

## **REQUEST FOR INFORMATION (RFI)**

### **FOR PROCUREMENT OF 03 X 200 TON NON-PROPELLED WATER BARGES**

1. The Indian Navy under Ministry of Defence, Government of India, is planning to procure **03 X 200 Ton Non-Propelled Water Barges** from registered Indian Shipyards. With a view to identify probable shipyards who can undertake the construction of 03 X 200 Ton Non-Propelled Water Barge, the shipyards are requested to forward information as sought in this RFI. The aim of seeking this RFI is also to finalise the specifications for the said barges with inputs from the Shipyards.
2. This Request for Information (RFI) consists of three parts as indicated below:-
  - (a) **Part I.** The first part of the RFI incorporates operational characteristics and features that should be met by the Barges. Few important technical parameters of the proposed barges are also mentioned.
  - (b) **Part II.** The second part of the RFI states the methodology of seeking response of Shipyards. **It is highlighted that in accordance with Paras 13, 70 and 92 of Chapter II of DAP 20, there is a need to undertake capacity assessment of a shipyard prior recommending for issuance of RFP for ship or yardcraft construction irrespective of shipyard's response to this RFI** (Appendix C to Chapter XII of DAP 20 relevant).
  - (c) **Part III.** Guidelines for Framing Criteria for Vendor Selection/ Pre-Qualification in respect of 03 X 200 Ton Non-Propelled Water Barge under Buy (Indian -IDDM) category.
3. Apart from the information sought as per the Appendices, the shipyards may also forward technical details/brochure/preliminary design/literature, etc., as deemed appropriate with respect to this said RFI for Procurement of 03 X 200 Ton Non Propelled Water Barge.

#### **PART- I**

4. **The Intended Use of Barges (Operational Requirements).** The Barge shall be capable of replenishing water to Ships and Submarines in harbor (alongside) and at anchorage.
5. **Quantity Required and Anticipated Delivery Time Frames.** 03 X 200 Ton Non Propelled Water Barges are proposed to be acquired. The anticipated delivery time lines for the first barge is maximum of 18 months followed by delivery of each barge every 03 months. Vendors are to indicate their comments on the build period and timelines for delivery. The barges will be delivered at Visakhapatnam.
6. **Important Technical Parameters.** Important Technical Parameters are placed at **Appendix A** of this document. Detailed specifications will be given in the Request for Proposal (RFP) which will be issued to Shipyard after verifying their credentials and capabilities to construct the barge. Further following details are to be submitted:-

- (a) Feasibility to build the 200 Ton Non Propelled Water Barge as per technical/operational parameters and specifications indicated at **Appendix A**. The shipyards are required to furnish details for each of the operational and technical parameters as brought out in **Appendix A**. Any modification to the parameter/specifications listed at **Appendix A**, can be suggested by the Shipyard with suitable justification(s).
- (b) Shipyard to submit the concept design for the Barge and option of providing upcoming technologies, if any, which will meet the intended purpose of the Barge and enhance its employability.
- (c) Agreement and / or collaboration with firms with regard to Design and Construction of the Barge.
- (d) Budgetary quotes of the barges with detailed break up of cost is to be submitted. This should include material cost, labor cost, equipment cost, training cost and taxes (as applicable). All entities factored in the costing are to be indicated in the break up.
- (e) Information on whether the offered barge/design is in use by any other Indian Customer is to be indicated.
- (f) The barges will be operated by Manpower/ Crew as indicated in **Appendix A**. The maintenance of the barge post guarantee period will be carried out by Naval Dockyards/ Naval Repair Yards. Training to **IN** personnel on operation and maintenance is to be imparted by the shipyard/ OEM of equipment at Shipyards/ OEM premises and (or) **IN** premises. Shipyard to submit proposed training schedule for crew and maintainers covering all the equipment fit and auxiliary systems installed in the barge. Further, shipyard to indicate acceptance to conduct the training at OEM premises and shipyard premises for the crew and maintainers.
- (g) The tentative delivery schedule/ build period for delivery of the Barge to **IN** after conclusion of contract including the build strategy.
- (h) Shipyards may consider this RFI as advance information to obtain requisite Government clearances and setting up of necessary infrastructure both in terms of manpower and material requirements.
- (j) Shipyard has to confirm its acceptance with the terms of payment as per Chapter XII, Section B, Para 79 and Appendix B to Chapter XII of DAP 20 and amendment thereof.
- (k) Experience in building/ supply of Barge which meets the requirement as listed in this document, along with details of customer/ clients and cost per Barge, delivery date, etc. will have to be submitted.
- (l) Willingness for Option Clause as per Para 93 of Chapter II of DAP 20.
- (m) The shipyard to submit copy of Government license relevant for ship construction/ building activity.

(n) Shipyard is to indicate the compliance and/ or conformity to various industrial and classification society rules and standards related to operations and safety such as ISI, CE, MIL Spec, etc., for various components/ sub-components of the Barge as applicable.

(p) Whether the shipyard would be able to comply with all provisions of DAP 20 or not. If not, which Para/ Clause of DAP 20 would not be agreed to, with reasons, needs to be submitted.

(q) Shipyards to provide inputs on maintenance philosophy (ESP, AMC, PBL, etc.), In this regard, Para 51 and Appendix F of Chapter II of DAP 20 is relevant.

(r) Shipyard has to confirm its acceptance with the terms and conditions on obsolescence of the component/ parts of equipment of the Barge which may become obsolete during the life cycle of the Barge as per DAP 20 and amendments thereof.

(s) Shipyard has to confirm its acceptance to following all the provisions of Chapter XII, Section B of DAP 20 regarding acquisition of Yardcrafts and Auxiliaries on competitive basis. If not, which Para/ Clause of Chapter XII of DAP 20 would not be agreed to, with reasons, needs to be submitted.

(t) Shipyards are required to provide following details:-

(i) Displacement / dimensions of the Barge.

(ii) Proposed Delivery Schedule of the Barge.

(iii) Details pertaining to Capacity, infrastructure, financial status of the shipyard to be furnished and how it is intended to be used to meet the delivery schedule of the barges.

(iv) Past experience of shipyard in executing similar projects.

(v) Details of present order book status to be furnished.

7. The Shipyard should confirm that following conditions are acceptable: -

(a) The solicitation of offers will be as per 'Single Stage -Two Bid System'. It would imply that a 'Request for Proposal' would be issued soliciting the technical and commercial offers together, but in two separate sealed envelopes. The validity of commercial offers would be at least 18 months from the date of submitting of offers.

(b) The financial assessment parameters would be evaluated by a Financial Parameter Evaluation Team (FPET) constituted by SHQ prior to Technical Evaluation Committee (TEC). The technical offers would be evaluated by a Technical Evaluation Committee (TEC) to check its compliance with RFP.

(c) Amongst the Shipyards cleared by Technical Evaluation Committee (TEC), a **Contract Negotiations Committee (CNC)** would decide the lowest cost bidder (L1) and conclude the appropriate contract.

(d) Vendor would be bound to provide product support for time period specified in the RFP, which includes spares and maintenance tools/jigs/fixtures for field and component level repairs. Documentation for training/ maintenance/ repairs are also to be provided.

(e) The vendor would be required to accept the general conditions of contract given in the Standard Contract Document at **Chapter VI of DAP 20**.

(f) **Integrity Pact (if applicable)**. An integrity pact is a mandatory requirement in the instant case (**Refer Annexure I to Appendix O of Schedule I, Chapter II of DAP 20**).

(i) **Pre Contract Integrity Pact (PCIP)**. All vendors will be required to submit a PCIP for all procurement schemes above Rs 20 crores along with their technical and commercial offers. Earnest Money Deposit (EMD) will act as security for PCIP till signing of contract. Format of the PCIP is given at Annexure I to Appendix O of Schedule I. Format of EMD is given at Annexure I to Appendix O of schedule I to Chapter II. Post signing of contract, PCIP will be covered by PWBG till completion of contract.

(ii) EMD would be applicable as follows :-

Estimated Cost of Procurement Scheme (Rs Crs)		EMD Amount
Above (not including)	To (including)	
-	100	Nil
100	150	30 Lakh
150	300	70 Lakh
300	1000	2 Crore
1000	2000	5 Crore
2000	3000	10 Crore
3000	5000	15 Crore
5000	-	25 Crore

(iii) EMD is not required from Micro and Small Enterprises (MSEs) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) or are registered with the Central Purchase Organization or the concerned Ministry or Department or Startups as recognized by department of industrial policy & promotion (DIPP), in accordance with the ministry of finance memorandum bearing No. F.20/2/2014-PPD (pt.) dated 25 Jul 2017 (as amended from time to time). DPSUs are not required to submit EMD when nominated as ab-initio single vendor. DPSUs will submit all BGs and EMD as applicable while participating in multi-vendor cases with private vendors.

(iv) **Format of EMD.** The Bid Security may be accepted in the following forms, safeguarding the Buyer's interest in all respect:-

(a) Bank Guarantee from any Indian Public or Private Schedule Commercial Bank notified by RBI or first-class banks of international repute. The format of the Bank Guarantee for Bid Security is provided at Annexure 1 to Appendix O.

