primer/paint/oil etc. Immediately after testing these entire weld surfaces, which are cleared of any defects, shall be coated with primer/paint.</p>
1.24	Dock Trial	<p>Dock trials shall be carried out in accordance with a programme agreed upon by the owner or their authorized representatives to check the operation of the machinery. Main engines, DG sets, engine room machinery and other auxiliary machinery shall be in operation during dock trials. A report on the performance of various machinery during dock trials in the format to be agreed upon shall be submitted to the owner or their authorized representatives</p>
1.25	Bollard Pull	<p>A detailed trial scheduled shall be prepared and submitted to owners for approval. The bollard pull trial will be conducted in still water condition.</p>
1.26	Acceptance trial	<p>One set of trials shall be conducted in the presence of the crew of the vessel, appointed by the owner, at the owner's premises. All inventories on board shall be checked before acceptance of the vessel</p>
1.27	Delivery	<p>The vessel shall be delivered and accepted at Kolkata. After the trials and the approval of Owner and Classification Society of these trials with reports etc. the vessel shall be handed over to the Owner in a proper and clean condition with at least 50% of liquid stores on board. The costs of</p>

		transportation, additional painting, checking trails and handing over and with the stores specified above shall be to the account of the Builder. All relevant documents, certificates, tools, inventories, spare parts etc. shall be on board at the time of handing over during final delivery at Owners premises.
1.28	Ship's Model	Two no. scale model of about one meter length painted to the same color scheme of the tug and placed in a box shall be supplied along with the vessel at the time of delivery. Two scale models of the tug-barge flotilla also to be supplied.
1.29	Photographs	The Builder shall take photographs of the vessel at various stages of construction and shall submit them along with the monthly progress report and bills for stage payment to the Owner. On completion of the vessel, additional photographs shall be taken for framing purposes.
2.0	HULL Structure	
2.1	General	
2.1.1	Introduction	<p>The scantling of the structural members shall comply with the Rules and Regulations of the Classification Society as far as no higher requirements are stipulated.</p> <p>Good continuity of structural members in basic hull structure shall be maintained. Care shall be taken to obtain proper alignment of important structural members. Where members are discontinuous, the continuity shall be provided by means of suitable tapers, overlaps and/or brackets.</p>
2.1.2	Materials	<ol style="list-style-type: none"> a. All materials used to be of excellent quality. The hull will be constructed out of shipbuilding quality steel conforming to the rule requirements of the classification society and where not specified, to confirm to BIS/BS/DIN/ISO/JIS. Structural steel of hull construction shall be Classification Society Grade "A"/Equivalent. The steel will be procured from primary steel producers like SAIL or TATA Steel or their authorized dealers. The Contractor must guarantee that only approved materials will be used in the construction of the Vessel. Material test certificate from Class / accredited Laboratory shall be provided to the Owner b. All structural steel shall be free from rust, pitting, cracks, laminations, and similar defects. In case of any such defects being noticed, the plates etc. shall be renewed for the extent necessary to the approved quality/standards. c. Large size steel plates shall be used for the construction of hull as far as practicable. Blasted and primed plates shall be used during construction. d. As required by the Class, samples of materials to be submitted for approval. If any material is used which has defects, or which is not considered suitable for the

		purpose intended, it must be replaced without loss of time and without compensation of cost for carrying out these replacements.
	Rolled Steel	<ul style="list-style-type: none"> a. Hull materials and further all rolled steel, to be tested to meet the rule requirement of the Class, of which certificates must be submitted. b. Before the material is employed in the construction, rust and mill scale must be removed by means of steel grit or sand blasting according to class Standard. Immediately after the blasting, one coat of approved shop primer with a thickness of approx. 20 micron to be applied as a temporary protection.
	Cast Steel	<ul style="list-style-type: none"> a. Steel castings only of first-class approved foundry and of approved design, properly annealed. Quality and testing in accordance with the rules of the Class. Castings must be free from blowholes or other defects. b. All materials including casting and forging shall be of qualities complying with the requirements of the Classification Society.
2.1.3	Preparation of materials and welding	<ul style="list-style-type: none"> a. When steel plates are deformed during transport, these are to be faired by rolling before use. Flanging of plates and brackets is generally not allowed. For bolts and rivet holes only drilling is allowed b. Doublers shall not be allowed, and where necessary, locally inserted thicker plates with well rounded corners are to be adapted. c. Plates and rolled sections to be cleaned and preserved as described in 2.1.2 of the Specification. The sub-division into blocks and panels and the sequence of the execution of the welding shall be fixed in concurrence with the Class. d. A drawing of the constructional sub-division in sections and panels is to be submitted by the Contractor for approval. The blocks and panels shall only be placed on the berth after inspection and approval by the Class. e. Holes in the construction for pipes, cables, trunk passages or other passing are to be determined in concurrence with the Class. f. In way of doors, manholes and windows extra stiffeners to be fitted. g. All tanks, watertight or oil tight compartments and other constructions as considered necessary, to be pressure tested in accordance with the requirements of the Class and to the satisfaction of the Class. h. The testing must be carried out after the construction work has been finished and approved and before painting preserving of the concerning compartment and adjacent space has been started. A tank testing plan to be timely submitted for approval. i. During building the correct line of the bottom center

		is to be inspected regularly, to determine any deformation of the hull
2.1.4	Welding	<ul style="list-style-type: none"> a. All welding to be of excellent quality. During the welding operations all necessary precautions are to be taken, so that welds of high standards are obtained. All surfaces to be professionally cleaned and free from rust, paint etc. before welding has commenced. Plate edges are to, be flame-cut mechanically as much as possible. Where possible, plates and sections to be interconnected by automatic welding methods. Overhead welding to be avoided as far as possible and therefore necessary provisions to be taken for underhand welding where practical. b. Manual, semi-automatic or automatic welding procedures for welding specific parts of respective steps in the process of assembling the structural blocks of the hull shall be selected in concert with the Classification Society. c. A complete welding list to be submitted for approval of the Class. In this list particulars to be given, such as shape of welded joints, the manner of preliminary treatments, the dimensions of the weld and the type of electrodes to be used. d. It is not allowed to perform welded connections with notches. In general, every part of the construction to relate to continuous welds. Intermittent welding only to be performed with special permission of the Class. During the welding, the relevant construction shall be dry. The welding to be performed with coated electrodes of approved make. Welders, especially those who are working on the main connections, must be qualified, and regularly tested. A regular check of the quality of the steel by "X"-ray or similar methods to be carried out to the satisfaction of the Class. If considered necessary by the Owners representatives or specification surveyors and/or the Class, additional measures are to be taken by the Contractor to improve the quality of the welds. e. Faults in welded connections to be repaired if possible or otherwise new insert plate to be provided. A total of at least 25 "X"-ray photographs are expected for an adequate check of the quality of the welds. The tests for welding are to be in accordance with the Class requirements and nondestructive testing (NDT), dye penetration tests and X- ray etc as required are to be carried out to the satisfaction of the Surveyors. Welded decks, bulkheads, deckhouses, and other constructions which are deformed by welding, to be faired to obtain fair work complying with high standard. f. On the berth, the hull, and sections to be earthed adequately. Clamps, dogs, and other means to bring

		material and equipment in the right position, to be removed in such a way that no visual marks and/or mechanical damage is
2.2	HULL	
2.2.1	Layout	<p>The hull shall be designed to meet the requirements for pushing dumb barge. The lay-out of the hull shall be:</p> <ol style="list-style-type: none"> aft peak/propeller compartment; engine-room with some tanks; fuel storage bunkers; store ; fore peak. <p>All compartments shall be bordered by watertight bulkheads. The fuel compartments in way of the work deck shall be kept free from this deck by means of cofferdams. The complete hull shall be built of steel according to the transverse framing system with the Frame spacing of 600 mm.</p>
2.2.2	Bottom construction	<p>The vessel shall have double bottom construction. The thickness of the bottom plating shall be as determined by the rules and requirement of Class. The keel to be of a flat plate-type with a thickness of 7mm. Plate floors to be constructed at every frame. Longitudinal girders shall be fitted in the engine-room in such a way that they form part of the foundations for the main- and auxiliary engines, otherwise longitudinal girders to be provided as required by the Class. Sufficient number of drains and air holes to be provided in floors and girders. The bottom construction aft shall be raised in such a way that they can accommodate two rudder propellers. Bottom plating, floors, girders, and brackets in way of the rudder propellers of increased thickness and arranged in such a way that a sturdy construction will be obtained. At centerline aft a double plate skeg to be constructed. Plate thickness in way of river chest and bilge wells shall be at least 2 mm more than required by rules. Special attention shall be given to stiffeners under engines to minimize vibrations.</p>
2.2.3	Shell plating and framing	<p>The scantlings of the shell plating to be determined as per the rules and requirement of Class and the thickness of shell plating to be at least 7 mm. Web frames shall be provided with a maximum spacing of 1.8 m.</p>
	Stem and stern	<p>The thickness of the stem and stern plating will be equal to the thickness of the shell plating. Adequate stiffening to be provided. Plating of increased thickness shall be provided in way of pusher stools.</p>
2.2.4	Deck and Beams	<ol style="list-style-type: none"> The main deck shall be stiffened according to the transverse system, with beams/brackets every 600 mm distance. The beams shall be supported by longitudinal girders, which are placed in line with the bottom longitudinal. Local reinforcements shall be integrated in way of anchor winch, bollards, deck winch, rudder propeller

		<p>hatches, pusher stools, fairleads etc. The deck shall be locally strengthened adequately in way of deck fittings or deck machinery.</p> <p>c. The construction, materials, arrangement, and fittings in the accommodation spaces shall comply with the statutory requirements applicable to this class of vessel.</p>
2.2.5	Pillars and Girders	Girders shall be provided under the deck if required from the view points of the design of the Vessel. Reinforcement pillars shall be fitted in combination with, and at the same positions as the web frames. Pillars shall be arranged such as to minimize obstruction to passage inside the engine-room.
2.2.6	Bulkheads	The vessel shall have transverse watertight bulkheads and the scantlings to be determined as per the rules and requirements of the Class. All bulkheads shall be vertically stiffened. Where pipes etc., are carried through the watertight bulkhead they shall be provided with necessary arrangements to the approval of classification surveyors.
2.2.7	Foundations	<p>In the engine-room strong welded foundations shall be constructed for the diesel engines and generator set. These foundations are to be incorporated as much as possible in the bottom construction.</p> <p>In aft peak strong welded foundations shall be constructed for the steering gear.</p> <p>Foundations for deck machinery, winches etc. shall be executed with top plates welded on coamings and supported by sufficient number of brackets. Where necessary additional supports underdeck shall be provided. All auxiliary, deck machinery and handling winch, electrical equipment shall be erected on foundations. Suitable reinforcement shall be provided under the machinery. Thicker plating shall be provided under all heavy machinery on the deck.</p>
2.2.8	Cooling System & River Chests	The main engines to be heat exchanger cooled. The main parts of the cooling water system of the diesel engines shall be closed circuit unit built on the respective engines. The river water for cooling to be drawn from the river chests. At least two river chests shall be located at a suitable position in engine room for efficient suction at all loading conditions. It should be positioned in such a way to avoid intake of mud, sand etc., when the vessel is passing through shallow waters. River chests shall be covered with hinged/bolted gratings of stainless steel retained by stainless steel bolts. The clear opening area shall be at least 2 mm more than the shell plating in that region. Zinc or aluminum alloy anodes shall be fitted around river chests.
2.2.9	Hull Opening	Hull openings shall be provided for river-inlets and valves. Where penetrations are made through the bottom- or shell-

		plating, such as river-inlets, hull valves, hawse pipes etc. adequate compensations are to be made by means of inserted plates of increased thickness, corner plates or else, to the satisfaction of the Class.
2.2.10	Platform against Stern	A platform against the stern to be installed. Top plate made from grating. In way of aft anchor, the top plate to be left out.
2.3	Deckhouse and wheelhouse	
2.3.1	Deckhouse	A deckhouse shall be placed on main deck. The deckhouse shall be provided with at least two cabins of double bunks for Master and Driver, two bio-toilets, galley, and mess cum recreation room. The scantling of the deckhouse to be in accordance with the rules and requirements of the Class and reinforced with stiffeners.
2.3.2	Wheelhouse	<ul style="list-style-type: none"> a. On top of the lower deckhouse the wheelhouse shall be erected. The scantling of the wheelhouse is to be in accordance with the rules and requirement of the class. The wheelhouse shall be provided with windows all around. It shall be air conditioned. b. Effective drainage from all decks and top of the wheelhouse shall be arranged. c. Inserts shall be fitted on decks in way of open drain discharges. Great care shall be taken to avoid water puddles on exposed decks.
2.4	Engine Room Structure	<ul style="list-style-type: none"> a. The engine room shall be suitably framed with solid floors at every frame. Main engine foundation shall be well integrated with the bottom structure. Main engine foundation shall be in accordance with the Engine Manufacturer recommendation and as per class requirements. Sufficient clearance shall be provided below the engine for easy cleaning and maintenance of sump. b. Fuel oil daily service tanks shall be isolated from accommodation bulkheads/workshops Suitable reinforcement shall be provided under heavy concentrated loads with brackets or carlings c. Necessary chequered plate flooring, platforms and ladders shall be arranged to give access to machinery, etc. in all machinery spaces and steering gear compartment. Workbench, racks for spares etc. shall be arranged at suitable locations in engine room/steering gear compartment. d. Special attention shall be paid to minimize structural obstruction in the machinery spaces.
2.5	Miscellaneous	
2.5.1	Tanks	<ul style="list-style-type: none"> a. Where possible all tanks shall be provided with two manholes. All tanks shall be provided with the necessary air, sounding, filling, suction, and other pipe-connections. Bottom plugs of stainless steel, 50 mm diameter for oil tanks and 38 mm diameter for all other tanks are to be provided.

		<ul style="list-style-type: none"> b. One spanner for each size and one spare plug of each size to be delivered. c. The number of each tank to be welded on the hull next to each drain plug. The extension of the tank to be indicated on the hull by welded marks.
2.5.2	Manholes	<ul style="list-style-type: none"> a. Each compartment shall be provided with at least two manhole covers to provide accessibility. The covers shall be placed in such a way that with opened covers a good ventilation will be obtained. b. Smaller tanks may be provided with one cover. c. The covers shall have dimensions of at least 400 x 450 mm or as per class requirements. Thickness of the cover 12 mm and fixed on a welded coaming ring with tap bolts and nuts of stainless steel. Two thread holes for press bolts shall be provided in each cover. Vertical covers to be provided with handgrips. All covers shall be provided with oil resistant packing. d. The tanks in the engine-room shall be provided with manholes in the vertical bulkheads. On the work deck area two manholes shall be arranged at convenient places. e. Bilge water, sewage and freshwater bunkers shall be provided with manholes in the vertical bulkheads.
2.5.3	Hatches	<ul style="list-style-type: none"> a. The hatches shall be fitted for propeller compartment entrance, emergency exit engine-room, skylights engine-room, main store. The entrance hatch to the propeller compartments, the two escape hatches and the skylights to be of the hinged type with two adjustable hinges and a device for keeping open position b. All hatches shall be in watertight execution with rubber seal and hinged clamping bolts of stainless steel with brass butterfly nuts if applicable c. The hatch above the store shall be provided with hoisting eyes for removing by crane. On main deck on top of the rudder propellers aft hatches shall be provided for maintenance purposes. The hatch coamings with circular shape of sufficient height and with flat bar 75 x 16 on top. Cover plating shall have the same thickness as the main deck plating. Cover to be reinforced with flat bar stiffeners, provided with rubber packing and bolted to the coaming.
2.5.4	Ladders, railings, and bulwark	<p><u>Ladders</u></p> <ul style="list-style-type: none"> a. Ladders shall be placed in way of each manhole under the entrance and escape hatches and in the store. b. All ladders shall be removable type. Fixation lugs to be welded to stiffeners girders not on plating with square rungs and a width of 300 mm.