(b) Insurance Surety Bond – The format and guidelines pertaining to the same shall be issued / notified by the Ministry of Defence.

(c) Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque shall be payable in an acceptable form. The Beneficiary Bank Details for furnishing the same are as follows:-

**(IFSC CODE- SBIN0000691)**  
**State Bank of India New Delhi Main Branch**  
**C Block, 11 Parliament Street**  
**New Delhi, Pin: 110001**

(v) **Validity of EMD** The EMD will be valid for eighteen months or till signing of contract, whichever is later. The EMD shall be extended from time to time as required by the buyer and agreed by the bidder. No interest shall be payable by the buyer to the Bidder(s) on the EMD for the period of its currency. For unsuccessful bidders EMD will be returned on declaration of successful bidder(s).

(g) **Performance-cum-Warranty Bond.** Performance-cum-Warranty Bond both equal to 3% value of the contract value is required to be submitted after signing of contract as per current PWBG rate promulgated by MoD. The amount of PWBG will be applicable as per the rate promulgated by MoD from time to time and in force at the time of tender submission.

(h) **Indigenous Content (IC).** The procurement of the Barges will be as per DAP 2020 and accordingly shipyards are required to submit the details regarding Indigenous Content(IC). The categorization for the procurement is intended to be under Buy (Indian - IDDM). The Barges must meet the minimum IC parameters in accordance with Para 21 of Chapter 1 of DAP 20. The Shipyards to also comment on the categorization and IC content as per DAP 20. The category wise (less Strategic Partnership model cases) summary of IC as per cost of the **Base Contract Price (i.e. Total Contract Price less taxes and duties)** will be as under:

<b><u>Ser</u></b>	<b><u>Category</u></b>	<b><u>IC</u></b>
(a)	Buy (Indian-IDDM)	Indigenous design and $\geq 50\%$

## **PART-II**

8. **Procedure for Response**

(a) Vendors must fill the form of response as given in **Appendix B** (as per **Annexure II to Appendix A to Chapter II of DAP 20**) and **Appendix C** of this document. Additional literature on the design and construction of 3 X 200Ton Non-propelled water barge can also be attached with the form.

(b) The Shipyard to submit separate enclosure clearly indicating compliance with the operational /technical specifications placed at Appendix A of this RFI. Non-Compliance to any of the parameters listed in Appendix A, has to be clearly indicated along with reasons.

(c) Compliance/ acceptance to Paras 5, 6 and 7 at Part-I above are to be clearly indicated and certified in response. **Appendix D** should also be carefully filled and attached with the RFI response. Any other relevant additional literature or document on the Barge can also be attached with the RFI response form.

(d) The duly filled RFI response should be dispatched to the under mentioned address:-

Cmde (Ship Production),  
Directorate of Ship Production  
9th Floor, Chanakya Bhawan,  
Chanakyapuri, New Delhi- 110021  
Tele: 011-26886427  
Fax: 011-21610614  
E-mail: [dsp@navy.gov.in](mailto:dsp@navy.gov.in)

(e) Last date for acceptance of filled RFI response is **18 Aug 22** (08 weeks from uploading of RFI). The Shipyards short listed for issuance of RFP would be intimated based on Technical Capacity Assessment as per Appendix C to Chapter XII of DAP 20.

(f) **Shipyards, if required, can communicate to the project officer of DSP with below mentioned contact details for seeking clarification/ information on the documents {like Navy Order (NO), Naval Construction Document (NCD)} mentioned in this document.**

Lt Cdr (Ship Production)  
Directorate of Ship Production  
8<sup>th</sup> Floor, Chanakya Bhawan,  
Chanakyapuri, New Delhi- 110021  
Tele: 011-26886433  
Fax: 011- 21610614  
E-mail: [dsp@navy.gov.in](mailto:dsp@navy.gov.in)

9. The Government of India invites responses to this request from registered Indian Shipyards who qualify the criteria/willing to meet the criteria as enumerated below :-

(a) Financial Assessment Parameters as per **Annexure II to Appendix C to Chapter XII of DAP 20**.

(b) The shipyard should have been qualified by Technical Capacity Assessment as per Annexure I to Appendix C to Chapter XII of DAP 20 or willing to be assessed as per the aforesaid technical capacity assessment parameters.

10. The end user of the 03 x 200 Ton Non-Propelled Barge is the Indian Navy.

11. This information is being issued with no financial commitment and the Ministry of Defense reserves the right to change or vary any part thereof at any stage. The Government of India also reserves the right to withdraw it, should it be so necessary at any stage. The acquisition process would be carried out under the provisions of DAP 20.

### **PART- III**

#### **Guidelines for Framing Criteria for Vendor Selection/ Prequalification in respect of 03 X 200 Ton Non-Propelled Water Barge under Buy (Indian-IDDM) Category**

12. The guidelines prescribed for short-listing/ pre-qualification of Indian vendors in case of shipbuilding cases are detailed in Chapter XII of DAP-20 and Financial Assessment Parameters as per **Annexure II to Appendix C to Chapter XII of DAP 20**. The relevant details are placed at **Appendix D**.

**OPERATIONAL/TECHNICAL SPECIFICATIONS**  
**FOR 03 x 200 TON NON-PROPELLED WATER BARGE**

<b><u>SECTION A – GENERAL</u></b>		
1	<b><u>Aim &amp; Functions</u></b>	The Barge shall be capable of replenishing water to Ships and Submarines in harbor (alongside) and at anchorage.
2	<b><u>General Remarks</u></b>	<p>(a) The barge is to be built as per IHQ MoD (N) approved Classification Society Standards (ABS/BV/DNV-GL/IRS/LR/NKK/RINA). <b>A certificate is to be provided by the class confirming that Class Notations have been provided for all functional requirements indicated in RFP.</b></p> <p>(b) The Barge should be able to operate in extreme tropical conditions.</p> <p>(c) The barge should have:-</p> <ul style="list-style-type: none"> <li>(i) Four tanks with a capacity of 50 T each.</li> <li>(ii) Capability of supplying light stores to the ships.</li> <li>(iii) An expected life of 20 years.</li> <li>(iv) A refit cycle of 3 years and more.</li> <li>(v) Suitable derricks on port and stbd side, capable of lifting stores upto 60-80 Kg, covering diameter of 08 m.</li> <li>(vi) Suitable arrangements for being towed by another vessel by pulling as well as alongside towing.</li> </ul> <p>(d) The barge should comply with specific <i>IN</i> requirements wherever mentioned, which would supersede the class requirements in case of conflicting requirements.</p> <p>(e) A suitable arrangement of tankage capacity for storing fuel oil (LSHSD) for 100 hours of exploitation of DG and Cargo pumps without re-fuelling.</p> <p>(f) Marinised SS is to be used for all hull fittings on weather deck.</p>



		(g) The barge is to be built complying with all requirements of MARPOL and SOLAS regulations.
3	<b><u>Sea State</u></b>	The barge should be capable of operating upto Sea State 3.
4	<b><u>Complement</u></b>	The envisaged crew strength of the barge is four (04).
5	<b><u>Environmental Conditions</u></b>	<p>All equipment should be marinised and Capable of performing under the following ambient conditions.</p> <p>(a) Air Temperature - up to 45°C.</p> <p>(b) Average Machinery Space Temperature - up to 55°C</p> <p>(c) Sea Water Temperature - up to 35°C.</p> <p>(d) Relative Humidity - 95% condensation at 35°C</p>
6	<b><u>Misc Tank Capacity</u></b>	<b><u>Domestic Fresh Water Tank.</u></b> The vessels own requirements of fresh water shall be met by a 1000 Ltrs (SS Overhead tank). Refilling requirement of this tank shall be met from ashore and from onboard fresh water.
7	<b><u>Ergonomics</u></b>	<p>The following guidelines to be followed to ensure ergonomics onboard: -</p> <p>(a) The latest design concepts, with respect to ergonomics/ functional aspects and crew comfort, are to be adopted. 3D modeling using a suitable virtual reality tool/ software prior finalizing design is to be undertaken.</p> <p>(b) Noisy equipment, such as air intakes, motors, pumps and converters are not to be fitted inside. Modular accommodation concepts are to be catered for, in accommodation areas and galley.</p> <p>(c) Design should allow easy accessibility to machinery/ equipment. Shipping <i>IN</i> and <i>OUT</i> routes for all equipment including galley equipment and stores, should be catered.</p> <p>(d) The doors, hatches and ladders are to be modern design, to ensure easy and safe closing/ opening and speedy movement of personnel and equipment/ stores within the barge.</p> <p>(e) Modular and ergonomically designed furniture should be fitted onboard using light weight composite (fire resistant) material. The furniture, accommodation and WC etc, chosen should be modular type.</p>