		<p>c. Ladders with double square rungs shall be placed in the engine-room entrance and for access to the wheelhouse. Width of these ladders shall be 600 mm and hot galvanized after construction.</p> <p><u>Railings</u></p> <p>a. On main deck aft and fore railings shall be placed as necessary.</p> <p>b. Entrance ladder to wheelhouse including platform and engine-room ladder shall also be provided with railings. Further railings shall be placed where required.</p> <p>c. Height of railings in general 1000 mm except in way of bulwark.</p> <p>d. Railings shall be constructed of flat bar stanchions with a top rail of pipe diameter of 48.3 mm and with one intermediate rail of stainless-steel wire of 10 mm diameter with stretching screws. Top rail and stanchions in galvanized execution.</p> <p>e. The work deck area in the sides and at the front between the pusher stools shall be provided with a complete removable railing consisting of two stainless steel wires and galvanized pipe stanchions.</p> <p>f. Wires of 10 mm diameter and provided with turn buckles</p>
2.5.5	Chain locker	<p>a. A totally closed chain locker shall be arranged in the aft. The locker of sufficient capacity to contain the stern anchor chain. On the bottom of the locker a galvanized and perforated steel plate to be laid, under this floor plate a mud box to be provided. For drainage of the box a self-closing valve with drain to the bilge of the fore peak to be installed.</p> <p>b. On the top of the chain locker a safety device to be installed for fixing the last link of the anchor chain.</p> <p>c. In the wall near the top of the locker a manhole with hinged cover to be made for access to the locker.</p>
2.5.6	Bollards	At least nine double bollards to be provided on the main deck distributed on the port and starboard side to be provided. Deck construction (insert plate) in way of bollards shall be reinforced with increased plating thickness and extra stiffeners.
2.5.7	Steel Doors	Two steel watertight door shall be provided on the engine room entrance. The door with a free passage of 1800 x 700 mm and a threshold of 300 mm. Two adjustable hinges with grease nipples, six interconnected cleats and soft rubber sealing all around shall be fitted. One fixed light of 200 mm diameter with security glass, hook for open position and padlock eyes shall be provided. Padlock also to be delivered.
2.5.8	Pushing Arrangement & Stools	Against the forepeak a pushing arrangement shall be provided. The lay-out of this arrangement to match with the pushing arrangement on the dumb barge. The construction shall be made over the full height of stem plating. In way of the fender height shall be about 2000 mm. Fender in hollow-D section.

		In way of the constructions the stem plating thickness to be increased to 12 mm. Internal strengthening shall be provided accordingly.
2.5.9	Name and draught marks	<p>A. Ship's name and Port of Registry</p> <p>The ship's name shall be marked forward port and starboard sides and transom. The port of registry shall also be marked below the ship's name on the transom.</p> <p>The ship's name in brass letter shall also be fitted on the wheelhouse, port and starboard.</p> <p>B. Draft marks</p> <p>The draft mark shall be marked in meters and decimeters by welded 6 mm thick steel plate figures at forward and aft perpendiculars and amidships on both sides.</p>
2.5.10	Fenders	Half round steel pipe fenders shall be provided at the main deck level on the side shell. The front flat part of the tug shall be provided with suitable neoprene rubber fenders for efficient push operation.
2.6	Hull preservation	
2.6.1	General	<ol style="list-style-type: none"> Painting specification giving details of painting and method of application shall be submitted to the owner for approval. The colours of finish coats shall be in accordance with the Owner's colour scheme and those of primer coats shall be in accordance with the manufacturer's recommendations. Alternate coatings shall be of different colours for easy identification. Pipelines shall be marked with a colour code system approved by the Owner. Equipment, which the builder shall purchase, shall be painted according to each manufacturer's standard and the damaged part, after installation shall be touched up with one coat of finish paint of compatible kind.
2.6.2	Surface Preparation	<ol style="list-style-type: none"> Surfaces of all structural steel plates and sections to be used for fabrication shall be sand or grit blasted to Sa 2.5 and immediately primed with inorganic zinc silicate type shop primer according to the Builder's standard. Dry film thickness of shop primer shall be approximately 20 microns. The steel surface of fittings such as pipe supports, grating supports, auxiliary machinery seats, etc. shall be sand blasted to Sa2.5 or pickling treated. Pipes of over 250 mm diameter shall be blasted to Sa2.5 and pipes with 250 mm diameter and below, small pieces of pipes, seats etc. shall be power cleaned with wire brush or disc sander to St 3 or pickling. Prior to the application of main system, all weld

		<p>spatters, rust grease and other contaminants shall be removed by wire brushing from the surface</p> <p>e. The surface preparation shall be as per the following table:</p> <table border="1"> <thead> <tr> <th>No</th><th>Location</th><th>Standard</th></tr> </thead> <tbody> <tr> <td>1</td><td>Bottom and boot top</td><td>Sa 2.5</td></tr> <tr> <td>2</td><td>Topside</td><td>Sa 2.5</td></tr> <tr> <td>3</td><td>Fresh water and Water ballast</td><td>St 3.0 (Mechanical and power tool)</td></tr> <tr> <td>4</td><td>Weather deck</td><td>St 3.0</td></tr> <tr> <td>5</td><td>Deck house exterior</td><td>St 3.0</td></tr> <tr> <td>6</td><td>Cofferdam</td><td>St 3.0</td></tr> <tr> <td>7</td><td>Fuel oil and Lubricating oil tanks</td><td>St 3.0</td></tr> <tr> <td>8</td><td>Double bottom spaces and</td><td>St 3.0</td></tr> <tr> <td>9</td><td>Cargo Holds</td><td>St 3.0</td></tr> <tr> <td>10</td><td>Void spaces</td><td>St 3.0</td></tr> </tbody> </table> <p>Prior to subsequent coats damaged areas due to burning and welding and prolonged exposure during fabrication shall be cleaned by abrasive blasting to Sa 2.5. Other spaces shall be power tool cleaned to St3.0.</p>	No	Location	Standard	1	Bottom and boot top	Sa 2.5	2	Topside	Sa 2.5	3	Fresh water and Water ballast	St 3.0 (Mechanical and power tool)	4	Weather deck	St 3.0	5	Deck house exterior	St 3.0	6	Cofferdam	St 3.0	7	Fuel oil and Lubricating oil tanks	St 3.0	8	Double bottom spaces and	St 3.0	9	Cargo Holds	St 3.0	10	Void spaces	St 3.0
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2.6.3	Execution of Painting	<p>Painting work shall be executed in accordance with the Builder's painting practice and paint manufacturer's recommendations. Copper alloy, aluminum, aluminum alloy, stainless steel, non-ferrous material and galvanized surfaces shall not be painted unless specifically required. Time intervals between application of coats shall have different colours for identification. No painting exposed to weather shall be carried out in adverse weather conditions. Application shall be done with the help of airless spray as far as possible. Where spraying is not practicable, brush or roller shall be employed.</p> <p>Record of temperature and humidity shall be maintained during the painting work and submitted to owner.</p> <p>Before launching, the outside hull below the waterline shall be painted with sufficient coats for adequate protection. Non-slip paint be applied on the main deck open areas and passage as per the paint scheme.</p> <p>Dry film thickness shall be measured by magnetic dry film gauges or equivalent in the presence of owner and paint manufacturer. Thickness shall be measured after completion of anti-corrosive coatings and/or the final coating in accordance with Builder's practice to Owner's approval.</p> <p>On the edges of small holes such as slots, drain holes, scallops, irregular manual weld beads and corners of flame cut free edges of structures, air holes, etc one additional stripe coat shall be applied before or after the classification society coat.</p> <p>Builder shall provide three years guarantee for painting work carried out on under water area, ballast and freshwater tanks.</p>																																	
2.6.4	Paint	Painting scheme in general shall be as given below (painting																																	

	scheme	scheme for parts or spaces, which are not specified, shall be like surrounding space or comparable spaces		
Sl No	Description	Type of Coat	Thickness in (Microns)	No of Coats
A	OUTER HULL			
1	Bottom, Underwater hull upto deep load line, Bilge keel, Sea chest	Epoxy primer	25	1
		Coal Tar Epoxy	100	1
		Chlorinated rubber sealer coat	30	1
		Conventional Anti fouling	100	
2	Top side area including bulwark outside	Epoxy primer	25	1
		Coal Tar Epoxy	100	1
		Chlorinated rubber sealer coat	30	1
		Chlorinated rubber finish	30	2
3	Bulwark Inside	Zinc Rich Primer	40	1
		Alkyd deck paint	30	2
4	Vessel Name, Port of Registry, Hull Marking	Alkyd Gloss Finish	30	2
B	TANK			
1	Fresh Water Tank	Epoxy primer	25	1
		Pure Epoxy	100	2
2	Fore peak tanks / Water ballast tanks	Coal Tar Epoxy	100	1
3	Oil Tanks	Red Brown Epoxy and one coat of respective Oil.		
4	Aft peak and other Void Spaces	Bituminous Solution	80	1
	Inside of fuel oil tanks, lubricating oil tanks and other tanks for oils shall be treated with the oil carried in them.			
C	EXPOSED DECK & SUPERSTRUCTURE			
1	Exposed steel decks including wheelhouse top and 150mm dados around all deck structure and machinery seats on deck.	Zinc Chromate Primer	40	1
		Non-Skid alkyd deck paint	40	2
2	Outside exposed bulkheads, superstructure, handrails, stanchions, stays and ladders	Zinc Chromate Primer	40	1
		Alkyd Gloss Finish	40	1
3	Port Light Screen	Zinc Chromate Primer	40	1
		Alkyd Gloss Finish	40	1
4	Standard Light Screen	Zinc Chromate Primer	40	1
		Alkyd Gloss Finish	40	1
The builder may propose alternate painting scheme and submit for Owner’s approval Inside of fuel oil tanks, lubricating oil tanks and other tanks for oils shall be treated with the oil carried in them.				
3	Equipment and outfit			

3.1	General	This paragraph of the Specification contains the descriptions of equipment and outfit of the Pusher Tug, except those concerning machinery installation, and electrical installation. All requirements laid down in other paragraphs are also valid in this paragraph as far as applicable. The requirements regarding painting are also valid for the constructions and equipment.
3.2	Anchor and mooring equipment	The anchor- and mooring equipment shall be in accordance with the requirements of the Class as long as no higher requirements are specified hereafter.
3.2.1	Anchors, chains, and wires	Stern anchor: Anchor of the HHP weight approx. 345 Kg with a stud link chain cable of minimum length of 60 m. To be finally confirmed by the designer by calculations.
3.2.2	Mooring wires	Four mooring ropes of synthetic material with a length of 60 m each and a breaking strength of abt. 160 kN to be delivered.
3.2.3	Handling Winch	<p>For anchor handling an electrically driven handling winch shall be installed on the main deck. The winch shall be provided with an electric motor. Further the winch shall be provided with a hand- operated band brake and a mooring head. The handling winch shall further conform to the requirements specified here after. The winch shall be provided with a watertight operation pedestal in way of the brake lever. A sturdy deck foundation shall be placed on the main deck complete with fasteners.</p> <p>On the aft deck one manually operated anchor winch to be installed. The anchor winch to have a drum suitable for the steel wire of the anchor and a warping head. Lined brakes and couplings to be provided for independent operation of the drum and the warping head.</p>
3.3	Ventilation	
3.3.1	Natural Ventilation	<ol style="list-style-type: none"> a. All spaces and compartments which are not connected to a mechanical ventilation system shall be provided with natural supply- and exhaust means. b. Fuel oil tanks, water ballast tanks, sewage tank, bilge water tank and freshwater tanks shall be provided with ventilators. c. Other spaces as specified hereafter: <ol style="list-style-type: none"> ○ <i>the space shall be provided with two 250 mm diameter goosenecks</i> ○ <i>for cofferdam between main deck and fuel oil bunkers, the space shall be provided with four 250 mm diameter goose necks</i> ○ <i>for main store, the space shall be provided with two 250 mm diameter goosenecks</i> ○ <i>for crew's accommodation two 300 mm diameter mushroom ventilators on top deck</i> ○ <i>for lavatory one 80 mm diameter torpedo fan on top deck</i> ○ <i>for wheelhouse two 150 mm diameter mushroom ventilators on wheelhouse deck.</i> d. All goosenecks shall be galvanized after welding and

		<p>provided with non-corrosive wire gauze.</p> <p>e. In each space half the number of goosenecks shall be lengthened down to 200 mm above floor level.</p> <p>f. where necessary fire isolating flaps shall be fitted at the openings</p>
3.3.2	Mechanical Ventilation	<p>a. The crew's accommodation shall be provided with a fixed mounted oscillating fan. Fan capacity at least 1600 m³/hr, two speeds and oscillating 85 degrees</p> <p>b. Engine room natural exhaust in funnel shall be fitted with balanced fire flaps. Flaps shall be easily operated from outside the machinery space and “open” – “shut” nameplates shall be fitted at all operating handles. Other Fire dampers shall be provided as required by the rules. Engine room ventilation system should cater for forced exhaust of spaces when required</p> <p>c. Emergency stop switch for Engine Room fans shall be arranged as required by the classification rules. The ventilation system shall be provided for Engine Room by mechanical supply or exhaust system capable of giving the required rate of air changes per hour to meet rule requirements. Ventilation heads shall be mushroom or wall mounted louvers depending upon the final design and layout. A vent hood with stainless steel grease filter and exhaust fan shall be fitted over cooking ranges</p>
3.4	Deckhouse and wheelhouse	
3.4.1	General	A deckhouse with accommodation for 4 crews (2 Masters, 2 Drivers) in two cabins with double tier berths in each cabin and bio toilets, galley and mess cum recreation room shall be provided. On top of this deckhouse a wheelhouse shall be provided. The relevant statutory rules regarding construction, material, space and fireproof partitioning shall be complied with. All accommodation spaces shall be designed to have a minimum clear height of 2000 mm.
3.4.2	Crew Accommodation	The furniture and other fittings shall comply crew accommodation rules. Forced air supply ventilation system is to be provided. The cabins shall be adequately furnished. Ratings to be accommodated below Main Deck.
3.4.3	Mess and Recreation	Separate mess cum recreation spaces for crew shall be provided. The mess rooms shall be equipped with sufficient number of chairs, tables and fans. One Coloured 32 inch LED Television set. One no. Drinking Water cooler shall be provided in the mess room. The drinking water cooler shall have a capacity of 30-litres. One metal dustbin with over to be provided.
3.4.4	Galley	Galley shall be equipped with one complete set of galley equipment, which shall include equipment as listed below. The quantity of cutlery and crockery shall be adequate for the total number of crew with 20% excess as reserve. Drain shall be via

		<p>galvanized perforated top plate. Forced air supply ventilation system is to be Provided.</p> <p>1 no. Double cook top induction heater 1 no. Water boiler 1 no. Oven 1 no. Stainless steel sink 1 no. Wooden desk 1 no. Wooden cupboard 1 no. Cutting table 1 no. Refrigerator 300 Ltrs capacity min 1 no. Water cooler 30 Ltr capacity 1 no. One RO FW unit</p> <p>One complete set of utensils compatible to induction heater shall be provided for preparation of food. One set of crockery (Bone China & Steel) and Glasses, cups, cutlery to be provided. Two big metal dustbin with cover for dry and wet garbage.</p>
3.4.5	Bio-Toilets	<p>a. All the toilets shall be furnished in accordance with the rules requirements and are to be bio- toilets</p> <p>b. Two bio- toilets, with European WC made of china clay and shower, for the ship's crew shall be provided.</p> <p>c. All the bio-toilet fittings shall be provided as per rules and shall be approved by the Owner. All toilets shall be provided with sleek and rugged storage flush tanks and shall properly secured.</p> <p>d. Toilet shall have mirrors fitted over the washbasin with lockable cupboards, cloth rails/hooks and towel rails.</p>
3.4.6	Wheel house	<p>The wheelhouse shall be of all welded steel construction and provided with equipment as listed in the equipment list. Clear view shall be provided by means of large windows. At least two wall fans shall be provided. Clear view screen shall be fitted forward. Two nos. straight- line wipers shall be provided. The windows will be arranged to provide clear view on all sides including front and back. Some of the windows will be of openable type.</p> <p>The wheel house shall be air conditioned with split A.C.</p> <p>The wheelhouse shall be provided with enough space. The wheelhouse console shall be adequate in size to accommodate all controls and display units/meters.</p> <p>Further the following equipment shall be provided in the wheelhouse as per IV Rules 2022</p> <ul style="list-style-type: none"> - one set of roller blinds and curtains - one portable fire extinguisher - one VHF-set - one GPS unit - one magnetic compass - one clock - two double coathooks - two window wipers - one clear view screen - one manoeuvring desk - one settee

		<ul style="list-style-type: none"> - one helmsman's chair - one corner cupboard - one chart rack against ceiling - one binocular box
3.4.7	Flooring & Deck Covering	The steel deck shall be covered with deck compound of approved type. In the Accommodation spaces, Wheelhouse, passageways and the Mess rooms, vinyl tiles shall be laid over the deck compound. The Galley, toilets and other wet spaces shall be cemented and tiled with unglazed antiskid tiles on the floor and matching glazed tiles on the walls up to a height of 1 meter. All decks shall have provisions for drainage of water through scupper pipe.
3.4.8	Partition Bulkheads, Lining & Ceiling	<ul style="list-style-type: none"> a. The ceiling, paneling and partitions shall be applied as per rules with marine quality and heat resistant plywood/material. b. The accommodation spaces shall be insulated against heat and cold. All accommodation spaces, mess rooms, wheelhouse shall be lined on the sides with panels with removable beading all- round. The colour of the ceilings and paneling shall be of owner's choice. c. The accommodation and the walls between the engine casing and the engine room shall be well insulated with fire retardant materials.
3.4.9	Insulation	<ul style="list-style-type: none"> a. The portion of the compartment facing weather shall be insulated in accordance with the statutory rules. b. In place where rules for insulation against fire, heat and sound shall be applied at the same time, only the highest insulation thickness need be applied as per IV Rules 2022.
3.4.10	Doors, Windows, and Scuttles	<ul style="list-style-type: none"> a. All doors shall be of such construction, finish, and operation so as to suit their location and purpose. b. The sill height of doors shall be in accordance with the requirements of Classification society/statutory rules as applicable and the clear heights of door openings for all cabins and public spaces shall be 1900 mm from the steel deck to top of the opening. c. All doors shall be provided with suitable doorstoppers and securing arrangements. Door eyebrow shall be provided over exposed weather doors. d. Windows and scuttles shall be provided as per BIS where applicable. Where steel plate is cut to fit the windows/scuttles adequate compensation shall be provided. e. The type, size, location and number of doors, windows and scuttles shall be as per approved plans. All wheelhouse windows shall be selected so as to minimize heat transfer. f. All door openings exposed to weather shall be provided with additional doors with mosquito nets.
3.4.11	Furniture & Hardware	Furniture shall be of good marine quality veneered plywood or hardwood. with massive framework. Double berth in the crew's accommodation Berth of plywood bottoms and drawers under the lower berth. Berth to be provided with fire

		<p>resistant quality Pillows and mattresses. Mattresses Dimensions shall be 1900 x 850 mm.</p> <p>The chairs with steel frame and upholstered with foam rubber and cloth. For the helmsman a swiveling chair with arm rests and adjustable in height shall be delivered.</p>
		<p>Hardware shall be of non-corrodible heavy construction. Day- and night-locks shall be placed on crew's accommodation and wheelhouse doors. Good quality Locks to be provided with three keys.</p> <p>Steel doors and hatches shall be provided with padlock-eyes and brass padlock with hardened steel eye. Doors, hatches, lockers and drawers to be numbered and keys to be labeled with stainless steel label with number and workboat's name. Key locker shall be fitted in the control cabin.</p> <p>Doors, Doors of lockers, cupboards and other furniture shall be fitted with good quality hinges. Door catchers with rubber stops of robust construction shall be fitted on the doors. Wheelhouse door with hook for open position.</p> <p>Above all doors, on valves on air-, sounding- and filling pipes, on air caps etc. name and number plates shall be fitted. Plates of stainless steel or brass. The necessary warning and instruction plates shall be fitted, where required as per IV Rules 2022.</p>
3.4.12	Desks and instruments	<p>At the front side of the wheelhouse the maneuvering desk shall be placed.</p> <p>The desk to contain all necessary instruments for control of engines. Also, the lighting panel to be incorporated in the desk.</p> <p>The desk with sloping top plate shall be constructed of durable materials and first class finished. Switches for searchlight and window wipers shall be placed in the vicinity of the apparatus.</p>
3.4.13	Lights	Adequate lights to be provided in the accommodation and wheelhouse spaces. The lighting fixtures to be of reputed make.
3.4.14	Miscellaneous	<p>Signs symbols, and markings shall be provided in the accommodation spaces. All cabins/stores/utility spaces shall be provided with engraved nameplates of approved quality. All open areas shall be suitably lighted</p> <p>All beds shall be provided with fire resistant quality mattress of 100 mm thick. Mattress cover shall be of cotton fabric, the samples of which shall be approved by the owner.</p>
3.5	Stores	<p>Stores shall be provided as follows:</p> <ul style="list-style-type: none"> • in the deckhouse a deck store. • in the hull a bosun store and a paint store. <p>The deck store shall be provided with two steel grating doors, complete with padlock eyes and padlocks. Racks to be placed with a breadth of 900 mm and in two tiers.</p> <p>Racks Further hooks and rods for tackles and ropes shall be fitted.</p> <p>The general store shall be provided with a 38 mm wooden floor directly mounted on the steel floors.</p>

3.6	Mast	The mast will be of collapsible type and will be suitably located on the wheelhouse top and stiffened adequately. The mast shall be provided with necessary arrangements for installing the navigational lights, and yards for hoisting flags and signals. Lowering of the mast shall be with help of a small hand winch. The mast to be stayed. The height and location of the light masts shall comply relevant rules.
3.7	Navigational equipment	The following navigational equipment shall be provided as per IV Rules 2022 and installed: one VHF radio installation one Navtex receiver one SART one Automatic Identification system one Radar one Echo Sounder one Magnetic Compass one Gyro compass with repeaters one Rudder Angle Indicator one Global Positioning System one Binocular one Aldis Lamp or Search Light one Passage chart. one Area Tide Tables one Aneroid, Barometer, Navigation lights One electric horn Fog horn as per class requirement LED flood lights
3.8	Crew boat	For communication- and maintenance work a small FRP 3-crew boat with 10 HP outboard motor shall be provided. Boat to be stored on a cradle on main deck within the reach of the crane.
3.9	Life-saving equipment	Life-saving equipment shall be delivered according to Class and statutory authorities requirement sufficient for 12 persons meeting requirements of IV (LSA) Rules 2022. The equipment shall be stored and fitted on convenient places in at least the following numbers: 1. inflatable raft for 12 person. 2. 12 life jackets stowed in g r p. box placed in concert with the Class 3. 1 safety hammer in the wheelhouse 4. 4 round shaped life-buoys, two with a floating line of 30 m, fitted on the control cabin and two fitted on aft ship
3.10	<u>Fire-fighting equipment</u>	The fire-fighting equipment to be in compliance with the statutory requirements (as per IV (FFA) Rules 2022) and at least the following of approved make and type shall be delivered and fitted: 1. one Fire Pump 2. one Hand Operated fire pump 3. four Fire Hydrant 4. four Fire Hoses 5. one Fire Axe 6. twelve Fire Buckets 7. one 45L Wheeled Foam fire extinguisher 8. three 9 liter portable foam fire extinguisher

		9. three 5 kg portable dry powder fire extinguisher
3.11	<u>Mooring equipment</u>	
3.11.1	Mooring Lines	Two nos. polypropylene mooring lines of required breaking strength and length (100 mts. Each) should be provided as per rules.
3.11.2	Fairleads and Mooring Eyes	Sufficient number of fairleads shall be fitted forward and aft for passing mooring ropes. The exact location, type, size and quantity of these and other fittings shall be as per the mooring arrangement drawing, which shall be prepared by the Builder and approved by the Owner.
3.11.3	Hoisting Gear	Monorail of adequate capacity as recommended by the engine manufacturer shall be mounted above the main engines. Hoists and pulley blocks of adequate capacity shall be provided for general use in the engine room.
3.12	Communication Equipment	Following communication equipment shall be provided on board as per IV Rules 2022:- <u>Internal</u> Engine room telegraph system. A voice pipe from wheel house to engine room. <u>External</u> VHF radiotelephone, Loud speaker signals and alarm as per statutory rules & IV Rules 2022.
4	Machinery Installation	
4.1	General	All the engine room units shall be of marine grade and the installation shall be in accordance with classification society and other statutory requirements. Engines shall be provided with control from engine room and wheel house. The engine room and other machinery rooms shall be mechanically ventilated
4.2	Propulsion Machinery	
4.2.1	Main engine	<p>a. Two marine grade, fuel efficient, turbo charged diesel main engines of Yanmar/Cummins/ Caterpillar or equivalent reputed make, developing minimum 485 KW each @ 90 % MCR or as required for achieving the speed for 6.5 knots while pushing and 10 Knots while free running, in the ambient conditions specified in para 1.2.1, suitable for continuous operation at rated power shall be provided. The engines are to be compatible to the selected steerable rudder propeller system.</p> <p>b. The engines shall be compact and of low weight as possible and shall be generally maintenance free. Necessary spares and after sales service for the engines shall be easily available in India.</p> <p>c. The engines shall be complete with standard accessories, alarms, and instrumentation meeting class requirements.</p> <p>d. In addition, the following shall be provided:</p> <p>a) Silencers with spark arrestor.</p> <p>b) Closed circuit lubricating oil system with engine driven pump.</p>

		<p>c) Monorail with chain blocks over engines for servicing, adequate for handling heavier engine parts</p> <p>d) Fresh water, River water, F.O. and L.O. pumps.</p> <p>e) Gauges, thermometer, tachometers, flow meters for fuel oil, hour meter, pyrometers, etc.</p> <p>f) Heat exchangers for main engines and gearbox shall be of close circuit engine cooling.</p> <p>e. Each engine is also to be equipped with:</p> <ul style="list-style-type: none"> ▪ An AC-alternator with voltage regulator for charging batteries. ▪ Remote start/stop/speed control from engine panel in wheelhouse. ▪ Manual speed control on engine site. ▪ Electric transmitters for remote indication of engine speed, lube oil pressure and fresh cooling water temperature. ▪ Electric indicators for mounting in manoeuvring desk in the wheel house. ▪ Electric transmitters for low lube oil pressure alarm and high cooling water temperature alarm. ▪ Automatic stopping device at overspeed and low lube oil pressure. ▪ An electric diesel engine hour counter for mounting in the wheelhouse desk. ▪ A power take-off for coupling of a hydraulic pump for the rudder propeller. <p>f.Speed, clutch and brake control must be possible locally as well as remote from the steering desk. The remote control shall be adapted to the requirements of the manufacturer of the rudder propellers.</p> <p>g. The shop test of the propulsion diesel engines shall be carried out as per the requirements of the Classification society. The engines shall be tested in the presence of the Surveyor in the following manner:</p> <ul style="list-style-type: none"> a. 4 hours continuously running at 100% load at rated speed b. 1/2 hour running at 110% load c. 1/2 hour running at 75% and 50% each of the rated speed with a load according to the propeller law d. 1/2 hour running at idling speed. e. Specific fuel consumption to be charted for each of the above running ranges <p>h. Governors' tests and safety functions shall also be performed. Shop test data and certificates shall be supplied. While testing the engines at shop floor, all fittings constituting the total supply of the engines shall be installed. Subject to satisfactory tests, the engines shall be numbered and stamped.</p> <p>i. The propulsion systems shall be free from all</p>
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		<p>vibrations throughout the entire working range. The following items, common for both engines, shall be provided.</p> <ol style="list-style-type: none"> Sets of Standard and Special tools and gauges for servicing, including tools for turbo- chargers, as recommended by manufacturer of engine. Crankshaft deflection gauge.
4.2.2	Gear Box	2 nos. Hydraulic reverse-reduction gearboxes of suitable gear ratio shall be provided. Make can be ZF or Twin Disc or equivalent. Each gearbox shall be connected to the corresponding main engine by means of elastic couplings.
4.2.3	Propulsion shafts	Since Steerable Rudder Propulsion system is proposed, this clause is deleted
4.2.4	Propellers	<p>The vessel shall be fitted with 2nos. fixed pitch propellers of optimum diameter and pitch. The propellers along with propeller guards shall be designed to give maximum of efficiency and thrust at the rated RPM. Materials of the propellers shall be Manganese Bronze and shall be approved by class.</p> <p>Necessary controls/Alarm panels shall be provided in the engine room and the wheelhouse as applicable.</p>
4.2.5	Stern Tubes	Since Steerable Rudder Propulsion system is proposed, this clause is deleted
4.2.6	<u>MAINENGINE& AUXILIARY ENGINE STARTING</u>	Main engines and Auxiliary Engines shall be started electrically by means of battery and starter motor separately provided for each engine. Adequate number of batteries suitable capacity shall be provided. The batteries shall be charged by engine alternator and separate Battery charger. (Refer Electrical System for battery charging arrangement) . During blackout Emergency source of power to take over which has to be provided.
4.2.7	Remote Control	Main engines and gearboxes shall be operated by remote control from the wheelhouse. Electronic remote control to be provided for both engine & gear box
4.3	Diesel Generator Sets	<ol style="list-style-type: none"> Two auxiliary engines of Cummins/ Greaves/ KOEL or equivalent reputed make coupled with alternator sets of 30 KW capacities shall be provided. All necessary controls shall be placed at a common control panel for all gensets. Engines and alternators shall be shop tested as per classification rule requirements. During shop trials and during load test of generator after installation onboard, governor tests shall be carried out and instantaneous change in speed/frequency shall be noted. The tests shall be done for sudden changes in loads from 0-50%, 50% - 100% and 100%-0. Observations shall also be made regarding the initial and the final speeds of the DG set. Engine and alternator shall be shop