	<p>(f) Equipment is to be sited so as to cause least disturbance to crew in operational compartments and messes.</p> <p>(g) Areas and volumes of the various cabins/ compartments are to be in accordance with Class / MMD requirements and would be forwarded to IHQ MoD(N) for approval.</p> <p>(h) <b><u>Access and Closure</u></b>. All compartments, usable spaces and voids within the barge shall be provided with doors, hatches, scuttles and manholes, as appropriate, to afford the most convenient practical access. Wherever possible, machinery, piping, operating rods, brackets and other items that restrict passage or are sources of danger to personnel shall be kept clear of normal routes of access. Where such installation cannot be avoided, guards or protective padding shall be provided. Ladders should be so located that they facilitate easy closing of doors and hatches.</p> <p>(j) The clear deck head space should be at least 2060 mm post outfitting. No obstructions should be there in the passage way to enable swift and safe passage of men and material. Supporting handles are to be provided for personnel climbing out of compartment.</p> <p>(k) <b><u>Electric Hygiene</u></b>. Electric Hygiene of all compartments is to be in accordance with class regulations.</p> <p>(l) No opening should be obstructed by trunking, piping or any other outfitting.</p> <p>(m) Structural elements shall be arranged to avoid sharp scantlings and directional changes.</p> <p>(n) Where ever sloping ladders are fitted, landings are to be extended at least one meter from the head of the ladder.</p> <p>(p) The access route for storing and removal of stores and provisions is to be factored for easy handling of stores and provisions.</p> <p>(q) The typical features of the barge(s) design, layout and control of equipment and associated systems should ensure aspects of ease of usage, ergonomics and habitability.</p> <p>(r) <b><u>Pad Eyes</u></b>. Pad Eyes are to be provided in number, location and capacity as necessary for convenient and rapid handling of stores to and from storerooms.</p>
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		<p>(s) The arrangement in Bridge and MCR, Pumping station should permit ease of movement of the operators and reduce the overall effort by the operators.</p> <p>(t) Crew spaces are to be air conditioned to maintained the temperature not more than 24<sup>o</sup> C.</p>
8	<p><b><u>Design Considerations</u></b></p>	<p><b><u>Maintenance.</u></b> The following maintenance concepts are to be ensured: -</p> <p>(a) Onboard maintenance is to be simplified, with adequate maintenance envelope around equipment and system fittings.</p> <p>(b) Easy access to maintenance and dismounting ports.</p> <p>(c) Removal routes designed to facilitate the movement of systems and equipment not repairable onboard.</p> <p>(d) Modular replacement be considered to the maximum extent possible to perform corrective maintenance or repair actions.</p> <p>(e) The Repair by Replacement concept is to be ensured for onboard maintenance, while optimizing cost-effectiveness.</p> <p>(f) Compartment layout is to be optimized for ease of firefighting and accident prevention in general.</p> <p>(g) Due attention is to be accorded to personnel mobility and escape routes, according to Classification Society rules.</p> <p>(h) Pipe flanges / valves are not to be located over electric switchboard/ panels.</p> <p>(j) Piping/ breathers from flammable liquids/ tanks shall not be located and must not have connections and/or flanges near hot components.</p> <p>(k) Fire detection and alarm system according to Classification Society Rules shall be provided to detect a fire in the space of origin and minimize the risk.</p> <p>(l) Fire-fighting nozzles shall be duly located having regard for the fire potential of the protected spaces and to be readily available.</p>

		<p>(m) Materials of Buyer approved specifications are to be used for the barge, including fire retardant paints, curtains, and linings. Glass wool sandwiched laminated board are to be used for panelling / furniture. In general, the chosen materials should be compatible with the sea environment and shall be selected such that minimal corrosion would occur and galvanic corrosion is avoided.</p> <p>(n) Adequate maintenance envelope iaw the OEM recommendation to be provided for each equipment system.</p> <p>(p) <b><u>COTS Technology</u></b>. The Barge Should primarily incorporate COTS technology as per latest Naval Policy.</p>
<b><u>SECTION B – NAVIGATION AND COMMUNICATION</u></b>		
9	<b><u>Navigation Light</u></b>	To be provided as per latest International Regulation for Prevention of collision at Sea - 1972. The lights shall have a control panel fitted inside the bridge with fault indication available.
10	<b><u>Bridge</u></b>	Enclosed bridge is to be provided at suitable location. Bridge should have all around visibility for efficient assistance in maneuvering alongside.
11	<b><u>Magnetic Compass</u></b>	One Magnetic Compass is to be provided on the bridge.
12	<b><u>Audio Signaling Equipment</u></b>	<p><b><u>Siren</u></b>. One in no. electric siren to be provided.</p> <p><b><u>Fog Horns</u></b>. Two electric fog horns are to be provided as per classification society requirement on top of the wheel house with local operating controls and provision for remote operations from the bridge.</p>
13	<b><u>Visual Signaling Equipment</u></b>	One in no. 5" COTS hand signaling lantern with stowage box to be provided.
14	<b><u>Broadcast</u></b>	A Main Broadcast system as per class regulation should be provided. The broadcast system should be audible on upper deck and in all compartments (for general and emergency announcements).
15	<b><u>Sound Reproduction Equipment (SRE)</u></b>	A SRE fitted with an All Wave Rx and suitable amplifiers, is to be provided. The SRE is to be provided with a DVC/CD/USB Sound Reproduction Equipment, integrated with the SRE System. The SRE should be provided for living spaces, dining hall and bridge. Suitable selector switch to isolate the spaces to be included in the system.
16	<b><u>Communication</u></b>	<p>Following communication facilities are to be provided:-</p> <p>(a) Megaphone - Two</p> <p>(b) 5" Hand Signaling Lantern with Stowage Box - One</p> <p>(c) Portable Loud Hailers - One</p>

		<p>(d) Cal Up Bells - As Required</p> <p>(e) Sound Power Telephone - As required</p> <p>(f) Four in Nos VHF hand held radio sets (Motorola GP 338 or latest version or any equivalent model from any reputed OEM approved by <b>IN</b>) with one each battery charger, spare battery and water proof pouch to be provided.</p>
17	<b><u>Central Control Alarm &amp; Safety Systems</u></b>	Adequate audio and visual alarms & safety system for Smoke and Flood alarm to be provided as per approved classification society rules. Smoke sensors is to be fitted in all compartments and flood sensors is to be fitted in all Red Zone compartments
<b><u>SECTION C - HULL, MACHINERY AND NBCD</u></b>		
18	<b><u>Build Specification</u></b>	The Barge should be built as per IHQ MoD (N) approved Classification Society Standards (ABS/BV/DNV-GL/IRS/LR/NKK/RINA). A certificate is to be provided by the class confirming that Class Notations have been provided for all functional requirements.
19	<b><u>Hull Material</u></b>	The main hull and superstructure should be of all welded steel of IS 2062 specification of 2011 (Grade E250/ Quality BR with impact test required/ killed). Class approved material including fire retarding paints, curtains and linings are to be used for all areas, as per standards/ Rules specified by <b>IN</b> .
20	<b><u>Dimensions</u></b>	<p>The principal dimensions of the barge should be as follows:-</p> <p>(a) Length overall - Not more than 30 m</p> <p>(b) Beam (extreme) - Not more than 12m</p> <p>(c) Displacement - Not more than 800T</p>
21	<b><u>Hull and Hull Form</u></b>	<p>The barge will be a mono hull form construction (compliant to latest MARPOL regulations and Class Rules) of proven design either existing in service or a new design meeting all the specified requirements.</p> <p><b><u>Proven Design.</u></b> In case of a proven design existing in service, following reports are to be submitted by the Seller:-</p> <p>(a) Resistance report from Model Test (<b>or</b>) CFD Software Analysis (<b>or</b>) sea trial report and details of the barge(s) in operation with the design details. It is highlighted that Resistance performance report should clearly indicate all the envisaged appendages including Underwater Fendering.</p>

		<p>Accordingly, vessels in service should also have suitable Underwater Fenders and other appendages to be considered as a proven hull form. Seller will be required to confirm that no changes in the proven hull form / design will be required and same is to be clearly established along with documentation.</p> <p>(b) Report bringing out Seakeeping and Maneuvering Criteria for deep displacement/ most critical condition from already model tested hull (or) sea trials (or) CFD Analysis (or) other established Numerical Methods.</p> <p><b><u>New Design.</u></b> In case of a new design, Resistance, Seakeeping and Maneuvering criteria for the vessel should be proven though Model Test (or) CFD analysis (or) other established Numerical Methods in accordance with the latest version of NCD 0102.</p> <p>The hull form should be of an efficient design to minimize Resistance and optimize Seakeeping and Maneuvering parameters.</p>
22	<b><u>Hull Protection</u></b>	<p>Sacrificial Anodes as per Classification Society Rules are to be fitted on main hull and other areas (like sea tubes, in bilges, pumps, traps and other areas etc. where sea water tends to accumulate) as applicable iaw Classification Society requirements. In addition zinc rings are to be fitted at the neck of the sea tubes near the flange and also in the overboard discharge.</p>
23	<b><u>Green Ship Design</u></b>	<p>Green ship design features and energy efficient hull and electrical/ electronic systems and other environmental friendly technologies such as under water noise reduction, LED lighting, waste heat recovery, pollution control etc to be incorporated on the barge(s) as per latest IMO standards. The indicative requirements pertaining to Green Ship design are enumerated below: -</p> <p>(a) Energy Efficiency Design Index (EEDI) Certificate.</p> <p>(b) Pollution control requirements to be certified by IAPP, IOPP, ISPP &amp; EIAPP certificates.</p> <p>(c) Waste Heat Recovery Techniques (such as use of Turbocharger)</p> <p>(d) Use of LED lighting</p>