		<p>tested together for at least two hours at 100% load, followed by a run at 110% load during half an hour.</p> <p>d. The engine shall be equipped with standard and special tools and accessories as per manufacturer's recommendations/Class requirements - The standard mounted instrumentation, but at least a tachometer, a running hour counter, a lube oil pressure indicator and a fresh cooling water temperature indicator. Alarms on low lube oil pressure and high fresh cooling water temperature. Automatic stopping device at over speed and for low lube oil pressure. Freshwater, river water, F.O., L.O pumps and heat exchangers shall be engine mounted.</p> <p>e. The auxiliary set to be built together on a rigidly constructed common base-frame and the complete unit to be fitted to ship's foundation via anti-vibration mountings</p>
4.4	Engine Starting	Main engines and Auxiliary Engines shall be Battery started and for this purpose adequate number of batteries as per manufacturers recommendations shall be provided in the engine room as per class requirements.
4.5	Miscellaneous	<p>Work Bench</p> <p>Suitable workbench fitted with a vice and a double-ended bench grinder shall be provided in the engine room. One number Drilling machine shall be suitably located on the workbench.</p>
4.6	Engine Room System	
4.6.1		<p>a. All piping systems shall be installed such that satisfactory functioning of the installations shall be possible in accordance with the rules of the classification societies, statutory bodies and relevant standards. They shall be installed together with all fittings such as flow control valves, cocks, filters, pressure gauges, thermometers, etc. according to the practice of the yard, and approved by the Owner.</p> <p>b. All service piping systems shall be installed and tested in accordance with the requirements of the class / Statutory bodies.</p> <p>c. All steel pipes shall Class C pipes. The Main Sea water manifold will be of SS316L Material with suitable thickness. This piping of SS will continue till the suction side of the respective sea water pump.</p> <p>d. All galvanized pipes shall be hot dipped galvanized after fabrication has been completed</p> <p>e. Minor damages during installation shall be touched up by zinc paint. Piping in oil tanks shall not be galvanized. Steel pipes and pipe ends on the machinery shall be blanked prior to final installation. After completion of fabrication work all fuel oil pipes lines shall be pickled, oiled and blanked prior to final installation.</p> <p>f. After completion of fabrication work all lubricating oil pipelines and fuel oil pipelines from daily service tanks to</p>

		<p>the consumers shall be pickled, oiled and blanked prior to final installation.</p> <ul style="list-style-type: none"> g. The pipes shall be carefully clamped and where necessary fitted with suitable draining arrangements for locations where the liquid is likely to stagnate. Clean plugs shall be provided in domestic and sanitary pipes, which are likely to be choked. h. All piping in machinery spaces shall be marked with a coloured ring, to an approved colour scheme, to denote the nature of fluid or gas passing through it. i. Remote controls from wheelhouse for valves/pumps shall be fitted, as necessary. j. All valves, pumps, vent/sounding pipes shall be fitted with engraved brass nameplates in respect of their duty. Where required for their duty flexible pipe connections shall be used. k. Where necessary piping may pierce girders or any structural members provided that these structures are sufficiently compensated in accordance with classification requirements. l. Non pressurized pipes such as sounding, vent, scupper, etc shall be inspected by fill up and / or flow test.
4.6.2	Exhaust System	<ul style="list-style-type: none"> a. All diesel engine exhaust gas pipes shall be made of steel fitted with expansion bellows and shall be rigidly secured with brackets. Mild steel flanges shall be provided. All exhaust gas pipes shall be led to the transom after mixing with cooling header of main engines. b. All precautions shall be taken to eliminate heat radiation from exhaust gas pipes to the surrounding areas and exhaust fumes shall be led away from the accommodation. Necessary drains from exhaust gas pipes shall be arranged and led through transom. Maximum total resistance in exhaust pipes shall not exceed the requirements of engine manufacturer. c. Exhaust gas pipes from all the engines shall be led to atmosphere through the silencers and spark arrestors. Exhaust pipes from all the engines shall be insulated by rock wool with adequate thickness and fastened by galvanized steel wire and finished with galvanized sheet. d. All diesel engine shall have a separate exhaust pipe suitably lagged and insulated where exposed. Each engine shall also be provided with a suitable exhaust silencer. The exhaust pipes shall be of mild steel and shall be led up to a sufficient height above the coach roof with protection against rainwater entry at the upper end or wet exhaust system to be provided discharge in ship side / Transom. Arrangements shall be made to drain any water collected in the exhaust pipe at any point. Ceramic / Glass wool insulating material shall be used.
4.6.3	Fuel Oil System	<ul style="list-style-type: none"> a. Main propulsion engines, auxiliary engines, and other diesel engines shall use HSD oil.

		<ul style="list-style-type: none"> b. Two nos. gear/screw type, electric driven fuel oil transfer pumps of about 5 m³ /hr capacity at 2 bar head with suction and delivery connections shall be provided for transferring fuel oil from bunker tanks to the daily service tanks. One pump shall be in operation and the other shall act as stand-by. The pumps shall also have connections to transfer fuel oil between bunker tanks. A hand pump shall be installed as stand-by. c. Day tanks shall be provided with high- and low-level alarms and shall be equipped with waste tray and drain. Overflow and oil level gauge shall be provided. Necessary quick closing valves operable from main deck to be provided for fuel oil storage tank/day service tank as per class requirement. d. All fuel oil pumps shall be capable of being stopped from main deck. The control position shall be such that it will not be likely to be rendered inaccessible by a fire in the engine room. Isolation valves shall be provided, as necessary. e. Fuel oil / Lub. Oil bunkering lines shall be provided with manifold on main deck port and starboard. Drip tray/coaming shall be provided to contain spillage
4.6.4	Lubricating Oil System	<ul style="list-style-type: none"> a. Each main engine, gearbox and auxiliary engine shall have its own independent lubricating oil system. One storage tank of suitable capacity shall be provided in the engine room to cater to the requirements of Main Engine, Auxiliary Engine and Gear Boxes. b. Drawing arrangement of lube oil from main engine may be provided through pipeline. c. The following installations shall have their own independent lube oil system: <ul style="list-style-type: none"> a. Each diesel engine b. Each rudder propeller unit. d. As far as possible all systems should use the same lubricant. The Yard will be required to furnish a list of lubricants to be used on machinery and equipment installed on the Vessel, in accordance with the manufacturers' recommendation e. Loose tanks for lube oil storage and dirty oil shall be installed in the engine-room, each having a capacity of approx. 0.5 m³, as well as a L.O. service tank provided with a tap-cock and drip tray for filling oil cans and having a capacity of 0.05 m³. f. Semi-rotary type hand pumps shall be installed for filling the oil sumps of the diesel engines and for emptying the dirty lube oil tank. g. All piping to be made with steel tubes.
4.6.5	River Chests	Two adequately sized river water inlet chests shall be provided in the engine room, integral with vessel's structure, each sufficient for total required river water capacity. Each inlet chest shall be provided with stainless steel gratings. The inlet chest shall be provided with vent pipes to the prescribed height above

		the freeboard deck. Compressed air cleaning is to be provided for River chests.
4.6.6	Cooling Water System	<ul style="list-style-type: none"> a. The main parts of the cooling water system of the diesel engines shall be closed circuit unit built on the respective engines. The oil coolers of the rudder propeller units (if fitted) shall be connected to the cooling water system of the concerning diesel engine. b. The connected piping shall be of seamless steel tubes with diameters such that the flow velocity will be not more than 2.5 m/sec.
4.6.7	Bilge/Ballast/ General Service/Fire Fighting System	<ul style="list-style-type: none"> a. The bilge/ ballast/ general service/ firefighting system are to comply with the rules and requirement of classification society. The pump shall be of the self-priming centrifugal type and will have a capacity of 25 m³/h at pressure of 4 bar Furthermore 1 hand driven bilge pump to be installed, in the engine-room. Bilge system shall be equipped with necessary mud boxes in engine room as per IV Rules 2022. b. The bilge system shall be arranged with a valve manifold in engine room and pipeline of dimensions according to classification requirements. c. Firefighting connections shall be arranged on deck and engine room satisfying classification / statutory regulations. d. An emergency fire pump shall be provided in the forward stores in an appropriate location. At least two firefighting connections shall be arranged on deck and one in the accommodation space.
4.6.8	Sanitary Water System	<ul style="list-style-type: none"> a. A sanitary water system conforming to class requirements to be provided in the Pusher Tug. A 500 litre tank for sanitary water system to be provided at a suitable location. Necessary filling arrangements to be provided. River water connection shall be supplied to all toilet flushes, toilets, and galley. Supply of river water to the overhead tank shall be through pump. b. An electrically driven freshwater supply pump to be installed in the store. A discharge connection on the main deck to be provided including a set of hoses (about 25 meters) and storage reels. Type of coupling according to local standards
4.6.9	Domestic Fresh Water System	<ul style="list-style-type: none"> a. Fresh water storage tanks of total capacity of about 15 tons shall be provided for catering to the requirements of the crew. b. One fresh water overhead tank of 500 lts. Capacity shall be provided. Fresh water pump of 1m³/ hr @ 2 bar shall be provided for transferring Fresh water from storage tank. One semi rotary hand pump shall be provided as stand by. c. Fresh water connections to Galley, Mess, Water coolers etc. shall be passed through UV sterilizers.
4.6.10	Sewage	<ul style="list-style-type: none"> a. Sewage from the toilets and galley shall be collected in

	discharge system	<p>two holding tanks located below the toilets. There shall be a pumping arrangement to discharge this sewage to shore reception facilities. All discharges shall be arranged with sufficient slope towards the main sewage drain and connected to the sewage holding tank.</p> <p>b. Sewage overboard discharge shall be arranged below the light ballast waterline.</p> <p>c. Discharge from showers, sinks and washbasins shall be trapped through individual water traps and led overboard or to the holding tank separately.</p> <p>d. Approved type of storm valves shall be provided at the overboard discharge ends as per the rules.</p> <p>e. One sewage discharge pump of 2m³/hr @2 bar capacity (screw type) shall be provided for discharging sewage from holding tank. One hand pump semi rotary type shall be provided as standby.</p>
4.6.11	Scupper- and waste pipes	<p>a. All piping to be executed conforming to the sizes and materials as per the class requirements.</p> <p>b. An emergency direct to overboard connection to be provided. Scuppers shall be so arranged that good drainage will be ensured at every spot. Scupper inlets on open decks to be provided with a welded steel grid. Horizontal pipes to be fitted with a slope to outboard. Pipes which are draining directly to overboard must have the same wall thickness as the hull at that spot.</p> <p>c. All pipes to have sufficient cleaning possibilities fitted on easily accessible spots. All cleaning plugs to be of stainless steel.</p>
4.6.12	Filling, vent and sounding pipes	<p>a. All pipes on water tanks and dry compartments to be of galvanized steel. For pipes on oil tanks only the parts above open decks to be of galvanized steel. Upper ends of pipes to be clearly</p> <p>b. Filling connections at least 300 mm above deck, suitable of coupling of standard supply hoses, to be shut off with blind flanges. Filling connections for fuel oil to be arranged together with a drip tray. All built-in and loose tanks to be provided with a vent pipe, connected to the highest point of the tank. Vent pipes of fuel tanks with flame-preventing safety gauze meeting the Class requirements. Vent pipes of the sewage tank aft to be drawn up to the top of the funnel.</p> <p>c. Where possible, level gauges to be fitted. All built-in tanks to be provided with a sounding pipe. The upper ends shut off with a screwed bronze cap, attached to a chain.</p> <p>d. Tanks in the engine room to be provided with a short sounding pipe with-a self-closing sounding valve with test-cock.</p> <p>e. Air vents for drinking water tank shall be provided with insect proof net. Sleeve joints shall be used for pipes passing through decks.</p> <p>f. Drip trays shall be provided below the valves of all oil tanks and coaming shall be provided at the bunkering points.</p>

		<p>g. All built in tanks shall be provided with a sounding pipe with upper ends shut off with a screwed bronze cap, attached to a chain. Sounding pipes shall be led as vertical as practicable.</p> <p>h. A strike protector of steel plate shall be fitted directly under each sounding pipe. Thickness of the sounding pipe shall meet the requirements of the classification society.</p> <p>i. Tank level gauges shall be provided for all ballast tanks, fresh water tanks, peak tanks and oil tanks.</p> <p>j. Filling connections to various tanks shall be arranged at least 300 mm above deck. They shall be suitable for coupling to standard supply hoses. Shut off by brass caps with chains shall be provided. Filling connections for fuel oil tanks shall be arranged together with a drip tray.</p> <p>k. Air and sounding pipes shall be arranged near bulkheads and behind stiffeners wherever possible.</p> <p>l. Air and sounding pipes shall be arranged near bulkheads and behind stiffeners wherever possible.</p>
4.6.13	Ventilation System	<p>a. Mechanical ventilation shall be provided in the engine room through required number of axial flow fans of adequate capacity. One of the supply fans shall be reversible.</p> <p>b. Exhaust fan shall be provided in Galley.</p> <p>c. Watertight covers shall be arranged on all ventilation inlets as required by load line regulations. Fire dampers shall be fitted to all ventilators as required by rules.</p>
4.6.14	Miscellaneous	<p>Piping and Valves</p> <p>All piping schematic drawings shall be approved by Owner/Class and Statutory Authorities. Pipes shall have suitable expansion arrangements wherever necessary and pipe material shall be suitable for the fluid that it will carry and shall comply with rule requirement.</p> <p>All valves shall be of approved type. Valves fitted to the hull shall be of Cast steel body with internals of bronze/Stainless steel.</p> <p>Insulation</p> <p>In general, the surface of machinery, equipment, pipes and tanks whose surface temperature is more than 60 degrees C shall be insulated.</p> <p>Pipes shall be tested and painted (when necessary) before insulation is applied.</p> <p>The insulation materials shall be fire resistant and shall be arranged in such a way that operation and maintenance are not hindered.</p> <p>Nameplates</p> <p>Engraved Al/Brass nameplates shall be provided on each pump, engine, valve, loose tanks etc., and where necessary for safety and control, the function and the medium used in that respective place shall be indicated on nameplates.</p> <p>All Vent/Filling/ Sounding pipes shall be provided with nameplates for identification above main deck.</p>

		<p>The nameplates fitted on weather decks and on aluminum parts shall be of stainless steel. The lettering on nameplates shall be black, however on safety and emergency valves red coloured lettering shall be adopted.</p> <p>Instruments</p> <p>The scales of instruments for pressures, temperatures etc., shall be such that the working range is not more than 70% to 80% of the full scales. The maximum allowed values shall be marked with a red line on the scale.</p> <p>The temperature gauges shall be provided with scales marked in degrees centigrade. Gauges for temperatures over 300 degrees C shall be of the pyrometer type.</p>
4.7	Lay-out of machinery spaces	<p>Engine-room</p> <p>The machinery shall be arranged in such a way that easy operation and maintenance shall be possible.</p> <p>All machinery and equipment shall have shut-off valves to disconnect them from the connecting pipe systems.</p> <p>The floor shall be made of 5 mm thick aluminum plates with raised non-slip pattern fitted on galvanized steel bearers by countersunk non-corrosive screws.</p> <p>Hinged hatches for easy access to equipment under the floor shall be arranged. Hoisting eyes or lugs must be provided on direction of the Class</p>
4.8	General requirements regarding materials and workmanship	
4.8.1	Auxiliary pumps	<ol style="list-style-type: none"> In general pumps to be with flanged pipe connections except for inside diameters of less than 25 mm. Pressure gauges to be provided on inlet- and outlet side. Pumps to be coupled to the driving motors via flexible couplings. Output of driving motors should be at least suitable for the required shaft power. In general pump speeds shall not exceed 1500 rpm. The Yard must submit QH-curves, and power characteristics of all pumps. The information to be based on the specified liquids. The pumps to be of BE pumps or equivalent and conforming to the Class requirements.
4.8.2	Valves and accessories	<ol style="list-style-type: none"> All valves and accessories to be at least suitable for pressure stage 10 according to the BIS standards or equivalent DIN-standards, where no higher system pressures are described. In general, the material of valves to be as follows: <ul style="list-style-type: none"> Body & Cover - cast iron Inner parts - bronze In the bilge and fire fighting system, valve inner parts to be of sea-water resistant bronze. Hull valves to have cast-steel or bronze body and cover. Fire fighting/deck wash valves with bronze body and cover, rubber lined disc-type valve and provided with coupling. Butterfly valves to be with rubber lined cast-iron or steel body, bronze disc and stainless steel shaft. Valves with a diameter of 25 mm or less may be completely of forged steel when fitted in steel pipe

		<p>systems or bronze in case of non-ferro pipes.</p> <ul style="list-style-type: none"> g. Dimensions of the valves according BIS-standards and with flange connections for a diameter of 32 mm and more and with screwed connections for the smaller diameters. h. Emergency valves with direct remote control by means of hand hydraulic activators. i. Where remote controlled valves are used they shall also have the possibility of local manual control. j. Safety- and relief valves to be adjusted on the maximum admissible pressure of the system and to be locked in that position. They will be of the direct acting, spring-loaded type and mounted in such a way that no injury/damage occurs when they come into action. k. Each pipe system should also include a list of all valves and accessories, stating type, makes, type-numbers, nominal diameter, materials of casing and inner parts, the built-in length, flange dimensions with number and size of the bolt-holes, working pressure, working temperature and test pressure. This list must be submitted to the Owner/ Class for approval prior to the placing of orders.
4.8.3	Piping	<ul style="list-style-type: none"> a. Pipe-sizes according to the Class requirements and also strictly in accordance with the system- pressure, but in any case suitable for a working pressure of 10 bar. Flange dimensions according to BIS-standards or equivalent. Where pipe diameters are stated without further nomination the inside diameter is meant. b. Pipes and flexible joints with a diameter of 25 mm and more to be connected with flanges. Welded-on plate flanges to be used. c. Copper or copper alloyed pipes to be connected by means of hard solder bronze rings and loose steel flanges. For pipes and flexible joints with a diameter of less than 32 mm screw coupling of the standard type may be used. d. Flexible connections of the flexible steel tube type to be used for machines and apparatus, which are mounted on anti-vibration mountings e. Where galvanized pipes pass through gas, oil or watertight bulkheads or decks, these penetrations will be executed with so-called three-flange type pipe-pieces. f. Pipes should be mounted in such a way that expansion or contraction can occur without remarkable increase of stress. Piping to be fixed suitably by means of steel clamps of flat bar. Where steel clamps are used for copper or copper alloyed pipes, they shall be provided with a lead or nylon lining. g. Drain cocks to be provided on all lowest points of all pipe systems and venting connections on h. all highest points. All pipes intended for transfer of fuel, lubricants, or such like oils, are to be i. pickled, neutralized and washed with freshwater after

		<p>manufacturing is completed. If time lag between cleaning and actual operations is big, then the pipes to be applied with a film of oil and adequately protected against foreign particles during the lay-off period. After completion of the installations, the pipes to be flushed with the liquid they are destined for.</p> <p>j. All pipe-systems to be tested after installation with at least 1.5 times the working pressure. This with a minimum of 6 bar.</p> <p>k. Insulated pipes and pipes behind paneling to be tested before insulation and paneling are fitted.</p>
4.8.4	Insulation of piping	<p>a. Pipes to be tested and painted (when necessary), before insulation is applied.</p> <p>b. Thickness of insulation to be at least in such a way, that the surface temperature will not be more than 25° C above the ambient temperature when the engine room ventilation is working. Where the insulation runs the risk of damage or where hot pipes run within normal reach, they must be provided with a sufficient protection.</p> <p>c. The exhaust gas piping and silencers to be insulated with rock wool blankets on wire gauze finished with a glued layer of glass fiber cloth and the whole to be covered with aluminum sheets. The flanges and expansion joints must be covered with insulating mattresses filled with glass wool. Cold water lines in accommodation to be finished with 2 cm anti-condense insulation.</p> <p>d. The application of asbestos as insulating material is not permitted.</p>
4.8.5	Instruments	The instruments for pressures, temperatures etc. to be such that the working ranges is not more than 70% to 80% of the full.
4.8.6	Loose Tanks	Loose tanks to be made of steel, reinforced where required. Large tanks to be provided with a manhole, small tanks with a hand hole and further with connections for a level gauge, filling and vent pipes, a drain valve, and the necessary system connections. Drip trays to be provided below oil tanks.
4.8.7	Nameplates	<p>On each pump, engine, valve, loose tank and where necessary for safety and control, the function and the medium to be indicated on nameplates.</p> <p>Anyway each valve to be provided with a nameplate on or near the cover in addition to nameplates on the handwheels.</p> <p>The nameplates of bronze or brass with engraved letters. On weather decks and where fitted on aluminum the nameplates should be of stainless steel. The lettering to be black, however on safety and emergency valves red colored lettering to be adapted.</p>
5 5.1	Electrical System General	<p>a. All installations, materials and constructions must be according to good marine practice, fully adapted to tropical and sailing conditions and suitable for this type of Vessel. The complete electrical installation and</p>

		<p>workmanship shall be in accordance with the rules and regulations of the classification society and statutory authorities applicable to this type of vessel. All electrical fittings and fixtures to be of relevant BIS Standards and with BIS mark.</p> <ul style="list-style-type: none"> b. The electrical rotating machinery, transformers and other electrical equipment shall work satisfactorily at an ambient temperature of 45⁰ C. All the electrical equipment shall be arranged for easy accessibility for repair and replacement. c. The equipment installed shall work satisfactorily at voltage and frequency variations as specified by classification society. d. Each control panel shall be provided with relevant drawing, wherein the fuse ratings of feeders shall be clearly mentioned. e. All the relevant electrical drawings and plans including load chart shall be submitted to the classification society for approval prior to placement of orders for equipment/installations.
5.2	Power Supply	
5.2.1	General	<p>A 415 V A.C 3 phase, 50 Hz electrical supply shall be used for feeding the main bus bar, and 220 V A.C. 50 Hz electrical system shall be used for all domestic and necessary lighting requirement.</p> <p>Provision for shore supply connection shall be made for powering the 220 volts system while the vessel is at harbour.</p>
5.2.2	Main Supply	<ul style="list-style-type: none"> a. The generators shall be continuously rated and shall have class “F” insulation, suitably tropicalized and shall be designed for a temperature rise, after continuous full load working, not exceeding the temperature limits specified by the classification society. b. The vessel shall have a 50 Hz. A.C. supply power generation. c. Two No. diesel engine driven alternators each of 37.5 KVA capacity shall be installed. The 37.5 KVA alternator shall be able to take the entire load of the vessel with 15% margin. The 37.5 KVA one will be able to supply required power when the vessel is at rest. Both alternators shall have automatic voltage regulators to maintain constant voltage within the permissible limits specified by classification rules and shall have drip proof enclosures. They shall be fitted with all necessary alarms and protections.
5.2.3	Emergency Supply	<ul style="list-style-type: none"> (i) Adequate battery shall be provided for catering to emergency load. (ii) Adequate sets of storage batteries with charging panels for Main engines, D.G. Sets, Navigation panels and lights, emergency lights, communication equipment etc. shall be provided above the main deck level.
5.2.4	Shore supply	A shore supply box completes with a four-core supply cable 50

		m long with necessary plug and socket fittings, necessary switch, fuses, voltmeter, frequency meter and phase sequence indicator shall be provided on the main deck. A voltage available indicating lamp shall be provided on the panel. All cable, insulation, etc., shall suit the location and duty requirement shall comply with relevant rules
5.3	Supply and Distribution	
5.3.1	Main Switch Board	<p>One main switch board of metal clad, drip proof, dead front type, mounted on resilient mountings shall be fitted on a raised platform in the engine room. The switchboard shall be completely closed at the rear and is to be serviceable from the front. All the sides of the MSB should be accessible. Two nos. cooling fans to be provided.</p> <p>The alternator panels shall have meters for the measurement of voltage, frequency, current, power factor, power and earth leakage. The two alternators shall be protected through, circuit breakers of adequate capacity and shall have necessary protective circuits for under voltage, over current, reverse power and short circuit. All the outgoing feeders and the shore supply shall be protected through suitable circuit breakers.</p>
5.3.1.1	Switch Board	<ol style="list-style-type: none"> The switchboard shall be designed and installed with ample space for repairs and maintenance. A remote stop pushes for stopping the ventilation fans from wheelhouse and necessary electrical circuitry, for the operation shall be incorporated in the switchboard. The construction and installation of switchboards shall be as per rules, and they shall be fitted with all necessary alarms and fuse and switch gear. Switchboards and all enclosed gear must be accessible for maintenance. All the emergency loads shall be powered from Emergency Switchboard (ESB). During normal operation, the emergency switchboard shall be powered from the main switchboard (MSB) through a tiebreaker. In the event of a failure of MSB, the tiebreaker shall trip and ESB bus will cater the emergency requirements.
5.3.2.	Distribution Boards	<p>Suitable number of lighting distribution boards and power distribution boards shall be provided. All the panels shall be drip proof type, sheet metal enclosed and shall be provided with suitable schematic drawings.</p> <p>Whenever electrical equipment is located at a distance from its distribution board, a local control panel shall be provided. The local control panel shall have necessary control switches. In such cases suitable interlock shall be provided to prevent accidental starting during maintenance. Ammeters shall be provided either at group starters or at local control panels.</p>
5.3.3	Transformers	Supply to lighting loads and small power loads shall be 220 V AC single phase through 415 V AC / 220 V AC (25 kVA) transformers. The system shall consist of three single- phase

		transformers, two connected in delta-delta and one standby.
5.3.4	Motors	In general squirrel cage induction motors of marine type suitable for 3 phase, shall be used. The motors shall be of drip proof or weather proof as required by the location and shall be of approved type. For specific equipment like fans, etc. motors shall be as supplied by the manufacturer and shall meet the rule requirements of Classification society. All motors shall be protected through fuse, overload relay and breakers of adequate capacity. Unless specified by the maker motors with low starting current shall be of direct on line starting type.
5.3.5	Battery	<p>Adequate number of sets of Sealed Maintenance free accumulators shall be installed for the following purpose:</p> <ul style="list-style-type: none"> (i) Main engine starting (ii) Generator engine starting (iii) Navigational & communication system (iv) Emergency lighting (v) Lights and fans in the wheelhouse, crew and officers accommodation and also at deck and engine room during night. <p>The batteries shall be placed on a raised platform, in a well-ventilated box fitted with nonabsorbent insulting supports and shall be secured properly to avoid any movement during sailing.</p> <p>An adequate space shall be provided above the cells for maintenance of the same. Battery space shall be well ventilated.</p> <p>Battery charger shall be provided with necessary meters for reading the battery charging voltage, charging current and load current. The charger shall have necessary protective circuits for over current and reverse current.</p>
5.4	Cables	
5.4.1	Type	All cables shall be flame retardant and comply with rules of classification society.
5.4.2	Installation	<ul style="list-style-type: none"> a. All the cable runs shall be straight and accessible as far as practicable. Cables shall be installed on galvanized trays and shall be secured properly. Cables passing above main deck and wherever there is a risk of mechanical damage shall be led through galvanized pipes. Cables passing through decks and bulkheads shall be led through suitable coamings or individual watertight glands. The piercing shall be filled with approved filling material for water tightness. Vinyl bushes shall be used for penetrations through "B" Class bulkheads. Alternatively, Multi Cable Transit Gland of reputed make may be used b. Where cables pass through non-watertight bulkhead or structural steel the holes shall be bushed with lead or approved materials. Cables passing close to radio and navigation equipment shall be properly screened. As far as possible cables for automation and instrumentation shall be laid in separate trays or when laid on same channel the distance between them shall be as per the rules.