		(e) Underwater Noise reduction (if applicable as per class and IMO requirements)
24	<b><u>Hull Construction/ Hull Strength</u></b>	The design of hull and hull members should be undertaken as per Class rules for the assigned Class Notation applicable to meet the role of barge, except for aspects where <i>IN</i> requirements are specified. Structural analysis including Direct Strength Analysis (DSA) and Residual Strength Analysis (RSA) should be carried out to ensure that hull is designed for the area of operation for intact condition. The necessary structural analysis / calculation would be vetted by classification society. Survey during construction should be undertaken iaw approved QAP. NDT (X-ray, USG, dye penetration test etc) shall be carried out as per classification society norms. All structural bulkheads, decks, super structure, structural closures, mast, foundation etc should be as per class requirements. Additional design analyses, if required by Class rules, are to be undertaken, as applicable for the role of the barge.
25	<b><u>3-D Modelling</u></b>	<p>3-D Model for the barge should be prepared by L1 shipyard using suitable 3D CAD modelling software with a provision to extract 2-D drawings. The 3-D model is required during detailed design and construction stages for compartment inspections by the <i>IN</i> reps/ WOT. The necessary software for review at IHQ MoD (N) is to be provided by the Seller for regular review of design model.</p> <p>The seller shall provide the two dimensional view (Top and Elevation). <b><u>The Seller shall also provide three dimensional model of the barge, with the feature to view the barge in a 360<sup>o</sup> facility as part of the Technical bid (soft version in Compact Disk) for appreciating the likely end product after delivery.</u></b> The 3D model should have the provision to extract 2D drawings. The design submitted will be the basic frame work for further upgrading the design during the execution of the contract. The design submitted by the seller shall also be examined by the Technical Evaluation Committee. The seller shall submit the preliminary 3D model as part of technical bid and detailed 3D model can be submitted post signing of Contract.</p>
26	<b><u>Plate Thickness and Scantlings</u></b>	Adequate corrosion allowances are to be given for hull structure scantling and specified at the design stage. The corrosion allowances specified in Classification Society Rules are to be provided. Plate thickness of less than five mm is not to be provided.
27	<b><u>Doors/Hatches</u></b>	All water tight doors and hatches are to conform to IHQ MoD (N) specification NCD 1447 and 1448 respectively.

28	<b><u>U/W Hull Protection</u></b>	<p>The following are to be adhered to :-</p> <p>(a) Sacrificial Anodes as per Classification Society Rules are to be fitted in on main hull and other areas(like sea tubes, bilges, pumps, traps and other areas where sea water tends to accumulate) as applicable iaw Classification Society requirements. In addition, zinc rings are to be fitted at the neck of sea tubes near the flange and also in the overboard discharge.</p> <p>(b) Material of sea water pipes, valves, fittings, fasteners etc. are to be selected so as to avoid bimetallic/galvanic corrosion. In case bimetallic joints are unavoidable, suitable isolating arrangements between two metals is to be catered for (Teflon Coated bolts etc.).</p> <p>(c) Ships Husbandry Tools and labor Saving Devices are to be provided iaw existing <i>IN</i> Policy.</p>
29	<b><u>Stability</u></b>	<p>The barge should satisfy the stability requirements for both intact and damaged condition, as per IMO/SOLAS and Class requirements. Stability booklet is to be submitted on completion of preliminary design at the contracting stage, on completion of design and on completion of inclining experiment. In addition, collision bulkhead should be provided iaw Classification Society Rules and should extend to the uppermost continuous deck. The format of the stability booklet should be guided by NCD 0106, Issue 1.</p>
30	<b><u>Docking</u></b>	<p>The barge is to be docked once post launching/ floating out and prior to CST (if period between launching and CST is more than six months), post CST before the delivery of vessel for inspection, rectification of defects observed during sea trials, painting of U/W hull, fittings and appendages. Further, Guarantee Dry Docking (GDD) should be undertaken towards end of guarantee period.</p>
31	<b><u>Rudder</u></b>	<p>A rudder is to be provided to ensure good maneuverability of the barge whilst towing. The size and material is to be as per Design Calculations/ Classification Society rules so that rudder stock is designed for the towing speed specified and to be operated upto 35 deg on P&amp;S sides. The rudder is to be operated by means of conventional chain drive mechanism from the wheel house/ bridge. Rudders shall be of fully welded construction made of Class approved Steel, Rudder stocks will be of Forged Steel. Greasing arrangements from the weather deck to be provided.</p>
32	<b><u>Paint Scheme and Deck Covering</u></b>	<p><b><u>Paint Scheme &amp; Deck Covering.</u></b> Paint schemes are to be applied under paint manufacturers' supervision in accordance with undermentioned IHQ MoD (N) specifications / Navy Order on Paint scheme. The paint scheme for the barge will be as per following specification:-</p>



		<p>(a) Long life anticorrosive paint scheme in accordance with NCD 1481 (Issue 3 of 2011) is to be applied on external underwater hull. Antifouling paint scheme should be in accordance with IHQ(N) Policy NC/Policy/ H-140/Material dated 28 Aug 19.</p> <p>(b) Paints in Internal Spaces (Machinery bilges, voids) and Tanks are to be applied iaw NO 53/16, NCD 1491, Issue 1, 2011 and NC/Policy/H-139/Material dated 28 Aug 19. Fuel tanks are to be painted with OM-750 paints to be procured on OTE basis.</p> <p>(c) Exterior above water surfaces and decks are to be painted in accordance with latest NCD 1493 Issue 1, 2012 and 1437 Issue 3, 2008 respectively. Intumescent fire retardant paints conforming to NCD 1478, Issue 2, 2007 are to be applied in all offices and accommodation spaces.</p> <p>(d) Weather decks are to be painted in accordance with latest edition of NCD 1437, Issue 3, 2008.</p> <p>(e) Paint scheme for any other area is to be guided by NO 53/16. Colour scheme, as per NO 53/16 to be provided.</p> <p>(f) <b><u>Deck Covering.</u></b> Deck covering scheme in accordance with latest issue of NCD 3717 (NCD 3717 issue 4, Rev.1 of Oct 17) and NC/Policy/H-144/Material dated 21 Nov 19 in both dry and wet areas. The deck coverings shall be from IHQ MoD (Navy) nominated sources and shall be applied with “Self-Certification under Performance Guarantee”.</p>
33	<b><u>Cargo Pumps</u></b>	<p>(a) Diesel driven centrifugal self-priming pump with discharge rate for delivery of fresh water at the receiving ship should not be less than 60 TPH. The pumps shall have a suction head of not less than 15 Mean Water Column (MWC) and discharge head not less than 70 MWC.</p> <p>(b) A combined fresh water filling and transfer line shall be provided. The pumps shall be capable to take suction from any of the fresh water tanks and discharge overboard and to other vessels. In addition, the pumps shall be capable of transferring fresh water from one tank to other. Additionally suitable coupling and valve arrangement shall be provided for connecting flexible hoses along with FB 5X for firefighting.</p> <p>(c) An additional Diesel driven pump shall be provided to cater for redundancy in case of failure of the pump.</p> <p>(d) Two water discharge and two deck filling connections shall be provided on either side of the barge.</p>

		<p>(e) The deck filling lines shall be of Classification Society norms.</p> <p>(f) The system shall have a reception and discharge manifold and flow meters (with least count of 10 ltrs) to monitor filling and transfer of fresh water to and from any of the tanks. The water handling system shall be provided with adequate isolating valves to facilitate removal/ repair of pipeline sections and valve's without restricting the role of the vessel.</p> <p>(g) The centrifugal pumps are to be selected from the <i>IN</i> approved list of vendors.</p> <p>(h) <b><u>Tank Level Indications/Flow Meters</u></b>. Tank content gauges shall be provided for indicating fluid capacity near the pumps and near the filling and discharge point. In addition, calibrated sounding pipes with stainless steel tape for hull tanks and gauge glasses for hanging tanks shall be provided. Flow meters (with least count of 10 ltrs) shall be provided at each water discharge points.</p>
34	<b><u>Power Generation</u></b>	Suitably rated Diesel Generator to meet the complete electrical load requirements is to be provided.
35	<b><u>Dewatering Arrangements</u></b>	<p>The following dewatering arrangements are to be provided as per class requirements along with suction and discharge hoses and all other accessories:-</p> <p>(a) <b><u>1 x 37 TPH High Capacity Engine Driven Fire Pump</u></b>. As per latest IHQ MoD (N)/ NBCD Policy.</p> <p>(b) <b><u>2 x 40 TPH Submersible Pumps</u></b>. As per latest IHQ MoD (N)/NBCD Policy.</p>
36	<b><u>Fire Fighting and Damage Control</u></b>	<p>The firefighting arrangements should cater for the following:-</p> <p>(a) Portable extinguishers - 9 ltr AFFF (Not less than 05) and 2 Kg CO<sub>2</sub> Extinguisher (Not less than 05) at suitable locations with securing arrangements.</p> <p>(b) FB 5X foam gun with AFFF solution in vicinity of fuel tank.</p> <p>(c) Flexible firefighting hoses for taking water supply from Fire pumps, submersible pumps or cargo pumps for firefighting.</p> <p>(d) The firefighting and damage control equipment are to be as per approved classification society rules and the IMO regulation and are to be provisioned from <i>IN</i> approved list of vendors. Lockers are to be provided for stowage of items.</p>