5.4.3	Lighting and cabin fans	<p>a. The lighting installation consists of a network of 220 V A.C. system.</p> <p>b. The network is to be powered from the main 220 V supply. In general, all the light fittings shall be of weather proof, drip proof or non-watertight as required by the location and shall be suitable for marine application.</p> <p>c. In general, 2x20 Watts fluorescent fittings shall be used. All lighting fixtures to be of approved make. However, stores, level gauge lighting and weather deck lighting may be incandescent type.</p> <p>d. Illumination levels in various areas shall comply with the rules of classification society and relevant statutory authorities as applicable to this class of vessel.</p> <p>e. The fittings shall be installed for easy maintenance as far as practicable.</p> <p>f. In addition to the above at least one set of lights and a fan in the cabins and one set of lights at all passages, engine room, wheelhouse will have provision for 220 V AC power supply from battery bank through a suitable inverter.</p> <p><u>Lighting for Accommodation</u> All the cabin and passage lights shall be of fluorescent type. Switches and sockets in accommodation shall be of flush type. Watertight fittings shall be used in the toilets and galley. Hinged type chart table lights with incandescent lamp and dimmer shall be provided.</p> <p><u>Machinery Room Lighting</u> Fluorescent light fittings shall be used in the engine room for general illumination. Incandescent type lamps shall be used for tank level gauges. All the switches and sockets used shall be of watertight type.</p> <p><u>Portable lights</u> Six number 40 Watts, 220 V portable hand lamps shall be provided with watertight socket and 8 meters flexible cable. Watertight and cabin type sockets / plug shall be of two pin earth type. For portable lamps and for locations in exposed decks watertight type switch sockets shall be provided</p> <p><u>Floodlights:</u> Open decks and deck machinery shall be illuminated with enough floodlights.</p> <p><u>Rechargeable lights</u> 2 numbers handheld chargeable lights will be provided for emergency use.</p> <p><u>Cabin fans</u> Adequate number of circulating fans shall be provided in cabins, mess, and wheelhouse.</p>
5.5	Special installations	<p><u>a. Engine-room alarms</u> To install an alarm system with at least alarms for:</p>

		<p>b.Each diesel engine (as per manufacturers recommendation)</p> <ul style="list-style-type: none"> - low lube oil pressure - high cooling water temperature - overspeed - required by the diesel engine manufacturer. <p>c.EachDiesel Generators(As per manufacturers recommendation)</p> <ul style="list-style-type: none"> - low lube oil pressure - high cooling water temperature - overspeed <p>d.Each Gear Box(As per manufacturers recommendation)</p> <ul style="list-style-type: none"> - low lube oil pressure - high lube oil temperature - low-level lube oil - hydraulic oil pressure <p>e. Steering Gear (As per manufacturers recommendation)</p> <p>Hydraulic oil alarm</p> <p>f.Miscellaneous:</p> <ul style="list-style-type: none"> - high-level bilge water - high-level sludge oil tank - low-level fuel oil day tank - high-level fuel oil day tank - 2 spares <p>g.Tank contents indicating</p> <p>Fuel oil, freshwater, bilge water and sewage storage-tanks to be provided with a tank contents indicator. Start and stop of the pumps to be installed as well near the pump as near the supply/charge/discharge pipe connection.</p> <p>h.Fuel flow counting</p> <p>For the supply of fuel oil and freshwater to provide a flow meter with counting facility giving the supplied quantity.</p>
5.6	Navigation and Communication Equipment	Navigation Equipment as per IV Rules 2022.
5.6.1	<u>Echosounder</u>	A depth echosounder to be installed with digital display on the wheelhouse desk and provided with adjustable acoustic minimum depth alarm. Power supply 24 V DC.
5.6.1.1	<u>Electrical Horn</u>	To install on top of the wheelhouse an electrical horn with pushbutton control in the wheelhouse desk. Window wiper The front windows to be provided with parallel type window wipers. Power supply 220 V. One connection to the 220 V network after the inverter and the others connected to the main network 220 V.
5.6.2	Communication Equipment	
5.6.2.1	V.H.F	To install a VHF communication set with 55 channels, 25 Watt transmitter output for dual watch and duplex.
5.6.2.2	Loudhailer	To install on top of the wheelhouse a turnable loudhailer of 35 Watt with control in the wheelhouse. The transistorized

		amplifier and hand-microphone in the steering desk.
5.6.3	Navigational Lights	<ul style="list-style-type: none"> a. Two sets of electrical navigational lights shall be provided as per rules. b. One set shall be powered by the emergency supply. The other set shall be powered from the regular power supply. Navigational lights shall be controlled from a control panel mounted on bridge console. The panel shall indicate the status of the lamps and shall give an audible alarm in case of fused bulb. c. Signal light of approved make shall be fitted as per rules. The lights to be mast head light, portside light, starboard side light, stern light, anchor light, NUC light and other lights as per rules. d. Two sets of electrical navigational lights shall be provided as per rules. e. One set shall be powered by the emergency supply. The other set shall be powered from the regular power supply. Navigational lights shall be controlled from a control panel mounted on bridge console. The panel shall indicate the status of the lamps and shall give an audible alarm in case of fused bulb. f. Signal light of approved make shall be fitted as per rules. The lights to be mast head light, portside light, starboard side light, stern light, anchor light, NUC light and other lights as per rules.
5.6.4	Search Lights	In addition to normal light fittings one searchlight (swiveling type) of 1000 Watts with ballast shall be fitted on the wheelhouse top.
5.6.5	Navigational Console	<ul style="list-style-type: none"> I. One Navigational console having aesthetic design shall be erected in the wheelhouse and all necessary equipment/controls, including the following shall be fitted on it. II. Operating equipment for follow-up and non follow-up steering and speed adjustment of the rudder propellers. Steering controls and rudder angle indicator. signal/indication equipment for the rudder propellers start/stop/control indicators for the main diesel engines <ul style="list-style-type: none"> a. echo sounder b. VHF c. Remote alarm panel for engine room alarms d. Navigational, search lights and deck lights controls e. Loud hailer f. Electrical air horn g. Window wiper control h. Main engine control i. Main engine load indicator j. Walkie talkie (2 sets) k. Propeller rpm indicator l. Compass m. switch emergency stop ventilation - switches

		for deck lighting n. ampere- and voltmeters batteries
5.7	Automation and Instrumentation	An alarm control panel shall be installed in the engine room. It shall monitor temperature, pressure of main & auxiliary engines and steering gear alarms. The alarm panel shall also monitor certain important tank levels. An audible and visual alarm shall be given in the event of a fault. A remote indication with audible alarm for all the monitoring points shall be provided in the wheelhouse.
5.8	Earthing	In general, all the electrical motors, control panels and generators, unless specified by the supplier, shall be earthed as per the rules. Suitable size of conductor shall be used for earthing purpose depending upon the current capacity of the appliance. The conductor shall be properly crimped at both the ends and one end shall be connected to the earth bolt provided on the equipment, while the other end to an earth bolt welded to the steel structure. Suitable washers and conductor terminals shall be used so that a reliable contact is made.
6	Spare parts, inventories and tools	
6.1	Spares	Manufacturers recommended spares for 2000 hrs. operation to be supplied for major machineries and equipment without extra cost. Major machineries and equipment to include Main Engines, Auxiliary Engines gear boxes, steering gear and Anchor Handling Winch. List of spare parts of main engines, gear box, generators, steering gear and machineries required for 2000 hrs of operation as recommended by manufacturers is to be supplied. IWAI reserves the right to select and order the spare parts from this list at its sole discretion. These spare parts suitably packed will have to be delivered along with the dredger within the delivery period if required.
6.2	Tools	Maker's Standard tools and special tools necessary for overhaul during the life of the vessel are to be delivered by all the manufacturers of the major machineries with their supply.
6.3	Inventories:	The following inventory to be supplied along with each Pusher Tug
6.3.1	DECK	<ol style="list-style-type: none"> 1. 2 quartz battery for marine clocks 2. 2 black balls and 2-round/1-diamond shape 3. 3 flash lights (200 % batteries) 4. 1 hand lead line (3 kg, 25m) 5. 2 boat hooks 6. 1 heaving line (30 fathom 3/4") 7. 4 rubber fenders (12" diameter) 8. 1 grease gun for hinges 9. 1 tin with 10 kgs grease 10. 1 marline spike

		11. 1 triangular rule (300 mm engine divided for chart type) 12. 1 bucket with line 5m 13. 1 tank sounding tape 5 m with plumb 14. 1 drum pump 15. 5 padlocks 16. 2 sounding rods 17. 1 measuring tape (steel, 6 metres) 18. 1 measuring tape (steel, 2 metres) 19. 1 carpenter hand saw 400 mm long 20. 1 carpenter mallet 500g with handle (road type)
6.3.2	Domestic	1. 12 dishes flat 10", 9" and 7" (porcelain) 2. 12 plates 6" (porcelain) 3. 2 table knives (stainless steel) 4. 12 soup/dessert spoons (s.s) 5. 2 set pots (coffee & tea) 6 nos. per set (porcelain) 6. 2 sugar basins (porcelain) 7. 12 tea spoons 8. 2 bowls for salad & pudding 6" (porcelain) 9. 2 water jugs (s.s) medium size 10. 2 bread knives (s.s) 11. 2 rice bowls 10" (s.s) 12. 12 cups with saucer for tea & coffee 13. 1 water filter 14. 12 stainless steel thali plates 12" 15. 12 katori 16. 2 flat frying pans 30 cm (aluminium) 17. 2 tawas 30 cm (iron) 18. 2 trays (formica) 19. 2 mixing bowls (available size) 20. 1 bottle opener 21. 1 chaki belna 22. 1 cook's knife 6" blade 23. 2 steel buckets with lead 10 lt., 12 lt. And 15 lt.. each 24. 1 can opener 25. 1 potato peeler knife (s.s) 26. 1 bread toaster 27. 2 dusters 28. 1 chopping board (standard size) 29. 1 teakettles 30 cm (aluminum) 30. 1 dekchies with lid 20 cm, 25 cm, 35 cm, 50 cm each (aluminium) 31. 2 coir brooms 32. 2 hair brooms 33. 2 lavatory brushes 34. 2 scrubbing brushes 35. 2 single bed sheets (for each person) 36. 2 pillows (for each person) 37. 1 bath towels (for each person) 38. 1 face towels (for each person)

6.3.3	Machinery installation:	<ol style="list-style-type: none"> 1. 1 hand lamp with 10m cable and plug 2. 1 set of compressions lugs up to 6 sq. mm with plier 3. 1 hand tachometer 4. 1 axe 5. 1 iron saw with 12 blades 6. 1 set of bearing pliers 7. 3 grease gun 8. 1 oil can 9. 1 tank sounding tape 5m with plumb 10. 1 stainless steel inside calipers 11. 2 tachometers with holder 12. 1 thermometer 13. 1 marking „V“ block 14. 1 portable electric grinder 15. 1 portable electric drill and chuck 13 mm 16. 1 set straight shank drills up to 13 mm 17. 1 set taps & round dies with case 18. 1 set spanners (normal size, single ended) 19. 1 set spanners (double ended) 20. 1 set box spanners 21. 1 monkey wrench 22. 1 pipe wrench 23. 1 set of screw drivers 24. 1 set of screw drivers (cross head type) 25. 1 set of combination pliers 26. 1 set files (shape half round) 27. 1 set files (shape flat) 28. 1 set files (each round/half, round/traughter) 29. 3 file handles 30. 2 file brushes 31. 2 hand hammers 32. 1 lead hammer 33. 1 claw hammer 34. 1 centre punch 35. 1 cutting punch 36. 1 chisel (flat crossout) 37. 1 chisel (oil groove cut) 38. 1 pair of scissors for packing 39. 1 pair of scissors for metal (flat & round) 40. 1 hacksaw frame and hacksaw for iron and aluminium 41. 1 hand vice 42. 1 stone with bed 43. 1 set wire rope slings of various SWLs. 44. 1 manila rope slings 45. 1 set shackles 46. 1 rope pulley block 47. 1 chain pulley block ½ ton 48. 1 Crow bar 49. 1 set Allen keys 50. 1 oil hopper with filter screen 51. 1 grease pump
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		52. 1 oil pan with strainer 53. 1 paint can 54. 1 set painting brushes 55. 1 set eye/lifting bolts 56. 2 waste boxes 57. 1 set of different sizes steel washers 58. 1 set of different sizes bolts & nuts 59. 1 set of different sizes studs & nuts 60. 1 set of different sizes split pins 61. Steel and aluminium plates 62. Steel wire 63. emery cloth 64. grinding powder 65. valve grinding paste 66. rubber insertions (joining 800 mm x 800 mm) 67. packing materials 68. inspection mirror 69. gland packing 70. 1 micrometer 71. 1 Vernier calipers 72. 1 steel square 73. 1 steel scale 74. 1 cloth tape measure (30m)
6.4	Electrical Installations	1. Watch maker's screw drivers 2. Watch maker's screw driver cross head size (2 mm) 3. Magnetic spanners 4. Screw drivers cross head size 0-4 5. Screw driver for hexagon socket heads 1 1/2 – 6 mm 6. nut drivers 4 – 7 mm 7. circlip plier for inside rings 8. bended flatnose plier (long grip) 9. 1 tweezer flat nose 10. 1 tweezer bended nose 11. 1 inspection mirror 12. 1 saw frame (junior) with 12 blades 13. 1 set of needle files 14. 1 pair (b) 200 mm 15. 1 pair wire cutting pliers 150 mm 16. 1 pair flat nose pliers 125 mm 17. 1 pair round nose 125 mm 18. Electrician's screw drivers, for wood/leather 19. 1 (a) 3mm * 75 mm 20. 1 (b) 6 mm x 100 mm 21. 1 (c) 8 mm x 150mm 22. 1 (d) 10 mm x 250 mm
6.5	<u>Files with wooden handle:</u>	1. hand smooth cut 200 mm long 2. 1 (b) knife smooth cut 150 mm long 3. 1(c) flat second cut 200 mm long 4. 2sets hydrometer for battery 5. 1 syringes for battery

		6. 1 tool box (MS) with lock, size: 600 x 300 x 250 mm 7. 1 sand paper 8. 1 gross screws & nuts M3, M4, M5, M6 9. 10 rolls black tape (assorted) 10. 10 rolls PVC adhesive tape (assorted) 11. 2kgs plastic compound 12. 1 set of spare fuses (assorted) 13. 1 megger transistor 14. 1 multimeter make fluke 15. 1 duspole tester 16. 1 soldering iron 25 Watt 17. 1 soldering iron 60 Watt
7	List of documents to be supplied by the builder	
7.1	Basic Design Drawings	a. General arrangement plan b. Lines plan c. Docking plan
7.2	Calculations	a. Equipment number calculations b. Hydrostatic particulars c. Tonnage calculations d. Freeboard and minimum bow height e. Tank capacity calculations and sounding tables f. Trim and Stability Booklet
7.3	Structural drawings	1 Midship / Typical transverse section 2 Profile, Decks and Bottom plan 3 Watertight / Oil tight bulkheads 4 Shell expansion 5 Deck house / Superstructure 6 Engine foundation 7 Shaft brackets (A-frame) 8 Welding schedule 9 Skeg construction, if any 10 Fore peak and aft peak structure 11 Engine Room Construction 12 Hatch opening details
7.4	Machinery drawing's	1. Engine room layout 2. Engine room ventilation schematic 3. Air vent system schematic 4. River chest details 5. Fuel oil system schematic 6. Lubricating oil system schematic 7. Cooling water system schematic 8. Main engine / Auxiliary engines exhaust system schematic
All class approved drawings and other drawings prepared for the constructions of the vessels are to be supplied.		

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

Inspection procedure and process

The Work shall be open to inspection by the Customer or his representatives at all reasonable times upon prior reasonable notice, or any claim for defects in workmanship or material shall be made in writing during the construction period till delivery. The Ship Builder will replace at its own premises any defective work or material which can be proven to be defective, and which is communicated in writing as aforesaid. The inspections shall be carried out by the Class / Statutory body, as applicable along with owner's representative. The Ship Builder shall prepare the construction schedule of the vessel as per contract as well as QAP indicating the stages of inspection.

In the case of defects or failures arising from faulty materials used by the Ship Builder, the Customer is entitled for free replacement.

Periodic inspection shall be carried out by the Engineer-in-charge (EIC) or his representative of their vessels. The Ship Builder can have the inspection schedules finalized with the Engineer-in-charge (EIC). Generally, all attempts should be made to have joint inspection and number of inspections be not less than one in a week for repair / drydocking of vessels. Class / Statutory inspection can be planned accordingly.

All works involving more than one process shall be subject to examination and approval at each stage thereof and the Ship Builder shall give due notice to the Engineer-in-Charge on his authorized representative, when each stage is ready. In default of such notice, the Engineer-in-Charge shall be entitled to appraise the quality and extent thereof and the decision of the Engineer-in-Charge in this regard shall be final and binding.

No work shall be put out of view without the approval of the Engineer-in-Charge, or his authorized representative and the Ship Builder shall afford full opportunity for examination. The Ship Builder shall give due notice to the Engineer-in-Charge or his authorized representative whenever any such work is ready for examination and the Engineer-in-Charge or his representative shall, without unreasonable delay, unless he considers it necessary and advise the Ship Builder, accordingly, examine and measure such work. In the event of the failure or the Ship Builder to give such notice, he shall if required by the Engineer-in-Charge, uncover such work at the Ship Builder's expenses.

The Ship Builder shall offer the Owner or the Inspecting authority or Officer all proper and reasonable facilities for examining inspecting and testing the materials, machinery and workmanship used or intended to be used or employed during the progress of the construction and installation of equipment of the vessel and on completion thereof shall also supply free of charge such apparatus, materials, tools or labour as may be required from time to time for the purpose of such examinations, inspections and testing. The Owner, the Inspecting authority or officer shall have access to the place or places where any part of the machinery or equipment is being constructed or is stored at all reasonable times during the execution of this Contract and in case any part of the work shall have been covered or closed without previous inspection the Ship Builder shall if required open such part or parts wherever necessary to enable the Owner or Inspecting authority or Officer to inspect the part so opened up at the expense of the Ship Builder.

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

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

No.

Date: M/s.

Sub: Certificate of startup of the supplied Goods

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

- (a) Contract No. _____ dated _____
- (b) Description of the plant _____
- (c) Plant Nos. _____
- (d) Quantity _____
- (e) 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>
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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. *

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

- (a)
- (b)

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 _____

PART 3 – 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 .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 hambInternational Cer 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. Joint Venture, Consortium or Association

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

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

11.1 The Supplier shall keep, and shall make all reasonable efforts to

Audit by the Bank	<p>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</p> <p>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)</p>
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	<p>16.1 The Contract Price, including any Advance Payments, if applicable, shall be paid as specified in the SCC.</p> <p>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.</p> <p>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.</p> <p>16.4 The payments shall be made in Indian Rupees to the Supplier</p>

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 For goods manufactured outside the Purchaser's Country, the Supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the Purchaser's Country.
- 17.2 For goods Manufactured within the Purchaser's country, the Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser.
- 17.3 If any tax exemptions, reductions, allowances or privileges may be available to the Supplier in the Purchaser's Country, the Purchaser shall use its best efforts to enable the Supplier to benefit from any such tax savings to the maximum allowable extent.

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 & 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. Packing and Documents

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 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.
- (a) 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.

37. Export Restriction

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

APPENDIX 2

Sexual Exploitation and Abuse (SEA) and/or Sexual Harassment (SH) Performance Declaration for Subcontractors

[The following table shall be filled in by each subcontractor proposed by the Supplier, that was not named in the Contract]

Subcontractor's Name: *[insert full name]*

Date: *[insert day, month, year]*

Contract reference *[insert contract reference]*

Page *[insert page number]* of *[insert total number]* pages

SEA and/or SH Declaration
<p>We:</p> <p><input type="checkbox"/> (a) have not been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations.</p> <p><input type="checkbox"/> (b) are subject to disqualification by the Bank for non-compliance with SEA/ SH obligations.</p> <p><input type="checkbox"/> (c) had been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations, and were removed from the disqualification list. An arbitral award on the disqualification case has been made in our favor.</p>
<p><i>[If (c) above is applicable, attach evidence of an arbitral award reversing the findings on the issues underlying the disqualification.]</i></p>
<p>Period of disqualification: From: _____ To: _____</p>

Name of the Subcontractor _____

Name of the person duly authorized to sign on behalf of the Subcontractor _____

Title of the person signing on behalf of the Subcontractor _____

Signature of the person named above _____

Date signed _____ day of _____, _____

Countersignature of authorized representative of the Supplier:

Signature: _____

Date signed _____ day of _____, _____

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.¹³ 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;¹⁴
 - (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;¹⁵
 - (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;¹⁶
 - (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;¹⁷
 - (v) "obstructive practice" is:
 - (aa) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to

¹³ In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

¹⁴ 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.

¹⁵ 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.

¹⁶ 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.

¹⁷ For the purpose of this sub-paragraph, “party” refers to a participant in the procurement process or contract execution.

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,¹⁸ 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 nominated¹⁹;
- (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."

¹⁸ 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.

¹⁹ 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.

GCC 1.1(j)	The Purchaser is: Chairman Inland Waterways Authority of India, Ministry of Shipping, Government of India
GCC 1.1 (o)	The Project Site(s)/Final Destination(s) is/are: Kolkata
GCC 1.1 (p)	<p>The term SEA/SH where used in the Contract has the following meaning:</p> <ul style="list-style-type: none"> • “Sexual Exploitation and Abuse” “(SEA)” means the following: Sexual Exploitation is defined as any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another. Sexual Abuse is defined as the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions. “Sexual Harassment” “(SH)” is defined as unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature by contractor’s personnel with other contractor’s, subcontractors’ or Purchaser’s personnel. The term SEA/SH where used in the Contract has the following meaning:
GCC 4.2 (a)	The meaning of the trade terms shall be as prescribed by Incoterms.
GCC 4.2 (b)	The latest version / edition of Incoterms shall be followed The version edition of Incoterms shall be 2010.
GCC 8.1	<p>For <u>notices</u>, the Purchaser’s address shall be:</p> <p>Project Director, Project Management Unit Address: A-13, Sector – 1 City: Noida, Gautam Buddha Nagar, Uttar Pradesh ZIP Code: 201301 Country: India Telephone: +91 1202424544 Electronic mail address: vc.iwai@nic.in</p>
GCC 9.1	The governing law shall be the law of: Republic of India
GCC 10.2	The rules of procedure for arbitration proceedings pursuant to GCC Clause 10.2 shall be as follows:

GCC10.2.1	<p>A. Contract with foreign Supplier:</p> <p>GCC 10.2 (a) Any dispute, controversy, or claim arising out of or relating to this Contract, or breach, termination or invalidity thereof, shall be settled by arbitration in accordance with the UNCITRAL Arbitration Rules as at present in force.</p> <p>The Venue of Arbitration shall be New Delhi, India</p> <p>The foreign bidder shall comply with the provisions of the Indian Arbitration and Conciliation Act 2015.</p> <p>The language of Arbitration proceeding shall be English.</p>
GCC 10.2.2	<p>B. Contracts with Supplier national of the Purchaser's country:</p> <p>a. In case of Dispute or difference arising between the Purchaser and a supplier who is a national of India 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, 2015.</p> <p>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 In accordance with the provision of the Arbitration and conciliation Act 2015.</p> <p>b, If one of the parties fails to appoint its arbitrator in pursuance of sub-clause (a) above, within 30 days after receipt of the notice of the appointment of its arbitrator by the other party, then the appointment of its arbitrator by the other party, then the appointment of the Arbitrator shall be made in accordance with the provisions of the Arbitration and Conciliation Act 2015.</p> <p>C, The Venue of Arbitration shall be New Delhi, India, and the language of the arbitration proceedings and that of all councils and communications between the parties shall be English.</p> <p>d. The decision of the majority of arbitrators shall be final and binding upon both parties. The cost and expenses of Arbitration proceedings will be paid as determined by the arbitral tribunal. However, the expenses incurred by each party in connection with the preparation, presentation etc. of its proceedings as also the fees and expenses paid to the arbitrator appointed by such party or on its behalf shall be borne by each party itself.</p> <p>e. The provisions of the Arbitration and Conciliation Act of 2015 along with the Rules herewith and any statutory modification or reenactment thereof shall apply to arbitration proceedings.</p>

	<p>For both A) and B) above:</p> <p>If a dispute under the Supplier Contract raises the same issues as those in respect of a related dispute with another supplier contract, the Purchaser will have the option of having the arbitration proceeding rejoined.</p>
GCC 12.1	<p>Delivery Schedule & Location</p> <p>Immediately after completion of satisfactory trials the Ship Builder shall proceed to make the Vessels ready for the delivery at specified destination and shall thereupon deliver the vessels or cause the same to be delivered in a proper and seaman like manner at their own risk at the said specified destination and deliver the same in the charge of the representative in such suitable place and position as may be indicated by him complete with all necessary certificates and licences and in a good, complete and satisfactory condition of repair, fair wear and tear, consequent on the voyage accepted and with all stores and equipment's in the specification mentioned or herein provided for on board, any damages incurred (other than fair wear and tear) or defects discovered during such navigation being made good by the Ship Builder at his own expenses prior to such last mentioned delivery. A sufficient crew and all engines and other necessary and usual stores and equipment are to be provided for the delivery by the Ship Builder and all costs and charges of every description in connection with the delivery are to be borne by the Ship Builder and all dock, canal and harbour dues and charges are to be paid by him. The Ship Builder shall comply with all Ministry of Shipping Rules, if any, and must also satisfy the requirements of the insurance broker, underwriters and surveyors and not do anything or leave anything undone whereby the cost of insurance premium is increased. Should the cost of insurance be in any way increased by the failure of the Ship Builder to meet such requirements, any such increased cost shall be borne by the Ship Builder</p> <p>After the checking trials (at the site of delivery) and the approval of owner of these trials with reports etc. the Vessel to be handed over to the Owner in a proper and clean condition with at least 50% of Liquid stores on board (fuel, Lub oil and freshwater). The costs for transport, additional painting, checking trials and handing over and with the listed stores are borne by the Ship Builder. All relevant documents, certificates, tools, inventories, spare parts etc. are to be on board at the time of handing over.</p>
GCC 13.1	<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"> (i) Three (3) Copies of the Supplier invoice showing contract number, goods description, quantity, unit price, total amount; (ii) Delivery note, Railway receipt, or Road consignment note or equivalent transport document or acknowledgement of

	<p>receipt of goods from the Consignee;</p> <ul style="list-style-type: none"> (iii) Three (3) Copies of packing list identifying contents of each package; (iv) Insurance certificate; (v) Manufacturer's/Supplier's warranty certificate; (vi) Inspection certificate issued by the nominated inspection agency, and the Supplier's factory inspection report; and (vii) Certificate of origin. <p>The above documents shall be received by the Purchaser before arrival of the Goods (except where it is handed over to the Consignee with all documents) and if not received, the supplier will be responsible for any consequent expenses.</p> <p>The above documents shall be received by the Purchaser before arrival of the Goods and, if not received, the Supplier will be responsible for any consequent expenses.</p>
GCC 13.1.1	<p>The delivery shall be affected in phases as under and overall completion shall be within (24 Months)-Two years.</p> <ul style="list-style-type: none"> i. Phase-I : One (1) Tug + Two (2) Barges within 14 to 16 months ii. Phase-II : One (1) Tug + Two (2) Barges within 18 to 20 months iii. Phase-III : One (1) Tug + Two (2) Barges within 22 to 24 months
GCC 14.9	<p>GCC 14.9.1 The Supplier shall have a code of conduct, and provide appropriate sensitization, for the Supplier's personnel carrying out [state as applicable: installation/ operation/ maintenance/ operation and maintenance] that include, but not limited to, maintaining a safe working environment and not engaging in the following practices:</p> <ul style="list-style-type: none"> (i) any form of sexual harassment including unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature with other Supplier's or Purchaser's personnel; (ii) any form of sexual exploitation, which means any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another; (iii) any form of sexual abuse, which means the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions; and (iv) any form of sexual activity with individuals under the age of 18, except in case of pre-existing marriage. <p>GCC 14.9.2 The Purchaser may require the Supplier to remove (or cause to be removed), from the site or other places where the [state as applicable: installation/operation/maintenance/operation and maintenance] is being executed, a Supplier's personnel that undertakes behaviors that are not consistent with the code of conduct stated in GCC 14.9.1. Notwithstanding any requirement from the Purchaser to replace any such person, the Supplier shall immediately remove (or cause to be removed) any such person, from the site or other places where the [state as applicable: installation / operation /</p>

	maintenance/ operation and maintenance] is being executed. In either case, the Supplier shall promptly appoint, as appropriate, a suitable replacement with equivalent skills and experience.
GCC 15.1	The prices charged for the Goods supplied and the related Services performed <i>Shall Not be adjustable.</i>
GCC 16.1	<p>GCC 16.1 Payment shall be made in Indian Rupees in the following manner: payment Schedule</p> <ol style="list-style-type: none"> 1) 15% of the total contract price when keel is laid and upon submission of an irrevocable Bank Guarantee for the equivalent amount valid until the goods are delivered and in the form provided in the bidding documents or another form acceptable to the Purchaser. The Bank Guarantee will be returned after delivery of the Vessels. 2) 15% of the contract price when 50% Hull Fabrication and erection is completed. 3) 20% of the contract price when 100% Hull fabrication and erection is completed. 4) 20% of the contract price on system integration of major machineries i.e. main engines, pumps, propellers, auxiliary engines, windlass, etc of the vessels. 5) 15% of the contract price on launching of the vessels. 6) 15% of the contract price on successful tests and trials and delivery of the vessels at designated place.
GCC 16.1.1	<p>Documents towards processing of payments</p> <ol style="list-style-type: none"> i) Stage completion certificate by Classification Society and Engineer- in-Charge of customer linked with QAP ii) Three copies of Invoice iii) Actual measurement report at every stage completion as per QAP iv) Machinery shop floor test report and material lab test reports
GCC 16.5	<p>The payment-delay period after which the Purchaser shall pay interest to the supplier shall be <i>[insert number]</i> days. Thirty days(30 days)</p> <p>Intrest rate that shall be applied shall be : for Local Currency : 2.5% per annum</p>