37	<b><u>ELSA</u></b>	Six in number Emergency Life Saving Apparatus (ELSA) along with suitable securing arrangements are to be provided.
38	<b><u>Port Lights</u></b>	Fixed Port Lights shall be provided with clear toughened Glass. Deadlight and frames of opening and fixed Port Lights shall be of Aluminum and the frames shall be of bolting type. Fixed port lights shall be provided for Air-Conditioned spaces.
<b><u>SECTION D – ELECTRICAL</u></b>		
39	<b><u>General</u></b>	<p>(a) All the electrical equipment, machinery and associated systems shall be explosion proof and conform to Marine Standards and Classification Society Rules.</p> <p>(b) Adequate number of reflector lamps/light fittings (flame/explosion proof) are to be fixed (these should be flushed with the bulk heads).</p> <p>(c) Suitable arrangement should be provided for stowage of fuel required for continuous operation of Diesel alternator and cargo pump for at least 100 Hrs. Adequate firefighting arrangements are to be made in vicinity of fuel stowage iaw Classification Society Rules.</p> <p>(d) Suitable Shore supply connection box is to be provided.</p> <p>(e) <b><u>Power Supply Requirements.</u></b> Following types of main power supply arrangements should be provided as per Classification Society Rules with Main Switch Board and primary and secondary controls for sections/compartments:-</p> <p style="padding-left: 40px;">(i) 415 V AC, 50Hz, 3 Phase , 3 wire (Main Supply)</p> <p style="padding-left: 40px;">(ii) 230 V AC, 50Hz, 1Phase (4 wire for domestic and portable equipment)</p> <p style="padding-left: 40px;">(iii) 230 V AC, 50Hz, 1 Phase, 2 wire for lighting, communication and navigation system</p> <p style="padding-left: 40px;">(iii) 24 V DC as required for equipment / system fit on barge</p>
40	<b><u>Diesel Alternator</u></b>	Suitable rated Diesel Generator with compatible power rating prime mover and associated controls to meet complete electrical load requirements is to be provided. Suitable rated Diesel Generators compliant to latest IMO/MARPOL standards and as per Class with 100% reserve capacity to meet electrical load satisfactorily under ships various operating conditions are to be provided. The diesel

		alternator shall not be loaded more than 80% of normal rating for meeting the peak load requirements of the barge.
41	<b><u>Transformer</u></b>	A suitable three phase transformer conforming to Classification Society regulations is to be provided for General and Navigational lights. Domestic equipment's are to be fed from 230V, 50Hz, single phase.
42	<b><u>Battery Charger</u></b>	A suitable battery charger conforming to Classification Society Regulations, using 415V 3 Phase supply as input supply (shore supply) is to be provided to facilitate charging of 24 V batteries. The battery charging compartment should be adequately ventilated.
43	<b><u>Inverter</u></b>	A suitable 230V 50Hz 1 Phase inverter conforming to classification society regulations (input shall be from 24V DC self-maintenance Free Batteries), for general and navigational lighting in the absence of alternator and Shore Supply with suitable maintenance free fire retardant VRLA batteries are to be provided for the electrical consumers. Watertight charging points for charging the batteries using 230V, 50Hz, 3/ Phase shore supply are to be provided on port and stbd sides of super structure. The batteries shall be capable of meeting the envisaged load of the barge for a minimum duration of 6 hours. Relevant safety indications are to be provided for monitoring of batteries.
44	<b><u>Emergency Lighting</u></b>	LED based Automatic Emergency Lights (AELs) along with charging sockets are to be provided.
45	<b><u>Shore Supply Arrangements</u></b>	Watertight shore supply connection boxes (IP 57) of 415V, 3 phase, 50 Hz should be fitted on weather deck at an appropriate position on both Port & Stbd sides at an appropriate position, to facilitate the charging of batteries. The shore supply box should be connected by permanent cables to the switchboard and should have suitable terminals for connecting flexible cables. A reel for stowing the flexible cable of 100 m length is to be provided and suitably located on the weather deck for shore supply. The shore supply cable roller is required to be provided with carbon brushes for incoming cable for easy releasing of the cable. A phase changeover switch and phase sequence indicator shall also be provided. Two sets of Shore supply cable of 100 m length are to be provided for each barge.
46	<b><u>Distribution Board/Navigational Light Panel</u></b>	Shall be designed for control and distribution of 230V, 1Ph, 50Hz.

47	<b><u>Cables</u></b>	Cables for all lighting, power, shore supply and equipment will be (Electron beam Cross Linked (EBXL) irradiated Cables as per as per latest Classification Society Rules and Standards and should be routed through metallic fire proof conduits. Cables are to be routed so that sufficient clearance exists from the ship's side to prevent risk of damage when going alongside and to allow reasonable access to the vessel's trunkings, the cables shall be closest to the deck head. Buyer approved cable/ pipe glands to be provided with capacity to take 20% growth margin.
48	<b><u>Lighting</u></b>	<p>The barge should be provided with following lighting conforming to classification society norms/ specifications: -</p> <p>(i) General illumination shall be achieved with marine type LED light fitting as per latest Classification Society Rules and Standards.</p> <p>(ii) Navigational and signal lights as per IRPCS 72 and navigational light conforming as per latest Classification Society Rules and Standards.</p> <p>(iii) The weather deck should have four in numbers 500 Watt water and spark proof flood lights capable of being powered by external power source. The flood lights should have a provision for angular movement - both horizontally and vertically with position locking arrangement.</p> <p>(iv) LED based Flame proof luminaries are to be used in the barge as per Classification Society Specifications.</p> <p>(v) Emergency lights.</p> <p>(vi) Search &amp; Signaling lights.</p> <p>(vii) Six Hand lamps.</p>
<b><u>SECTION E - ACCOMMODATION AND HABITABILITY</u></b>		
49	<b><u>Accommodation</u></b>	<p>Modular accommodation should be provided along with other associated facilities:</p> <p>(a) One six bunk cabin for the crew.</p> <p>(b) One set of Separate WC and Shower for the crew. Wash basin (SS Material) is to be provided in the Shower. Urinal and Indian style WC Commode are to be provided in the WC. The outlet of soiled/ affluent/ black water discharge is to be chemically treated as per current MARPOL Regulations. Separate deck drain for bathroom and WC cubicle is to be provided. Adequate natural ventilation is to be provided for bathroom and WC.</p>

		(c) Modern and efficient sanitary fittings are to be provided iaw Classification society rules.
50	<b><u>Sanitary and Sewage System</u></b>	Vessel should also have suitable Toilet System with efficient flushing/drainage. The toilets/WCs should be connected to suitable sewage treatment / offloading provisions iaw MARPOL/ Class requirements, as applicable for these barges. The STP compartments/sewage tanks should have suitable H <sub>2</sub> S indicators and alarms. Sufficient air-flow/ventilation should be provisioned for the STP compartment.
51	<b><u>Air Conditioning</u></b>	Marinised Package AC Plant to be provided as per class requirements for all Living Spaces, Dining Hall and Bridge to achieve temperature of 24 deg C. The AC plant are to be provided with a local control panel supplied by the OEM catering for control and monitoring under all regimes of operation. In addition, COTS electric fan of suitable sizes from approved sources operating on 230 V AC are to be provided as per compartment size and required air flow.
52	<b><u>Ventilation</u></b>	<p>Suitable ventilation arrangement are to be provided as mentioned below: -</p> <p>(a) Machinery spaces and inverter room should have forced supply and exhaust ventilation as per Classification Society Rules.</p> <p>(b) Ventilation arrangement should be provided in all relevant spaces as per Class Rules.</p> <p>(c) WCs, galley and bath rooms should have forced supply and exhaust as per Class Rules.</p> <p>(d) Ventilation system is to be provided in crew spaces and battery compartment in accordance with Class Rules.</p> <p>(e) Adequate forced ventilation should be provided in cargo areas and battery charging space as per class requirement. Adequate ventilation is to be provided in accommodation, machinery and battery stowage spaces as per Class rule.</p>
53	<b><u>Galley</u></b>	<p>(a) A common galley is to be provided for a crew of 4 personnel.</p> <p>(b) A dining hall of seating capacity of four personnel is to be provided. Dining table with formica top and dining chairs as per classification society rules, wall mounted fans, mirrors, notice boards, two oil skin lockers, quartz clock and life belt stowage to meet MMD requirements are to be provided. Dining hall should to have an attached scullery which is ergonomically designed for human comfort, with adequate arrangements to enable washing of utensils.</p>

		<p>(c) The galley should be equipped with the following equipment :-</p> <p>(i) Hot Plate - 01</p> <p>(ii) Microwave Oven (of 3 KW) - 01</p> <p>(iii) Hot case - 01</p> <p>(iv) Electrical Kettle - 01</p> <p>(v) Water cooler of 30 Liters Capacity with Water Purifier - 01</p> <p>(vi) Stainless steel sink with a fresh water nickel silver tap with splash back and drain board.</p> <p>(vii) Additionally, one tap, 500 mm above the deck, with a sill around, to restrict water splash.</p> <p>(viii) The barge should have suitable arrangement for storage and offloading of garbage.</p>
54	<b><u>Fresh Water</u></b>	<p>(a) One overhead tank of 1000 litres capacity.</p> <p>(b) One suitable water cooler is to be provided with water purifier system.</p>
55	<b><u>Paneling</u></b>	PVC coated sheet steel and pre insulated Sandwich should be used for paneling of Accommodation space ,cabin spaces, alleyways, Messes etc.
56	<b><u>Medical Facilities</u></b>	Four first aid boxes as per Class/ MMD requirements shall be provided, two in machinery compartment and one each at Bridge and crew accommodation space. In addition, two Neil Robertson stretchers with stowage facility are to be provided, one each in the mess and wheelhouse.
<b><u>SECTION F – SEAMANSHIP, LIFESAVING AND SAFETY EQUIPMENT</u></b>		
57	<b><u>Anchor and Chain Cable</u></b>	As per Classification Society Requirement.
58	<b><u>Anchor Windlass</u></b>	As per Classification Society Requirement.
59	<b><u>Towing and Berthing Gears</u></b>	Adequate number of bollards. Cleats/stag horns, fairleads, etc. for berthing and towing forward/alongside are to be provided. Adequate strengthening of these fittings is to be ensured to enable towing by pulling and alongside towing, with the use of another vessel. Requisite size of polypropylene/other man made ropes are to be provided for towing and berthing.
60	<b><u>Bollards/ Cleats</u></b>	One set of bollards with fairleads each is to be provided at forward, midship and aft on port and starboard sides, for towing alongside. Three additional cleats/ stag horn each on port and stbd side are to be provided (for miscellaneous uses like securing fenders, etc).

61	<b><u>Mast</u></b>	A suitable collapsible mast with manual hoisting and lowering system is to be provided to accommodate Nav Lights, other fitments and minimum four halyards for hoisting of flag signals, Blue Ensign and dress overall flags.
62	<b><u>Ladders</u></b>	Sloping ladders are to be fitted for access to Accommodation spaces, machinery Compartment and bridge. Vertical steel ladders shall be fitted in hold, peak compartment and other places as required iaw Classification Society rules. Rungs shall be provided where it is not possible to provide slopping/ vertical ladders and other locations where required
63	<b><u>Fendering</u></b>	Fixed D type rubber fendering all around the barge with non-marking type fenders/sheath is to be provided In addition, four portable light weight (sausage) fenders are to be provided. Fenders are to be of international standard conforming to Class specification. Underwater fendering is also to be provided meeting Class requirements for operations alongside submarines.
64	<b><u>Awnings</u></b>	Awnings for all the exposed decks are to be provided. Arrangements for fitment of stanchions is to be accordingly made on deck.
65	<b><u>Guard Rails</u></b>	Suitable guard rails are to be fitted all around the Yard Craft.
66	<b><u>Life Saving Equipment</u></b>	<p>Following Life Saving equipment are to be provided in compliance with <i>IN</i> and SOLAS requirements:-</p> <p>(a) <b><u>Life Buoy and MOB Markers.</u></b> Life buoys and MOB markers are to be provided on upper deck as follows, (location can be changed based on the barge design) iaw IMO/ SOLAS requirements:-</p> <ul style="list-style-type: none"> <li>(i) One Lifebuoy on foxle.</li> <li>(ii) One Lifebuoy each on either side at midship.</li> <li>(iii) One each lifebuoy with Man Overhead Light and Smoke Markers on both Bridge Wings and on Quarter Deck</li> </ul> <p>(b) <b><u>Life Rafts.</u></b> 1 x 20 men life raft.</p> <p>(c) <b><u>Life Jackets (GSLJs).</u></b> 10 General Service Life Jackets of specification iaw NCD 3925</p> <p>(d) <b><u>Hazardous Duty Life Jackets (HDLJs).</u></b> 04 Hazardous Duty Life Jackets of specification iaw NCD 3926</p>
67	<b><u>Safety Equipment</u></b>	<p>The following safety equipment are to be provided:-</p> <ul style="list-style-type: none"> <li>(a) Helmets - 04</li> <li>(b) Ear Plugs - 04 Pairs</li> <li>(c) Hand Gloves - 15 Pairs</li> <li>(d) Anti-Splash Goggles - 04</li> <li>(e) Dust Protector - 04</li> <li>(f) Safety Harness - 03</li> </ul>



68	<b><u>Safety, Escape Evacuation Arrangement</u></b>	The craft should meet all safety, escape and evacuation arrangements as per class regulations and IMO requirements as applicable for passenger craft operating within the harbor limits.
69	<b><u>Brows</u></b>	Two Portable brows of suitable dimension of suitable dimension are to be provided.
<b><u>SECTION G – LOGISTICS ARRANGEMENTS</u></b>		
70	<b><u>Entertainment &amp; Recreational Facilities.</u></b>	One LED color TV of 42 inch in crew accommodation is to be provided. A Direct to Home (DTH) cable TV facility for the TV set needs to be provided.
71	<b><u>Documentation</u></b>	One inventory of spares and the relevant documentation of equipment and machinery is to be provided. Documents to be supplied as per EED-S-048 specification. 'Ship fit' and as fitted drawings, maintenance, repairs and refit documents, Catalogue of spares / D 787 for OBS and B&D inventory for all the machinery are to be provided. A detailed Maintenance Schedule (Equipment and Systems) should be prepared and submitted for approval four months prior to commissioning. The final revised Maintenance Schedule is to be available at the time of commissioning of the Barge by appropriate authority four months prior to commissioning. The final revised Maintenance Schedule is to be available at time of Commissioning of the Barge.
72	<b><u>Photographs</u></b>	Photographs of size above 200 mm x 150 mm of the barge after completion are to be supplied. In addition, two albums and a CD of minimum 300 photographs of important arrangement, layouts, equipment and machinery are to be supplied by the seller in JPEG format.
73	<b><u>Certificates</u></b>	<p>The maker's test / calibration certificates are to be supplied for the applicable equipment and associated instrumentation. The following certificates/ documents, as applicable, are to be submitted at the time of delivery of the barge: -</p> <ul style="list-style-type: none"> <li>(a) Classification certificate.</li> <li>(b) International Load Line Certificate obtained from Classification Society.</li> <li>(c) Tonnage Measurement Certificate obtained from Classification Society.</li> <li>(d) Builder's Certificate.</li> <li>(e) Test Certificates for Anchors and Chain Cables by Classification Society.</li> <li>(f) Certificates issued by Regulatory Authorities for Magnetic Compass, Radio Telephone etc.</li> </ul>

		<p>(g) Stability Booklet: Containing intact and damage stability as applicable.</p> <p>(h) Makers Test Certificates as applicable shall be supplied for major Machinery / equipment. One set of all the certificates are to be supplied to Overseeing Team one month before the date of preliminary trials.</p> <p>(j) Load testing certificates, as per OEM Specifications and Class Rules to be provided.</p> <p>(k) Ships Data Book.</p> <p>(l) D 787</p> <p>(m) Hull Data Book.</p> <p>(n) International Sewage Pollution Prevention Certificate (ISPPC).</p> <p>(p) Any other document/ certificate as per Class Rules.</p> <p>(q) International Oil Pollution Prevention Certificate.</p> <p>(r) Damage Control Plan.</p> <p>(s) Fire Control and Safety Plan.</p> <p>(t) List of Operational Limitations.</p>
74	<b><u>Test Equipment</u></b>	Test equipment as per <i>IN</i> Policy should be provided as part of 'First Outfit of Stores'.
<b><u>SECTION H – MISCELLANEOUS</u></b>		
75	<b><u>Weather Covers</u></b>	Two sets of light weight waterproof PVC coated nylon fabric shall be supplied for all weather deck fittings, openings and machinery/ items.
76	<b><u>Facilities for Overseeing Team</u></b>	Necessary furnished air conditioned office space with associated office support arrangements and transport shall be provided to the overseer and representative of the Buyer till completion of all Contractual liabilities/ obligations.
77	<b><u>Training</u></b>	Training is to be imparted to the crew of the Barge and maintainers, by the OEM/ OEM reps / seller, for the operation and maintenance of machinery and equipment installed onboard.
78	<b><u>Project Monitoring</u></b>	The latest techniques of Project Monitoring are to be employed by the Seller to ensure phased and planned construction of the Barge(s). The plan and progress of the project including all the correspondence, drawings and documents shall be available online for exchange. A comprehensive application for exchange of information with

		all agencies like IHQ MoD(N), Seller/ Shipyard, Overseeing team, etc., shall be made available by the Seller.
79	<b><u>Onboard and Outfit Spares</u></b>	The seller shall ensure supply of onboard spares for all main equipment, consumable items like lamps, fuses, relays, gaskets, etc., sufficient for scheduled servicing & maintenance of all electrical, engineering and hull equipment for a duration of 02 years.
80	<b><u>Noise &amp; Vibration</u></b>	Noise and Vibration standards are to be met as per Classification Society rules and standards.
81	<b><u>B&amp;D Spares</u></b>	B&D spares for 5 years usage from the respective makers of equipment to be provided within a month of placement of order.
82	<b><u>Product Support</u></b>	The Bidder would be bound by a condition in the contract that they would be in a position to provide product support in terms of maintenance, materials and spares for a minimum period of <u>20</u> years and <u>10</u> years for electronic items. Towards this the Bidder is to obtain contractual commitments from the various equipment manufacturers/vendors to provide product support for the said period from the date of delivery of the Barge(s) at the Buyer's designated Naval base port. Even after the said mandatory period, the Bidder would be bound to give at least 2 years notice to the Buyer prior to closure of the said production line, to assess the requirement of life time buy of all spares before closure of the said production line. This said aspect would also form an integral part of the Contract. This, however, shall not restrict the Buyer from directly sourcing sub-equipment/sub-assembly and spares from their respective OEMs/sub-vendors on completion of warranty. In case the sub-equipment/sub-assembly/parts require tuning/calibration/integration by the Bidder prior replacement, the same is to be undertaken by the Seller at fair and reasonable cost.
83	<b><u>Material Specifications</u></b>	Materials Specifications of various systems are placed at Annexure I to Appendix A.

**Annexure I to Appendix A**  
(Refers to Para 85 of Section 'H' of Appendix A)

**RECOMMENDED MATERIAL SPECIFICATION FOR**  
**3 x 200 T NON-PROPELLED WATER BARGE**

<b><u>Ser</u></b>	<b><u>System</u></b>	<b><u>Description</u></b>	<b><u>Recommended Material</u></b> <b><u>(Meeting all Rules and Standards of</u></b> <b><u>Classification Society as applicable)</u></b>
1.	Fresh Water System	Pipes	Copper/SS 316L
		Fittings	GM to BS 1400 LG 4C / SS to AISI 316
		Flanges	GM to BS 1400 LG 4C / SS to AISI 316
		Fasteners	-
		Valves	GM to BS 1400 LG 4C / SS to AISI 316
2.	Sea Water System	Pipes	90/10 Cu-Ni
		Fittings	Gunmetal as per Rules and Standards of Classification Society
		Flanges	Gunmetal as per Rules and Standards of Classification Society
		Fasteners	SS 316 with Teflon Coating
		Valves	Gunmetal as per Rules and Standards of Classification Society
3.	Deck Scupper Drain	Pipes	MS (Gal) Pipe as per ASTM A 106 Gr. B
		Fittings	Mild Steel (Galv) as per ASTM A234M WPB
		Flanges	BQ Plate to IS 2002/Steel to IS 2062
		Fasteners	Steel (Galv) Dimension as per IS 1364 Material as per IS 1367 Bolt grade 8.8 Nut grade 8
		Valves	Carbon Steel (Galv) ASTM A 216 Gr WCB/A 105
4.	Greywater	Pipes	MS (Gal) Pipe as per ASTM A 106 Gr. B
		Fittings	Mild Steel (Galv) as per ASTM A234M WPB
		Flanges	BQ Plate to IS 2002/Steel to IS 2062
		Fasteners	Steel (Galv) Dimension as per IS 1364 Material as per IS 1367 Bolt grade 8.8 Nut grade 8
		Valves	Carbon Steel (Galv) ASTM A 216 Gr WCB/A 105
5.	Blackwater	Pipes	STP Discharge Cu-Ni 90/10 Balance BW lines. Galv Steel
		Fittings	STP Discharge Cu-Ni 90/10 Balance BW lines. Galv Steel
		Flanges	STP Discharge: GM to BS 1400 LG4C Balance BW lines: BQ Plate to IS 2002/ Steel to IS 2062
		Fasteners	Steel (Galv) Dimension as per IS 1364 Material as per IS 1367 Bolt grade 8.8 Nut grade 8/ Stainless steel
		Valves	STP Discharge : GM to BS 1400 LG4C Balance BW lines : Carbon Steel

<u>Ser</u>	<u>System</u>	<u>Description</u>	<u>Recommended Material</u> <u>(Meeting all rules and Standards of</u> <u>Classification Society as applicable)</u>
6.	Fuel System	Fuel Filling Pipes Outside Storage tanks	Non-Galvanized Mild Steel Conforming to BS 3602 Parts 1 and 2.
		Fuel Filling, transfer and stripping pipes inside storage tanks	Externally Galvanised Carbon Steel Conforming to BS 3602 Parts and 2 Or 90/10 Cu-Ni (for water compensated tanks/frequently ballasted tanks)
		Fuel Filling Pipes in Bilges	90/10 Cu-Ni conforming to rules and Standards of Classification Society
		Air Vent	Galvanised Mild Steel eternally
		Sounding Tubes	Non-galvanised Mild Steel
		Fittings	Gunmetal as per Rules and Standards of Classification Society
		Flanges	Gunmetal as per Rules and Standards of Classification Society
		Fastener	Steel (Black/Galvansied) as per IS 1367 Bolt Grade 8.8, Nut Grade 8. Dimensions as per IS 1364
		Valve	Valves to comply to rules and standards of Classification Society  Carbon Steel ASTM A 216 Gr WCB/A 105 – Fire Safe  Valves in Air Escape pipes and Sounding tubes as per rules and standards of classification Society

**VENDOR INFORMATION PROFORMA**

1. **Name of the Vendor/ Company/ Firm and Unique ID (if any).**

\_\_\_\_\_  
(Company profile including Share Holding pattern, in brief, to be attached. In the eventuality of the firm emerging as L1, Contract will be concluded in the name and address of the firm, as indicated here). Vendors are to undertake that any subsequent proposal for change in name of firm or address, will be intimated to IHQ MoD(N) at the first available opportunity and supporting documents be furnished accordingly within five working days of their approval by the competent authority.

2. **Type (Tick the relevant category).**

Original Equipment Manufacturer (OEM) Yes/ No  
Authorised Vendor of foreign Firm Yes/ No (attach details, if yes)  
Others (give specific details) \_\_\_\_\_

3. **Contact Details.**

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

City: \_\_\_\_\_ State: \_\_\_\_\_

Pin Code: \_\_\_\_\_ Tele : \_\_\_\_\_

Fax: \_\_\_\_\_ URL/Web Site: \_\_\_\_\_

Email: \_\_\_\_\_

4. **Local Branch/ Liaison Office in Delhi (if any).**

Name & Address: \_\_\_\_\_

Pin code: \_\_\_\_\_ Tel : \_\_\_\_\_ Fax: \_\_\_\_\_ E mail : \_\_\_\_\_

5. **Financial Details.** Category of Industry (Large/ medium/ small Scale): \_\_\_\_\_

6. **Certification by Quality Assurance Organisation.**

<b><u>Name of Agency</u></b>	<b><u>Certification</u></b>	<b><u>Applicable from (Date &amp;Year)</u></b>	<b><u>Valid till (Date &amp;Year)</u></b>

7. **Details of Registration.**

<b><u>Agency</u></b>	<b><u>Registration No.</u></b>	<b><u>Validity(Date)</u></b>	<b><u>Equipment</u></b>
DGS&D			
DGQA/DGAQA/ DGNAI			
OFB			
DRDO			
Any other Government Agency			

8. **Membership of FICCI/ ASSOCHAM/ CII or other Industrial Associations.**

Name of Organization: \_\_\_\_\_

Membership Number : \_\_\_\_\_

9. **Equipment/ Product Profile (to be submitted for each product separately)**

(a) Name of Product : \_\_\_\_\_  
(IDDM Capability be indicated against the product)  
(Should be given category wise for e.g. all products under night vision devices to be mentioned together)

(b) Description (attach technical literature): \_\_\_\_\_

(c) Whether OEM or Integrator : \_\_\_\_\_

(d) Name and address of Foreign collaborator (if any): \_\_\_\_\_

(e) Industrial License Number : \_\_\_\_\_

(f) Indigenous component of the product (in percentage): \_\_\_\_\_

(g) Status (in service / design & development stage): \_\_\_\_\_

(h) Production capacity per annum: \_\_\_\_\_

(j) Countries / agencies where equipment supplied earlier (give details of quantity supplied) : \_\_\_\_\_

(k) Estimated price of the equipment \_\_\_\_\_

10. Alternatives for meeting the objectives of the equipment set forth in the document.

11. Any other relevant information: \_\_\_\_\_.

12. **Declaration**

(a) It is certified that the above information is true and any changes will be intimated at the earliest.

(b) It is certified that in the past that \_\_\_\_\_ (name of firm) has never been banned/debarred for doing business dealings with MoD/ Gol/ any other Government Organization and that there is no inquiry going on by CBI/ED/any other Government agency against the firm.

**(Authorised Signatory)**



**ADDITIONAL INFORMATION PROFORMA**  
**(INDIAN SHIPYARDS)**

1.	Year Established							
2.	Type of Organisation size/Classification of Yard							
3.	Organisation setup and availability of skilled Manpower							
4.	Details of design, planning and production facilities/infrastructure including slipways/dry docks and wet basin/water front (attach brochures etc.)							
5.	Annual build capacity (in tonnage)							
6.	Details of future expansion and business development planned							
7.	Vessels delivered in last 05 years. (attach previous order copies for 200 Ton Non Propelled Water Barge/Similar Vessel only)							
	<u>Yard</u>	<u>Customer</u>	<u>Type of vessel</u>	<u>Dwt, grt</u>	<u>Order date</u>	<u>Start production</u>	<u>Contractual delivery</u>	<u>Actual delivery</u>
8.	Orders in hand (attach order copies for similar ships/ crafts only)							
	<u>Yard</u>	<u>Customer</u>	<u>Type of vessel</u>	<u>Dwt, grt</u>	<u>Order date</u>	<u>Start production</u>	<u>% completed</u>	<u>Expected delivery</u>
9	Financial information (in INR for Indian vendors and in US dollars for foreign vendors)							
	(a)	Annual turnover in the last three financial years (year wise)						
	(b)	Profits made						
	(c)	Net Worth = equity+ reserves						
	(d)	Debt/Equity ratio						
	(e)	Quick Ratio = (current assets long term debts)/current liabilities						
	(f)	Attach copies of certified published annual report showing turnover and financial status in support of above information						

10	Detailed specifications of 200 Ton Non Propelled Water Barge offered to meet the specified requirements and build period from date of order	
11	Detailed specifications of commercially off the shelf (COTS) 200 Ton Non Propelled Water Barge if available for outright purchase, if any	

**(Authorised Signatory)**

**GUIDELINES FOR FRAMING CRITERIA FOR VENDOR SELECTION/  
PREQUALIFICATION IN RESPECT OF 03 X 200 TON NON-PROPELLED WATER  
BARGE UNDER BUY (INDIAN-IDDM) CATEGORY**

1. The guidelines prescribed for short-listing/ pre-qualification of Indian vendors in this instant case of 03 x 200 Ton Non-Propelled Water Barge under Buy (Indian-IDDM) category is enumerated in the succeeding paragraphs. **Paragraph 2** deals with the parameters that may be considered for short-listing of vendors, whereas **Paragraph 3** amplifies the process for applying selected parameters to the process of Vendor Short listing.

2. **Parameters**

(a) **General Parameters**

(i) Applicant Entity should be an Indian Vendor as defined at Paragraph 20 of Chapter I of DAP 2020.

(ii) Business dealing with applicant Entity or any of its allied entities should not have been suspended or banned, by MoD/ SHQ or any Government Department or organization (as defined in Guidelines for Penalties in Business Dealings with Entities issued vide Ministry of Defense, D(Vigilance) MoD ID No 31013/I/2006-D (Vig) Vol II dated 21 Nov 2016). None of the Promoters and Directors of applicant entity should be a wilful defaulter.

(iii) "Entities" will include companies, with whom the Ministry of Defence has entered into, or intends to enter into, or could enter into contracts or agreements.

(iv) "Applicant entity" may be a company, subsidiary, an associate company (as defined in the Companies Act, 2013), a consortium or a Joint Venture (JV).

(b) **Technical Parameters**

(i) Vendor shall be a manufacturing entity or a system integrator of defense equipment and not a trading company, except in cases where the OEM participates only through its authorized Vendors.

(ii) Minimum **two years'** experience in **broad areas like manufacturing/ electronics/ explosives etc. as applicable in the instant procurement case**. If not, then cumulative experience of at least three years in above areas, resulting in gaining of competence for manufacturing the proposed product. (In case the SHQ feels that for a particular equipment a lesser experience could be accepted, then the same should be got approved by the competent authority before including the same in the RFP).

(iii) Where product involves integration, previous experience of not less than one year/ one project in integration of systems/ equipment shall be required.

(c) **Financial Parameters**

For RFI of Shipbuilding cases (acquisition of Ships, Yard crafts & Submarines), financial parameters stipulated at Annexure II to Appendix C, Chapter XII, DAP-20 shall be followed.

(d) **Other Parameters**

(i) **Industrial License (IL)**. Vendors should be either holding a valid defense industrial license or should have applied for the same before responding to RFP. In any case the vendor must confirm holding of IL before commencement of FET. (Items requiring IL will be as per DIPP Press Note 3 of 2014 as amended from time to time).

(ii) **Registration**. Registered for a minimum of two years (one year for SMEs). Minimum number of years not applicable for JVs constituted specifically for a project.

3. **Stipulations for Applying Parameters**

(a) **Areas like manufacturing/ electronics/ explosives etc.** referred at Paragraph 2(b)(ii) should be defined in each case of procurement.

(b) In case the Applicant Entity is unable to meet the Financial Parameters by itself, it may rely on its **Holding Company** (as defined in the Companies Act, 2013 and amendments thereof) (“Companies Act”) for fulfilment of the Financial Parameters, in which case reliance must be placed on the Holding Company towards fulfilment of **ALL** the Financial Parameters.

(c) In case the Applicant Entity is unable to meet one or more of the Technical Parameters by itself, it may rely on a Group Company (ies) for fulfilment of the Technical Parameters. A Group Company in relation to the Applicant Entity may be:-

(i) A company of which the Applicant Entity it is an Associate Company. Such company should have ownership, directly or indirectly, of at least 26% of the voting shares of the Applicant Entity.

(ii) A company which is an Associate Company of the Applicant Entity. The Applicant Entity should have ownership directly or indirectly, of at least **26%** of the voting shares of such Associate Company.

(iii) A Company with whom the Applicant Entity is commonly owned, directly or indirectly, for at least **26%** of the voting shares by another company. For example: An Applicant Company A is an Associate Company of Company B, in which B holds at least 26%. Further, C is also an Associate Company of B, in which B holds at least 26%. In this case the Applicant Company may use the credentials of C as well.

- (iv) The Holding Company and Subsidiary Companies (as defined under the Companies Act) of the Applicant Entity.
- (d) The Applicant entity may be a single entity or a group of entities (the "Consortium"), coming together to implement the project. In such case:-
- (i) The credentials of only those members or their related entities may be counted, who have at least **26%** equity stake in the Consortium.
  - (ii) Each Consortium should have a designated Lead Member.
  - (iii) For Technical Parameters, **any of the Consortium members or their Group Companies** may meet the criteria.
  - (iv) For Financial Parameters; the Turnover and Net Worth of the Consortium Member shall be reckoned **proportionate to Consortium Member's equity stake** in the Consortium, and each Consortium member should meet the other criteria pertaining to Insolvency and Credit Rating. In case the Consortium Member relies on its Holding Company for any one of the above-mentioned Financial Parameters, then reliance must be placed on the Holding Company for meeting **all the financial Parameters**.
- (e) Vendors should provide all necessary self-authenticated documentation in support of their achievement of criteria. Such documentation should inter-alia include:-
- (i) Details of projects/ supply orders successfully executed in the last two years.
  - (ii) Annual reports for three years of applicant entity, parent and associate companies, consortium and JV partners.
  - (iii) Details of shareholders, promoters, associated, allied and JV companies.
  - (iv) Details of vigilance action, viz. ongoing investigation and suspension/ debarment/ blacklisting actions against the applicant entity or any of its allied entities, parent company or consortium and JV partners, if any by any Department/agency of Central Government.
  - (v) A certificate from CA/CS indicating the financial parameters for the last three years as per Paragraph 2(c).
- (Note:** If a vendor is already a supplier to MoD and/ or has already provided the above documents in such cases, it should be necessary for the vendor to resubmit only such documentations as is necessary to update the above).
- (f) Any vendor furnishing false information will be liable for action as per existing guidelines.

(g) Based on these generic parameters, more specific criteria should be evolved by the SHQ with regard to Technical and Financial parameters {Paras 2(b) and 2(c) above} in each procurement case depending upon requirements peculiar to each case keeping in view the overall need to ensure wider vendor participation. The specific criteria evolved by the SHQ for each case, as per these guidelines, may be got approved by the competent authority before including the same in the RFPs.

4. The criteria for vendor selection shall be clearly stipulated in RFPs so as to maintain transparency. Care shall be taken to ensure that the stipulated criteria are not open to subjectivity and arbitrary interpretation