GCC 17	<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>
GCC 18.1	<p>The Performance Security shall be submitted in two separate Bank Guarantees in the Standard Form of Bank Guarantee of the Employer as detailed here under, valid up to 60 days after the date of completion of performance obligations including warranty obligations.</p> <ol style="list-style-type: none"> 1. The Performance Security amount is 5% percent of the Contract Amount. 2. Environmental, Social, Health and Safety (ESHS) Performance Security amount is 1.5 Percent of Contract Amount. 3. Plus additional security for unbalanced bids (if any) to be decided during evaluation of bids and informed to Bidders at the time of Pre-award discussions. <p><i>“ The Bank Guarantee issued in paper form shall become operative only when the Bank Guarantee advice transmitted through SFMS is advised to the Beneficiary by the Advising Bank.</i></p> <p><i>The details of the Advising Bank are as under:-</i></p> <p><i>Name of the Bank: Canara Bank</i></p> <p><i>Branch Name & Address: Morna Noida, B 16/17, Ground Floor</i> <i>Sector-18 , Noida (2013010 U.P</i></p> <p><i>IFSC Code: CNRB0018778.</i></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> <p>The standard forms of Performance Security, and if applicable ESHS performance security, acceptable to the Employer shall be unconditional Bank Guarantees from Scheduled or Nationalized banks in India of the types as presented in Section X of the Bidding Documents.</p> <p>Throughout this bidding document the term 'performance security', unless the context clearly indicates otherwise, means and includes both 'the performance security and the ESHS performance security' to be submitted by the successful bidder in the amounts specified above.</p> <p>The Performance Security shall be issued by a reputable bank or financial institution selected by the Contractor, and shall be in the Performance Security Form included in Section IX, Annex to the Particular Conditions – Contract Forms, or in another form approved by the Employer. The ESHS Performance Security shall be issued by a reputable bank selected by the Contractor, and shall be in the ESHS Performance Security Form included in Section IX, Annex to the Particular Conditions – Contract Forms, or in another form approved by the Employer. A foreign institution providing a Performance Security or ESHS Performance Security shall have a correspondent financial institution located in the Employer's Country.</p> <p>The performance security and the ESHS performance security, of a Joint Venture shall be in the name of the Joint Venture specifying the names of all the members or in the name of Lead member.</p> <p>The Contractor shall ensure that the Performance Security and the ESHS Performance Security are valid and enforceable until the Contractor has executed and completed the Works and Services and other obligations (including defect liability and satisfactory</p>

	performance of the ESHS obligations) under the Contract. If the terms of the Performance Security and ESHS Performance Security specify expiry dates, and the Contractor has not yet executed and completed the Works and Services and other obligations under the Contract, by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the Performance Security and the ESHS Performance Security until the Works and Services and all other obligations under the Contract have been completed.
GCC 18.3	<p>If required, the Performance Security shall be in the form of: “a Bank Guarantee” issued by a Nationalized/Scheduled Bank of India or a reputed Foreign Bank having a corresponding Bank in India.</p> <p>If required, the Performance security shall be denominated in “the currencies of payment of the Contract, in accordance with their portions of the Contract Price”</p>
GCC 18.4	Discharge of the performance Security shall take place not later than 60 days following the date of completion of the Supplier’s performance obligations, including the warranty obligation, under the contract.
GCC 18.5	<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>
GCC 23.2	<p>Packing Instructions:</p> <p>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> <ol style="list-style-type: none"> Project; Contract No.; Country of Origin of Goods; Supplier’s Name; Packing List Reference Number. <p>Suppliers should use recycled materials as much as possible for packing.</p>
GCC 24.1	<p>The insurance coverage shall be as specified in the Incoterms.</p> <p>Additionally, the builder shall take out builders policy to cover against all usual builder’s risk, including protection and indemnity risks, test risks, and war risks under policy terms that shall be no less favourable than those of the London Institute Builder’s Risk clauses.</p> <p>All Insurances shall name the builder as the assured party and the Buyer as the co-insured party for their respective interests. The insurances shall contain loss payable provisions reasonably acceptable to the Buyer. All premiums shall be for the builder’s account.</p>

GCC 24.1.1	<p>Insurance & Registration</p> <p>The Ship Builder shall at his own cost fully insure and keep insured in the joint names of the Owner and the Ship Builder the vessels and the machineries, materials and thing used or intended for use in the construction and outfit thereof. Hull insurance and machinery insurance may be done by the Builder, but the insurance cover should cover the effected payment as well as the extent of work completed. The Ship Builder is also to keep insured the value of any modifications, additions and spare parts as may be agreed upon from time to time during the construction of the vessels</p> <p>The Policy/Policies shall be effected with reputable Insurance Company approved by the Govt. and shall comprise insurance against fire, launching and all other risks, accidents and damages excluding War Risk which for the time being can be covered by insurance during and after the construction of the vessels and while she remains in the harbour or the yard of construction or when engaged on or in connection with any trials made under this Contract as well as the perils of the river and all other risk of every kind including War Risk so far as they are insurable, or whilst lying therein or on a slipway or in a dry dock or being tried near thereto previous to being accepted by Owner and the Ship Builder shall from time to time (if from any cause the vessels shall not be delivered to and accepted by the Owner during the term of such policies) renew and said insurance and pay and continue to pay all premium which shall become payable in respect of such insurance and within seven days from the date when such renewed insurance is effected or premium paid shall deliver to the Owner the policy or policies thereof and the receipts for such premium PROVIDED ALWAYS that in case of default by the Ship Builder to keep up the said insurance or to effect any such renewal insurance as aforesaid then the Owner if they shall think fit shall be at liberty to do so and thereupon the Ship Builder shall repay the owner the amount of the premium paid by them or the Owner shall be at liberty at his option to deduct the amount thereof from any sums payable to the Ship Builder under this contract PROVIDED ALSO that nothing wherein contained nor anything done or omitted to be done by the Owner in pursuance hereof shall be deemed to release the Ship Builder from diminish or affect his obligation to keep the vessels machineries, materials and thing insured to the full amount of the value therefore from time to</p>
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GCC 24.1.2	<p>Insurance</p> <p>If any event shall happen giving rise to a claim under the insurance policy to be effected under this clause or if the vessels shall become a total or constructive total loss on the delivery to specified destination or after the arrival there and before the acceptance by the representative owing to perils of the river or other risks insurance so far as they are insurable to be effected for the delivery at the specified destination the Owner without prejudice to the rights to have this contract performed within such extended time and at such price as may be mutually agreed and failing agreement determined by the Owner shall give the money which shall become payable under whichever of the said policies the claim shall arise and retain the same paying the Ship Builder the difference between the aggregate of such sums as they may have previously paid the Ship Builder under this contract and such total amount as the Owner may certify would have been payable to the Ship Builder if this contract had been terminated. Provided that if the vessels are covered against War Risks the premium on the account shall be payable by Owner</p>
GCC24.1.3	<p>Registration</p> <p>The Ship Builder shall give all such builders and other certificates and documents and do such other acts and things as may be necessary or proper on his part for the registration of the vessels in the name of the Owner to the representative or other agent of the Owner whom the Owner may appoint for that purpose. Failing this the Ship Builder must arrange for the vessels to proceed to the specified destination under a "Pass" from the appropriate authorities at any port and all fines payment or penalties which may become payable by the Owner, the representative of the said agent by reason of any defect in such registration or during the delivery of the vessels to the specified destination shall be paid by the Ship Builder or may be deducted from the money payable to him under this contract and he shall indemnify the Owner, the representative and the said agent respectively there from and from all claims, actions, suits and</p>
GCC25.1	<p>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.</p>
GCC25.2	<p>Incidental services to be provided are:</p> <p>Selected services covered under GCC Clause 25.2 and/or other should be specified with the desired features.</p> <p>The price quoted in the bid price or agreed with the selected Supplier shall be included in the Contract Price</p>
GCC26.1	<p>The inspections and tests shall be: As specified in the Technical Specifications</p>
GCC26.2	<p>The Inspections and tests shall be conducted at: Location(s) as specified in the Technical Specifications</p>

GCC27.1	<p>The liquidated damage shall be: 1% per week or part thereof upto a maximum of 10% after which the Purchaser have the right to cancel the contract.</p> <p>The maximum amount of liquidated damages shall be: 10%.</p>
GCC 27.2.1	<p>Penalty for (a) late delivery (b) deficiency in specification of vessel</p> <p>(a) Penalty for late delivery</p> <p>The penalty for late delivery shall be 1% of the cost of the vessel per week subject to a max of 5%. If the builder is not able to complete the delivery of the vessel even by an extension of the delivery period of five weeks, then the owner at his option may reject the vessel and rescind this contract or may accept the vessel at a reduction in the price as may be agreed between the parties over and above the Liquidated Damages.</p>
GCC 27.2.2	<p>(b) Penalty for deficiency in performance of the Vessel</p> <p>The Ship Builder shall give full guarantee in every respect in accordance with the provisions of the specifications for the construction of the fully river worthy vessel constructed out of the best material of international shipbuilding quality and workmanship with good stability as also for faultless execution of work in all its details. The total contract price of the vessel shall have to be affected or changed, by reason of the actual speed, as determined by trial runs, in accordance with the specifications, being less than the guaranteed speed under the terms of the attached specifications, if the actual speed is less than three-tenth (3/10) of max speed below the guaranteed speed.</p> <p>However, commencing with and including a decrease of three-tenth (3/10) of max speed in actual speed below the guaranteed speed of the vessel, the total contract price of the vessel shall be reduced for deficiency in max speed as follows (but dis-regarding fractions of less than one-tenth(1/10), of max speed):</p>
GCC 27.2.3	<p>For three-tenths (0.3) of max speed 1% of the basic cost of the vessel</p> <p>For four-tenths (0.4) of max speed -3% of the basic cost of the vessel</p> <p>For five-tenths (0.5) of max speed -10%of the basic cost of the vessel</p> <p>If the deficiency in actual speed of the vessel upon said trial runs, is more than 0.5 of max speed below the guaranteed speed as provided herein above, and the builder is not able to rectify even by an extension of the delivery period, then the owner at his option may reject the vessel and rescind this contract or may accept the vessel at a reduction in the price as may be agreed between the parties.</p>

GCC 27.2.4	<p>(c) Penalty for deficiency in draft of the vessel</p> <p>The total contract price of the vessel must be affected or changed by reason of the actual max. draft with full bunker, water, personnel, and stores as determined by actual measurement in accordance with specification being more than that specified in the attached specifications if the actual draft is more than 25mm. However, commencing with and including an increase of 25mm in actual draft the total contract price of the vessel shall be reduced for deficiency in draft as follows:</p> <p>Up to 25 mm of draft (1.625 m draft): 5% of the basic cost of the vessel</p> <p>Up to 50mm of draft (1.650 m draft): 10% of the basic cost of the vessel If the actual draft of the vessel is more than 1.650 m and builder is not able to rectify even by an extension of delivery period, then the owner at his option may reject the vessel and rescind the contract or may accept the vessel at a reduction of the price as may be agreed between the parties</p>
GCC 28.3	<p>The period of validity of the Warranty shall be: 365 days</p> <p>For purposes of the Warranty, the place(s) of final destination(s) shall be: Kolkatta.</p>
GCC 28.3.1	<p>In partial modification of the provisions, the warranty period shall be 365 days from the date of acceptance of Goods. 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:</p> <p>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 .</p>

GCC 28.3.1	<p>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 10% of contract.</p> <p>c) The period for correction of defects in the warranty period is 30 days</p> <p>d) If any equipment/s gives continuous trouble, say four times in one month during the warranty period, the supplier shall replace the equipment with new one without any additional cost to the purchaser.</p> <p>e) The supplier should provide 1 no. of preventive maintenance services yearly during the warranty period which will be other than breakdown calls (if any).</p> <p>f) The warranty shall also cover all the consumables parts, accessories, vacuumatic products.</p> <p>g) The Supplier will accomplish preventive and breakdown maintenance activities to ensure that all equipment's execute without defect or interruption for at least 98% uptime for 24 hours a day, 7 days a week of operation of the machine worked on a quarterly basis.</p> <p>h) If any critical component of the entire configuration is out of service for more than three days, the Supplier shall either immediately replace the defective unit or replace it at its own cost.</p>
GCC 28.5	<p>The period for repair or replacement shall be: 30 days.</p> <p>Upon receipt of such notice, the Supplier shall, within the period specified in SCC and with all reasonable speed, repair or replace the defective goods or parts thereof, free of cost at the ultimate destination. The Supplier shall take over the replaced parts/goods at the time of their replacement. No claim whatsoever, shall lie on the Purchaser for the replaced parts/goods thereafter.</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.”</p> <p>If any equipment/s gives continuous trouble, say four times in one month during the warranty period, the supplier shall replace the equipment with new one without any additional cost to the purchaser</p>
GCC 31.1	<p>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.</p>

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 = [insert value of coefficient]
 b = [insert value of coefficient]
 c = [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 = [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.....n X – Contract Forms

[letterhead paper of the Purchaser]

1. LETTER Of Acceptance

[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 & address of Purchaser]

WHEREAS _____ [name and address of Supplier²⁰] (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 guarantee²¹] _____ [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 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 obligations²², 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 & Address of Bank _____
Date _____

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

²⁰ In the case of a JV, insert the name of the Joint Venture

²¹ An amount shall be inserted by the Guarantor, representing the percentage of the Contract Price specified in the Contract and denominated in Indian Rupees.

²² 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 & 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 Supplier²³] (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 guarantee²⁴] _____ [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 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.

²³ In the case of a JV, insert the name of the Joint Venture

²⁴ An amount shall be inserted by the bank representing the amount of the Advance Payment, and denominated in Indian Rupees.

Consignee Certificate

On Hull Fabrication & Erection

No.

Date

To,

Supplier

This is to certify that the above mentioned Supplier has completed the work of “Hull Fabrication & Erection” as per requirement of the contract and to our satisfaction and on inspection we find it in good condition in accordance with the conditions of the contract and amendment if any.

Project Name	Capacity Augmentation of National Watertways 1 project
Purchaser	The Project Management Unit, Address: A–13, Sector – 1, Noida, Gautam Buddha Nagar, Uttar Pradesh – 201301(India)
Contract No. & Date	:
Description of Goods (Lot No.)	:
Quantity supplied in Numbers	:
Quantity supplied in Words	:
Name of Supplier	:
Invoice No. and Date	:
Date of delivery at Consignee destination site	:
Consignee full Address:	Signature of Designated Consignee : Name : Designation : Seal : Contact No. : Fax No.:

Copy To:

The Project Management Unit, Address: A–13, Sector – 1, Noida, Gautam Buddha Nagar, Uttar Pradesh – 201301(India)

Consignee Certificate

On Launching & Procurement of major machineries

No.

Date

To,

Supplier

This is to certify that the abovementioned Supplier has completed the work of “Launching & Procurement of major machineries” as per requirement of the contract and to our satisfaction and on inspection we find the machinery and equipment in good condition in accordance with the conditions of the contract and amendment if any.

Project Name	Capacity Augmentation of National Watertways 1 project
Purchaser	The Project Management Unit, Address: A-13, Sector – 1, Noida, Gautam Buddha Nagar, Uttar Pradesh – 201301(India)
Contract No. & Date	:
Description of Goods (Lot No.)	:
Quantity supplied in Numbers	:
Quantity supplied in Words	:
Name of Supplier	:
Invoice No. and Date	:
Date of delivery at Consignee destination site	:
Consignee full Address:	Signature of Designated Consignee : Name : Designation : Seal : Contact No. : Fax No.:

Copy To:

The Project Management Unit, Address: A-13, Sector – 1, Noida, Gautam Buddha Nagar, Uttar Pradesh – 201301(India)

Final Acceptance Certificate

issued after successful test, trial & acceptance of delivery of
the vessel by the Consignee

No.

Date

To
The Supplier

This is to certify that the vessel supplied against the following contract has been successfully tested and delivered after trial run as per requirement of the contract and to our satisfaction. The complete vessel along with accessories and spares has been received in good condition in accordance with the conditions of the contract and amendment(s) if any. Hence, we issue this Acceptance Certificate.

Project Name	Capacity Augmentation of National Watertways 1 project
Purchaser	The Project Management Unit, Address: A-13, Sector – 1, Noida, Gautam Buddha Nagar, Uttar Pradesh – 201301(India)
Contract No. & Date	:
Description of Goods (Lot No.)	:
Quantity supplied in Numbers	:
Quantity supplied in Words	:
Name of Supplier	:
Invoice No. and Date	:
Installation Date	
Commissioning Date	
Completion of Training Date	
Date of Final Acceptance including completion of all related services	:

Copy To:

The Project Management Unit, Address: A-13, Sector – 1, Noida, Gautam Buddha Nagar,
Uttar Pradesh – 201301(India)

Consignee full Address:

Signature of Designated Consignee :

Name :
Designation :
Seal :
Contact No. :
Fax No.: