

REQUEST FOR INFORMATION (RFI)
FOR PROCUREMENT OF NEW WATERJET FAST ATTACK CRAFT-
INDIGENOUS (NWJFAC)

1. The Ministry of Defence, Government of India, intends to procure 21 (Twenty One) NEW WATERJET FAST ATTACK CRAFTs- Indigenous (NWJFAC) for the Indian Navy (*IN*) from registered Indian Shipyards. The NWJFAC would be constructed in a phased manner over a period of 04 years (2026-2030).

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 NWJFAC. Few important technical parameters of the proposed NWJFAC are also mentioned.

(b) **Part II.** The second part of the RFI states the methodology of seeking responses of Shipyards. **Submission of incomplete response format will render the Shipyard liable for rejection. 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 yard craft 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 Shipbuilding cases.

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 21 NEW WATERJET FAST ATTACK CRAFTs.

PART- I

4. **The Intended Use of NWJFAC (Operational Requirements).** The NWJFAC shall be capable *to carry out local naval defence, seawards defence of defended ports, offshore installations, vital areas and vital points.* In addition, NWJFAC will carry out interception of high speed craft and seaward anti-terrorist patrols for security of coastal installations, naval harbours and own coast. NWJFAC will be used for special operations and anti-piracy operations. Further, the vessels will be used for Maritime Interdiction Operations (MIO), Visit Board Search and Seizure (VBSS) and Presence cum Surveillance Mission (PSM).

5. **Quantity Required and Anticipated Delivery Time Frames.** 21 NWJFAC are proposed to be acquired and the anticipated delivery time lines for the NGNWJFAC is proposed between 2026 to 2030. Shipyards are to indicate their comments on the build period and timelines for delivery.

6. **Important Parameters.** Details of the NWJFAC are specified in brief in the Staff Requirements placed at **Appendix A** of this document. Detailed specifications will be given in the Request for Proposal (RFP) which will be issued to Shipyards who have responded to the Request for Information (RFI) and must meet the Qualification Criteria, after verifying their credentials and capabilities to construct the NWJFAC. Further following details are to be submitted:-

(a) Feasibility to build the NEW WATERJET FAST ATTACK CRAFT with 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, suitable justification(s) is to be submitted by the Shipyard.

(b) Shipyard is to submit the concept design for the upcoming indigenous technologies, if any, which will meet the intended purpose of the NWJFAC and enhance its employability.

(c) Agreement and / or collaboration with firms with regard to Design and Production Monitoring Technology to be indicated and clearly highlighted in the response. The details of design ToT, Construction ToT, and maintenance ToT, if any, be also commented upon along with indicative costing.

(d) Experience in building/ supply of craft which meet the requirements as listed in this RFI, along with details of customer/ clients and cost per NWJFAC, delivery date will have to be submitted.

(e) 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.

(f) Budgetary quote of the NWJFAC with detailed break up of cost is to be submitted. This should include material cost, labour cost, training cost, product support cost (if applicable) and taxes (as applicable). All entities factored in the costing are to be indicated in the break up.

(g) Price Variation Clause (PVC) will be applicable in this case i.a.w **Annexure VIII to Appendix M** of DAP-20.

(h) Information on whether the offered NWJFAC/design is in use by any other Navy/ Indian Customer is also to be indicated.

(j) 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.

(k) Shipyard have 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.

(l) Willingness for Option Clause as per Para 93 of Chapter II of DAP 20.

(m) Willingness to participate in the bid for procurement of 21 NEW WATERJET FAST ATTACK CRAFTs (NWJFAC).

(n) The tentative delivery schedule/ build period for supply of the NWJFAC after conclusion of contract including the build strategy.

(p) The shipyard is to submit copy of Government license relevant for ship construction/ building activity.

(q) 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 NWJFAC as applicable.

(r) Shipyard has to indicate inputs/ details wrt obsolescence management and upgradation of the component/ parts of equipment of the NWJFAC which may become obsolete during the life cycle of the NWJFAC as per DAP 20 and amendments thereof.

(s) 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.

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

(i) Displacement / dimensions of the NWJFAC.

(ii) Proposed Delivery Schedule of the NWJFAC.

(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 NWJFAC.

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

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

7. The Shipyard should conform 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 submission 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.

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

(d) Shipyard 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 Shipyard would be required to accept the general conditions of contract given in the Standard Contract Document at **Chapter VI of DAP 2020**.

(f) **Integrity pact.** An integrity pact along with appropriate IPBG is a mandatory requirement in the instant case (**Refer Annexure I to Appendix M of schedule I, DAP 20**).

(i) **Pre Contract Integrity Pact (PCIP).** All Shipyards 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 EMD is given at Annexure I to Appendix M of schedule I of DAP-20. 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 Bank Guarantee.** Performance-cum-Warranty Bank Guarantee (PWBG) both equal to 3% of contract value inclusive of taxes and duties valid till 31 Dec 23 is required to be submitted after signing of contract. 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 construction of the NWJFAC-I will be as per DAP 2020 and accordingly shipyards are required to submit the details regarding Indigenous Content(IC). The categorisation for the procurement is intended to be under Buy (Indian-IDDMM)/ Buy (Indian). The NWJFAC must meet the minimum IC parameters iaw Para 21 of Chapter 1 of DAP 20. The Shipyards are to also comment on the categorisation and IC content as per DAP 20.

PART- II

8. Procedure for Response

(a) Shipyards 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. Apart from filling details about Shipyard, details about the exact vessel/NWJFAC meeting our generic technical specifications should also be carefully filled. Additional literature on the vessel/NWJFAC can also be attached with the form.

(b) The filled form should be dispatched at under mentioned address:-

Cmde (Ship Production),
Directorate of Ship Production
9th Floor, Chanakya Bhawan,
Chanakyapuri, New Delhi- 110021
Tele: 011-26886434
Fax: 011-26886426
E-mail: dsp@navy.gov.in

(c) Last date of acceptance of filled form is 08 weeks from uploading of RFI. The Shipyards short listed for issue of RFP would be intimated.

(d) 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 RFI.

Cdr Manish Chaudhary, Cdr (SP),
Tele: 011-26886434,
Fax: 011-26886426/ 26886439
E-mail: dsp@navy.gov.in

9. The Government of India invites responses to this request only from registered Indian Shipyards who qualify 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.

(c) Possess infrastructure and capacity (considering the existing and future work load) for undertaking the construction of the Vessels.

(d) The shipyard should be in possession of Warship Construction License as per Annexure I to Appendix C of chapter 12 (Details to be provided)

10. The Government of India invites to this request only from Indian Shipyards. The end user of the NWJFAC is the Indian Navy.

11. This information is being issued with no financial commitment and the Ministry of Defence 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 Shipbuilding Cases

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

OPERATIONAL/TECHNICAL SPECIFICATIONS
FOR NEW WATERJET FAST ATTACK CRAFTs (NWJFAC)

1. **Aim of RFI.** To finalize the specifications of New Waterjet Fast Attack Craft (NWJFAC-I), to meet the Indian Navy's requirements.

<u>SECTION A – GENERAL</u>		
1.	<u>Primary Roles</u>	<p>(a) <u>Primary Roles.</u></p> <p>(i) Local Naval Defence. (Seaward defence of defended Ports, Offshore Installations, Vital Areas and Vital Points).</p> <p>(ii) Interception and Attack.</p> <p>(iii) Low Intensity Maritime Operations (LIMO).</p> <p>(b) <u>Secondary Roles.</u></p> <p>(i) Special Operations.</p> <p>(ii) Anti-Piracy Operations.</p> <p>(c) <u>Constabulary Role.</u> In the constabulary role, these ships would be deployed for the following:-</p> <p>(i) MIO and VBSS Ops.</p> <p>(ii) Presence cum Surveillance Mission (PSM).</p>
2.	<u>Essential Features</u>	<p>(a) Should be designed for operations in shallow waters in coastal areas.</p> <p>(b) Should be capable of operating in open seas also and extreme tropical conditions.</p> <p>(c) The design should be cater for free movement of personnel from fo'xle to Quarterdeck by the provision of a continuous upper deck.</p> <p>(d) Expected life span of 20 years.</p> <p>(e) Annual usage of approximately 3000 hrs.</p>

		<p>(f) The ship should have an operational cycle of 24 months followed by refit.</p> <p>(g) All machinery should have maximum reliability and maintainability for mission time of 7 days.</p> <p>(h) Modular concept should be followed for equipment/ systems.</p> <p>(j) Operating costs should be kept to minimum through automation.</p> <p>(k) Ship should comply with stability criterion as stipulated in Def Stan 02-900 Part 4.</p> <p>(l) Magazines should be constructed <i>iaw</i> INMER.</p>
3.	<u>Dimensions</u>	<p>The principal dimensions of the NWJFAC should be:-</p> <p>(a) Length Overall - 50+/- 5% m.</p> <p>(b) Draught - Not more than 2.1 m.</p> <p>(c) Displacement - Not more than 320 Tons</p>
4.	<u>Speed</u>	<p>The NWJFAC should have :-</p> <p>(a) Maximum speed for interception – More than 35 knots</p> <p>(b) Maximum sustainable speed – More than 25 Knots at maximum tonnage at deep displacement</p> <p>(c) Cruising Speed - More than 12 Knots.</p>
5.	<u>Endurance</u>	2000 nm at speed of 12 Knots.
6.	<u>Propulsion</u>	<p>The propulsion package is to be with three engines with independent RGs and Waterjets. MPP to consist of the following major equipment :-</p> <p>(a) Main Engine (Three No's) of 2.7 MW / higher suitable Power rating to meet Max speed at 85% MCR.</p> <p>(b) Gear Boxes (Three) – To meet main engine and speed characteristics.</p> <p>(c) Three Reversible/steerable Waterjets of suitable capacity and design to meet the powering / speed requirements</p>

7.	<u>Equipment Operating Conditions</u>	Ambient Air Temperature : 10 °C to Max 45 °C Max Relative Humidity : 95% at 35 °C Max Ambient Sea Water Temperature : Upto 38 °C
8.	<u>Sea Worthiness</u>	(a) Capable of operating in sea state up to 4. (b) Seaworthy up to sea state 6.
9.	<u>Design and Construction</u>	The vessel will be built to ABS/ IRS/ LRS / BV/ DNV-GL/ RINA standards.
10.	<u>Ergonomics</u>	Latest design concept for NWJFAC, with respect to automation, functional aspects and crew comfort, are to be included. The seats for crew shall be a shock-mitigating suspension type as per latest COTS specifications.
11.	<u>Manning and Carrying Capacity</u>	(a) Commanding Officer - 1 (b) Officer - 3 (c) Others - 20
<u>SECTION B – ARMAMENT</u>		
12.	Gun Armament	(a) 30 mm NSG with EOFCS. (b) 02 SRCGs. (c) Should be able to operate Loitering Munitions.
13.	Small Arms	The small arms with stowage facilities are as follows:- (a) Assault Rifle – 10 (b) LMG and / MMG (with two stands each) – 02 (c) 9 mm Carbine – 02 (d) Pistol – 05 (e) Pistol cupboard – 01 (to be located in CO's Cabin)
14.	Ammunition	(a) Stowage for 3000 rounds of 30 mm NSG iaw INMER. (b) Stowage facilities for 8 VSHORADS iaw INMER. (c) Small arms ammunition with stowage facility iaw INMER. (d) 36 Scare Charges with stowage facility. (e) RU locker iaw INMER

<u>SECTION C – NAVIGATION</u>		
15.	IBS	As per NSQRs (with Navigational Radars). <u>MFCs</u> Bridge – 03 <u>MFDs</u> Bridge Top – 01 (Portable), Bridge Wing – 02 CO Cabin -01 <u>ICC</u> Bridge – 01
16.	Gyro/ Gyro Repeaters	(a) 02 x INS-SA as per QRs. (b) Centre Line Pelorus on Bridge, Bridge Top. (c) Pelorus on bridge wings. (d) Gyro Repeaters on Bridge, MCR and ASP.
17.	Telescopic Azimuth Sight	05 portable telescopic azimuth sights for fitment on Azimuth Gyro Repeaters.
18.	Echo Sounder	(a) Echo Sounder in the bridge as per QRs and IHQ MoD (N)/DSR policy. (b) Repeater in MCR.
19.	Magnetic Compass	(a) One transmitting type Magnetic Compass as per QRs with repeaters in Bridge and ASP. (b) law IHQ MoD/DSR policy letter WP/0604 dated 11 Mar 21 or latest.
20.	Log	Electro Magnetic log with control unit fitted in the Bridge as per QRs and IHQ MoD (N)/DSR policy
21.	Position Fixing System	(a) 02 x G3I-RS/ DGPS, SBAS enabled GPS as per QRs. (b) One hand held GPS Receiver.
22.	AIS	01 x AIS is to be provided and fitted in bridge as per QRs.
23.	Night Vision Devices	04 x Night Vision Binoculars (IHQ MoD (N) /DSR policy WP/ 0651 / NVD dated 31 Aug 15)
24.	Binoculars	Five (05) optical binoculars to be provided.
25.	Laser Range Finder	01 x Hand held Laser Range Finder
26.	Chart Table	One chart table.

27.	Alarms	Alarms for all Nav Aids as per SOLAS, IMO regulations and BR 45(3) and FOST Acquaint.
28.	Steering Consoles	(a) Steering Consoles on Bridge and ASP. (b) Steering Console should have ability to select Gyro and Magnetic feeds and have provision of Auto Pilot Steering.
29.	Conning Intercom	Conning intercom is to be provided between Chart table, QM bridge top and bridge wings.
30.	Met Instruments	(a) 01 Marine AWOS (b) Precision Aneroid Barometer – Two (One Stand By) (c) Max & Min thermometer with casing – Four (Two Stand by) (d) Dry & Wet Bulb Thermometer with casing – Four (Two Stand by) (e) Whirling Psychrometer – Two (One Stand By) (f) Hand Held Anemometer with wind wane – Two (One Stand By) (g) Mobile Met Kit – One (h) Access to PC node for Panorama, INMAC and NODPAC products through Rukmani. – One
31.	CMS	One MFC and VRD in bridge
<u>SECTION D – COMMUNICATION</u>		
32.	Communication Equipment	The ship should have an integrated Communication suite with ACCS (Small ship configuration)/ latest version for integrating external and internal communication equipment for management, controlling, monitoring and remoting of various ship borne circuits. ACCS should be fully compatible with Data Link and SDRs. <u>Fixed Sets</u> (a) 02 x SDRs (With one 100W HF channel). (b) 02 x HDVL-HF Rx. (c) 01 x LINK II MOD II Small ship configuration (Latest version). <u>SATCOM</u> (a) 02 x MSS M II S-Band SATCOM Terminal. (b) 01 x FBB 500 with FX

GMDSS Suite

- (a) 01 x VHF MMB Tx/Rx with DSC
- (b) 01 x EPIRB.
- (c) 01 x SART.
- (d) 01 x INMARSAT C Terminal. Provision to operate Tx/Rx and INMARSAT C sets on ships 24V DC supply in addition to the main supply.

Visual Signalling Equipment

- (a) 02 x 10" Signal Projector
- (b) 02 x Aldis Lamp.
- (c) 02 x Flag Lockers (with provision for vertical stowage of flags).
- (d) 02 x Flag Sets and Dressing Lines.
- (e) 02 x Sets Hand Signalling Torch.
- (f) 02 x Sets of RAS/ NUC Lights and Shapes.

Portables

- (a) 02 x HF man pack set PRC 6020.
Associated battery charger and one spares battery.
- (b) 8 x handheld VHF Tx/Rx with VOX (for hands-free usage), MOTO TRBO XIRP8668i or equivalent/ later version, waterproof bag, associated battery charger and one spare battery each.
- (c) 01 x SDR (MP).
- (d) 02 x SDR (HH).

Misc Equipment

- (a) 01 x Crypto PC with ID biometric device, printer and UPS.
- (b) **One Sanchar PC with accessories.**
- (c) 01 X IBA PC.
- (d) 02 x On/offline crypto systems ECL Beacon or latest version.

Office Equipment

- (a) 01 x Office Computers with printer and UPS.
- (b) 01 x Desk Top Optical Scanner with OCR.
- (c) 01 x Photocopier.
- (d) 01 x Fax machine.
- (e) 01 x Cross cut shredding machine.

EW System

Light weight ESM system capable of detecting emitters in the freq range from 0.1 to 18 GHz or better.

Emergency Power Supply

Provisioning of emergency power supply to following communication equipment in the event of non-availability of ships main power supply system:-

	<ul style="list-style-type: none"> (a) 01 x SDRs. (b) 01 x HD VLF Rx. (c) 01 x On/Off Line Crypto System (ECL Beacon MK III). (d) 02 x Signal Projectors. (e) Remote Operating Positions (one each in Bridge and MCO). (f) Lighting in MCO. (g) Link II MOD III server and one OC each in Bridge and Ops Room. (h) ACCS (for remote operation of sets) with 02 remote positions in Bridge/ Ops Room. (j) 01 x Crypto PC. (k) 01 x MMB set.
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SECTION E – ACCOMODATION

33.	Accommodation	<ul style="list-style-type: none"> (a) Cabin for CO with attached WC and shower. (b) Two double bunk and one single bunk cabin for officers. (c) Wardroom with attached pantry for officers. Ward Room to be provided with LCD TV of suitable size, Home Theatre with Music Systems, Rack for stowage of Wardroom items, Tea / Coffee Vending Machine, Microwave oven, Water Cooler (20 L) and Electric Fly / Insect Killer. (d) Separate Mess decks for up to 5 senior and 18 junior sailors. (e) Common dining hall for senior and junior sailors. Sailors dining hall to be provided with LCD TV of suitable size, Home Theatre with Music Systems, one industrial oven and Electric Fly / Insect Killer. (f) Separate WC and shower for officers and sailors. (g) Accommodation design is to comply with Def-Stan 02-107 and policy letter IHQ MoD(N)/ DNA NC/Policy/H-121/ equipment dated 05 Apr 17.
34.	Domestic Arrangements	<ul style="list-style-type: none"> (a) Common Galley for officers and sailors. (b) One canteen locker. (c) One water cooler in sailors dining hall. (d) Two washing machine of 5-6 lts capacity.
35.	Air Conditioning & Ventilation	<ul style="list-style-type: none"> (a) Integral A/C for extreme tropical conditions in all living and working spaces.

		<p>(b) Ventilation and forced draught arrangements in other spaces.</p> <p>(c) AC and Ventilation system to be iaw NES 102.</p>
36.	Offices	<p>(a) The following offices are to be provided with adequate work stations, each with PCs, heavy duty all-in-one printer scanner and copier (where needed), cupboard shelves and lockers with electronic locking arrangement:-</p> <ul style="list-style-type: none"> (i) 01 x Bridge. (ii) 01 x MCR. (iii) 02 x Main Signal Office. (iv) 01 x CO's Cabin. (v) 01 x EXO's Cabin. (vi) 01 x EO's Cabin. (vii) 01 x NO's Cabin. (viii) LAN/Server Room. (ix) Ships Office <p>(b) Three fax machines and eight paper shredding machines are to be provided for offices.</p>
<u>SECTION – F – LOGISTICS ARRANGEMENTS</u>		
37.	Stowage Arrangements	<p>(a) Stowage space for 30 days dry ration (0.8 ton) with fixed rodent repellent system and 07 days fresh provisions storage for 0.7 Ton (cool room) be provided adjacent to Ships Galley.</p> <p>(b) Sufficient stowage space to be provide in compartments.</p> <p>(c) Rope and Canvas store to be provided with forced ventilation.</p>
38.	Water Tank	10 Tons capacity fresh water tank.
39.	Transport	<p>(a) One SUV and One MUV per ship.</p> <p>(b) Two E-bikes per ship.</p>
40.	Safe Chests	<p>Electronics Fire Proof chest safes, as per scale and regulations in force are to be provided at following places:-</p> <p>(a) Within almirah in each officer's cabin.</p>

		<p>(b) Captain's & EXO's cabin (along with two physical keys).</p> <p>(c) 02 x chest in MSO.</p> <p>(d) Ship's Office for stowage of documents.</p>
<u>SECTION – G – HULL</u>		
41.	Hull Material	<p>(a) Steel for hull construction should be DMR249A steel as specified in IHQ/ DNA NCD 0249, Part 1, 2 and 3.</p> <p>(b) Aluminium, DMR 0291A iaw NCD 0291 be used for superstructure.</p> <p>(c) Deck covering of dry & wet spaces is to be heavy duty epoxy based underlay and topcoat iaw NCD 3717, Issue 4, Rev 1 and Policy letter NC/Policy/H-144/Material.</p>
42.	Sewage Treatment Plant	Sewage Treatment Plant & Vacuum toilet system and fixed H ₂ S gas detection and alarm system is to be provisioned in accordance with NCD 3930, Issue 3, 2016. Sewage and Grey water drainage system shall be designed i.a.w Def Stan 02-718.
43.	Hull Plating	<p>(a) The hull plating (shell and deck plating) while meeting Classification Society strength requirements, shall not be less than 5 mm thick.</p> <p>(b) Corrosion allowance to be specified by the Classification Society.</p>
44.	Painting Specifications	Paint scheme for weather deck, wet compartments, bilges, super structure and underwater etc should be drawn up in accordance NO 53/16 and Policy letters NC/Policy/H-139/Material, NC/Policy/H-140/Material, NC/Policy/H-142/Material and PP-144/2021/MB/NC/Paint-NCD 1485.
45.	Insulation	Insulation material is to be based on NCD 1430 and NCD 1433.
46.	Access	<p>(a) Aluminium WT doors to conform to NHQ specification NCD 3526.</p> <p>(b) Air locks for entry to A/C spaces to be provided.</p> <p>(c) Escape ladders are to be of mild steel.</p> <p>(d) WT doors and hatches to conform to NCD 1447 and 1448 respectively. Emergency escape hatches/ scuttles to conform to NCD 1449.</p>
47.	Galley Equipment	<p>Following Galley Equipment to be provided:-</p> <p>(a) One Induction based Cooking Range with two four hot plates with inbuilt baking oven along with requisite cooking utensils.</p>

		<p>(b) One Rice Cooker (20 ltr).</p> <p>(c) One Hot Water Boiler.</p> <p>(d) Two deep freezers (200 litres).</p> <p>(e) Refrigerators- Two in no refrigerators of capacity 400 litres, one each in the Ward Room and Galley. 0.7 Ton Capacity Cool room.</p> <p>(f) One Garbage disposal unit.</p> <p>(g) One tiltable Idli Grinder.</p> <p>(h) Combisteamer with idli trays.</p> <p>(j) Vegetable Cutting Machine with spare blade set (05 Kg)</p> <p>(k) Two Tea/ coffee vending machine, one each in pantry and sailors dining hall</p> <p>(l) Wet and Dry Vacuum Cleaner</p> <p>(m) One Wet Grinder -5 Kg</p> <p>(n) One Masala Grinder - 2 Kg</p> <p>(p) Deep Fat Fryer with tilting mechanism (3 ltr)</p> <p>(q) Work Counter</p> <p>(r) Three RO purifiers, one each for Galley, Wardroom and Sailors Dining Hall</p> <p>(s) One Preparation Table</p> <p>(t) One Juicer - 5 Litres</p> <p>(u) One Bain Marie (for Distribution Counter)- 6 Containers x 4 Litres</p> <p>(v) Three Hot Case - 10 Litres</p> <p>(w) Utensils/ Handi rack</p> <p>(x) Fixed rodent repellent system</p>
48.	Anchor and Chain Cable.	Complete anchoring and berthing arrangements as per Classification Society Rules should be provided.
49.	Boat and Boat Davits	One 4.7 m RIB with motorized lowering, hoisting and slewing davits to be provided.

		Boat davit to conform to NCD 1500
50.	Towing Arrangements	Fwd and Aft towing arrangements with emergency disengaging gear aft.
51.	Fenders	Six portable light weight fenders with stowage arrangement on upper deck should be provided.
<u>SECTION H – ENGINEERING</u>		
52.	General	<p>(a) All Engineering equipment to comply with latest version of respective DEF-STAN / NES / MIL-STD / DME Specification/Policies. The same will be specified in RFP/GLS.</p> <p>(b) Trials and acceptance of engineering equipment and systems will be as per DME-303D.</p> <p>(c) Flangeless piping to be provided for Fresh Water and Chilled Water systems for diameter less than 108 mm.</p> <p>(d) Only type-tested equipment to be selected for installed onboard.</p> <p>(e) Suitable hot lagging to be provided for all hot sections of equipment / systems so that the lagging surface temperature does not exceed 35°C.</p> <p>(f) All machinery, its sub-assemblies and control systems should be able to perform continuous operation with machinery compartment conditions as follows:-</p> <p style="padding-left: 40px;">(i) Normal Operating Temperature : Upto 55°C</p> <p style="padding-left: 40px;">(ii) Operation in Closed Down Condition:> 70°C</p>
53.	Environmental Conditions	<p>Ambient Air Temperature : 10 °C to Max 45 °C</p> <p>Max Relative Humidity : 95% at 35 °C</p> <p>Max Ambient Sea Water Temperature : Upto 38 °C</p>
54.	Main Propulsion System	<p>The propulsion package is to be with three engines with independent RGs and Waterjets. MPP to consist of the following major equipment :-</p> <p>(d) Main Engine (Three No's) of 2.7 MW / suitable Power rating to meet Max speed at 85% MCR.</p> <p>(e) Gear Boxes (Three) – To meet main engine and speed characteristics.</p> <p>(f) Three Reversible/steerable Waterjets of suitable capacity and design to meet the powering / speed requirements</p>
55.	DAs	Three DAs of suitable capacity, with at least one DA is to be sited in different compartment for redundancy.

		<p>(a) At least two sea tubes to be provided for the DAs, for redundancy.</p> <p>(b) Transient Response requirements of DA are to be included iaw IHQ Policy letters EG/Policy/DSL/04/2015 dated 16 Apr 2015 and EE/03/9700 dated 11 Jun 2019.</p> <p>(c) No acoustic enclosure is to be provided. The Alternators should comply to EED-Q-242 (R3) or IEC as specified in the IHQ MoD(N)/ DME approved SOTR.</p>
56.	Reverse Osmosis Plant	One in number Reverse Osmosis plant with a capacity of four/five tons per day.
57.	AC Plant	<p>AC Plants of adequate capacity with 100% reserve (with two independent Gas systems). AC Plants shall use R-134A gas and to be selected / designed iaw IHQ MoD(N) letter EG/4001/Aux/02 dated 28 Aug 20</p> <p>(a) Ambient Temperature. Dry bulb 41 °C, Wet bulb 30°C and sea water 38°C.</p> <p>(b) Internal Effective Temperature. Internal temperatures to be achieved are as indicated :-</p> <p>(i) For all compartments, except galley complex, 23.5°C Effective (27.0°C DB/ 19.6°C WB).</p> <p>(ii) Galley complex, 29°C Effective (34.5°C DB/ 26°C WB)</p>
58.	Bilge Educator	Suitable number of Bilge Educator is to be provided iaw IACS Rules.
59.	Motor Driven pumps	<p>(a) Sufficient number of motor driven pumps of adequate capacity, both centrifugal (FW pumps, Salvage pumps, fire pumps, SW pumps etc.) and positive displacement pumps (lub oil pumps, bilge pumps, fuel oil pumps, transfer pumps) are to be provided.</p> <p>(b) All centrifugal pumps to be compliant to DME-465</p>
60.	Fixed Salvage Pumps	Two in nos Fixed Salvage Pumps of 150 TPH capacity each to be provided. The Salvage and water drain system design and arrangement will be as per INBR 312 with provision to undertake in-situ Functional Trials. Salvage Pumps/ Dewatering arrangements are to be sited above Bilge Wells.
61.	Engine Room Bilge Lighting	Lighting iaw EED-50-33(R1). Engine room lighting to be arranged so as to specially provide proper illumination of all areas of the compartment specially areas containing

		EOT/ROT, pumps, starters, control panels and indicators. The bilges to be sufficiently lit with water proof lights.
62.	MCR	<p>(a) MCR to be located between MER and AER with glass windows. Sufficient thermal and noise insulation to be provided for MCR to ensure minimum sound levels and ambient temperatures.</p> <p>(b) A suitable control and monitoring system to be fitted in MCR, capable of controlling / monitoring/surveillance/ Data logging of main propulsion plant and auxiliary machinery. The system should allow data transfer on CD/DVD and print out of data.</p>
63.	Air Compressors	<p>(a) Electric driven air compressors of 200 bar capacity catering for 100% redundancy as per calculated air requirements are to be provided.</p> <p>(b) Air Receivers are to be sited vertically with provision to drain the condensate.</p>
64.	Engineering Spare Gear Store / Lockers	Engineering spare gear store / lockers with easy access / retrieving facility
65.	OBS	The maintenance tools, test equipment and software (as applicable) used for on-board repair/ maintenance would be supplied by the vendor as part of OBS with complete details in the ILMS format (14 column format). The OBS supplied must cater for break down maintenance, routines falling due within two years after delivery of the vessel. The OBS has to be recommended based on the likely consumption rate of the spares and on the exploitation pattern of the system/ equipment. The order for OBS, tools and test equipment finalized during TNC has to be done concurrently with the order for main equipment. Indicative OBS for engineering equipment is to be supplied iaw PDME Ty Memo EG/0209 dated 19 Sep 14 which will be indicated in the SOTRs of each equipment. The spares are to be supplied in a standard metal boxes, duly preserved (with VCI packing) for long term duration of at least two years.
66.	Base and Depot Spares	The vendor should forward recommended list of B&D Spares for the equipment/ system to sustain five years of exploitation iaw INBR 622 (Rev). The B&D spares list should comprise of long lead time spares, spares required as insurance spares and OBS replenishment for a period of five years post commissioning of the vessel. Quotes for B&D spares should be submitted in the ILMS format. The vendor is to forward the complete CPL/ PIL of each and every equipment along with item costs in the ILMS format to ensure that the data is captured in the ILMS/ Naval Inventory Management software.
67.	Fuel	Fuel specification is to be as per HFHSD promulgated vide IN DME 512.
68.	POLs	Only indigenous POLs supplied by <i>IN</i> POL supplier to be used on all engineering equipment.

SECTION J – ELECTRICAL

69.	Generators	<p>(a) Three DGs with suitable rating to cater for 100% reserve capacity under various load conditions to be provided. DGs given in Navy Order 18-96 and procured from approved vendors identified by DQA (N) in consultation with NHQ/DEE. Generators to conform to EED-Q-242 (R3) specification. At least one DA to be located in separate compartment for redundancy.</p> <p>(b) Cables for all lighting, power, shore supply and equipment will be EBXL Irradiated Cables as per IN specification EED-50-12 (R3) and EED-50-13 (R2).</p> <p>(c) Test equipment as per NHQ approved INCRETE to be provided.</p> <p>(d) Adequate 24V DC sockets to be installed in all machinery compartments.</p> <p>(e) All electrical equipment/fittings for fitment on the ship will be selected from the list of approved vendors of DQA (N) in consultation with NHQ/DEE.</p> <p>(f) Main switchboards (with bus coupler between each generator section), switchgear and distribution boards conforming to EED-Q-264/NES-532 with naval type tested/approved microprocessor air circuit associated equipment to be selected from approved list of vendors of DQA (N) in consultation with NHQ/DEE.</p> <p>(g) All motors and starters conforming to EED-Q-071(R4) to be provided and selected from approved list of vendors of DQA(N) in consultation with NHQ/DEE.</p> <p>(h) All rotary converts/rectifiers/SFCs etc to be selected from approved list of vendors of DQA (N) in consultation with NHQ/DEE.</p> <p>(j) One Emergency DG of suitable rating for WT and communication equipment to be provided. The power supply of the emergency DA exhaust and supply blowers should be same as the emergency DA supply, ie, 230V single phase.</p> <p>(k) Electrical load indicator to be provided in MCR for all DAs.</p>
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70.	Power Supply Requirements	<p>(a) Supplies of 415 Volts, 3 phase 50 Hz & 230 Volts single phase 50 Hz AC regulated to ± 0.5 percent and 24 volts DC.</p> <p>(b) Power supplies required for the operation of NSG-30 with EOFCS.</p> <p>(c) 230 V AC, 50 Hz, 1 Phase supply derived from 415, 3 Phase, 4 wire system (obtained through secondary star connected transformer) with earthing of neutral to ship's hull along with ELCB & DPDT MCB for domestic and COTS equipment.</p>
71.	Ventilation and Lighting	Adequate ventilation and lighting with extra lighting for operational compartments such as Enclosed Bridge to be provided. Police light to be provided in lobbies, Gangways, hatch ways, all sleeping billets, messes and wash placed to be provided.
72.	Battery and Battery charging facility	Adequate suitable number of Fire retardant Maintenance Free (SMF) batteries are to be provided along with a suitable battery charging facility conforming EED-50-35.
73.	Transformers	Transformers to conform to NES – 535 specifications and approved SOTRs promulgated by NHQ/DEE. At least two lighting transformers to be provided.
74.	Emergency Lighting	Sufficient numbers of LED based AEL conforming to EED-50-28 (R1) with batteries to be provided for illumination of alleyways, compartments, machinery spaces etc.
75.	Auto Change Over switches	<p>All essential services/ equipment to be fed through auto changeover switches.</p> <p>ATS (Auto Transfer Switch) For systems/ equipment with changeover time of less than 0.1 sec and not provided with UPS by the OEM, installation of ATS conforming to EED-50-78 is to be undertaken in lieu of ACOS. Shipyards are to be intimated for installation of ATS in lieu of ACOS based on power supply changeover times mandated by OEM's for trip free operation of systems/equipment.</p>
76.	Internal Communication	<p>The following system to installed on-board:-</p> <p>(a) Main broadcast/SRE system.</p> <p>(b) Sound Power Telephone system.</p> <p>(c) Auto Telephone system.</p> <p>(d) Various Intercoms (Conning, Machinery, Action, Intercoms etc.)</p>
77.	EMI/EMC	<p>EMI/EMC standardized procedures are to comply with NECP 500 and MIL STD 461 E/F</p> <p>(a) Standard procedures as per IHQ MoD (Navy) promulgated policies on EMI/EMC aspects to be followed for shipbuilding.</p>

		<p>(b) Shipyard to fabricate a Scale Model 1:50 to facilitate RF and EMI/EMC studies on the ship.</p> <p>(c) Software based EMI/EMC simulation studies to be carried out.</p> <p>The location of all antenna is to be arrived at using modelling software like ship EDF etc.</p>
78.	Documentation	Documentation in respect of electrical equipment to be provided as per IHQ MoD(N) promulgated policy EED-S-048 Issue 1-2000.
79.	Entertainment	Video Distribution System to be provided.
80.	Lighting	"The vessel's lighting supply would be 230V, 50 Hz, 1Ph and the entire vessel would be fitted with LED light fittings conforming EED-50-33 (R1)".
81.	Shore Supply Arrangements	"Ships to be provided with suitable number of watertight shore supply connection boxes with enclosure protection IP 57, one each on either side of the ship on weather deck of adequate capacity to meet the harbour load of the vessel. Shore supply cable of 50 m length of suitable rating with stowage arrangement near the shore supply connection box is also to be provided.
82.	Window Wipers	"Class approved Window wipers confirming to ISO 17899 as per the IHQ MoD (Navy) DEE policy EE/03/9711/Policy/Power/L-116 dated 08 Sep 20 is to be provisioned".
83.	Cabin fan	"Industrial fans with metal casing confirming to IS 1169:1967 (Revised 1993) of suitable sizes from approved sources operating on 230 V AC are to be provided in accommodation spaces, offices and manned stores/ spaces".
84.	Insulated Mats	"High voltage insulated synthetic mats confirming to IS -15652-2006 are to be used in Switchboards, Converter Rooms Equipment Rooms, Battery Compartments".
85.	Galley Power Supply Isolating Switch.	"To ensure safety of galley spaces, galley equipment are required to be controlled by a single isolating switch, which is to be located at a readily accessible position outside the galley, adjacent to the main entrance".
86.	Magazine Lighting	<p>(i) Primary Lighting. LED based Flame Proof Light Fittings conforming to EED-50-33(R1) to be used for Primary Lighting in Magazines.</p> <p>(ii) Emergency Lighting. LED based Flame Proof Light Fitting conforming to EED-50-33 (R1) is also to be used as Emergency Lighting in the Magazines. The light fittings are required to be powered using 24 V DC supply from battery banks with suitable charging arrangement located outside the magazine compartments".</p>

87.	UPS	<p>Ruggedised UPS conforming to EED-50-77 to be provisioned for equipment 'Float' iaw IHQ MoD(N)/DEE Policy letter EE/03/9711/Policy/I-105 dated 24 Jan 17. Accordingly, supply for the following equipment are to be fed through UPS as per NSQRs promulgated by IHQ/ DEE:-</p> <table border="1" data-bbox="719 405 1490 1048"> <thead> <tr> <th data-bbox="719 405 810 443">Ser</th> <th data-bbox="810 405 1490 443">Equipment</th> <th data-bbox="1490 405 1594 443">Type</th> </tr> </thead> <tbody> <tr> <td data-bbox="719 443 810 481">(a)</td> <td data-bbox="810 443 1490 481">Navigational lights and NLCP</td> <td data-bbox="1490 443 1594 481">Offline</td> </tr> <tr> <td data-bbox="719 481 810 519">(b)</td> <td data-bbox="810 481 1490 519">Telephone Exchange</td> <td data-bbox="1490 481 1594 519">battery</td> </tr> <tr> <td data-bbox="719 519 810 557">(c)</td> <td data-bbox="810 519 1490 557">Main Broadcast</td> <td data-bbox="1490 519 1594 557"></td> </tr> <tr> <td data-bbox="719 557 810 595">(d)</td> <td data-bbox="810 557 1490 595">Conning and Machinery Intercom</td> <td data-bbox="1490 557 1594 595"></td> </tr> <tr> <td data-bbox="719 595 810 633">(e)</td> <td data-bbox="810 595 1490 633">Emergency lighting</td> <td data-bbox="1490 595 1594 633"></td> </tr> <tr> <td data-bbox="719 633 810 672">(f)</td> <td data-bbox="810 633 1490 672">Two Communication Sets (Below 1KW)</td> <td data-bbox="1490 633 1594 672"></td> </tr> <tr> <td data-bbox="719 672 810 710">(g)</td> <td data-bbox="810 672 1490 710">Flood and Fire Alarm Systems</td> <td data-bbox="1490 672 1594 710"></td> </tr> <tr> <td data-bbox="719 710 810 748">(h)</td> <td data-bbox="810 710 1490 748">Gyro and DDU</td> <td data-bbox="1490 710 1594 748">Online</td> </tr> <tr> <td data-bbox="719 748 810 786">(j)</td> <td data-bbox="810 748 1490 786">GPS/ AIS/ VDR/ DAT Recorder/ ECDIS</td> <td data-bbox="1490 748 1594 786">battery</td> </tr> <tr> <td data-bbox="719 786 810 824">(k)</td> <td data-bbox="810 786 1490 824">Machinery Control and Indication supplies</td> <td data-bbox="1490 786 1594 824"></td> </tr> <tr> <td data-bbox="719 824 810 862">(l)</td> <td data-bbox="810 824 1490 862">MDA/ MSS Tx/ Rx</td> <td data-bbox="1490 824 1594 862"></td> </tr> <tr> <td data-bbox="719 862 810 900">(m)</td> <td data-bbox="810 862 1490 900">GMDSS (MMB set)</td> <td data-bbox="1490 862 1594 900"></td> </tr> <tr> <td data-bbox="719 900 810 938">(n)</td> <td data-bbox="810 900 1490 938">Steering Controls and Indications</td> <td data-bbox="1490 900 1594 938"></td> </tr> <tr> <td data-bbox="719 938 810 976">(p)</td> <td data-bbox="810 938 1490 976">One Nav COTS Radar (with least blind arc)</td> <td data-bbox="1490 938 1594 976"></td> </tr> <tr> <td data-bbox="719 976 810 1014">(q)</td> <td data-bbox="810 976 1490 1014">Echo Sounder and Log</td> <td data-bbox="1490 976 1594 1014"></td> </tr> <tr> <td data-bbox="719 1014 810 1052">(r)</td> <td data-bbox="810 1014 1490 1052">Rukmani/ INMARSAT/ ECL Beacon</td> <td data-bbox="1490 1014 1594 1052"></td> </tr> </tbody> </table>	Ser	Equipment	Type	(a)	Navigational lights and NLCP	Offline	(b)	Telephone Exchange	battery	(c)	Main Broadcast		(d)	Conning and Machinery Intercom		(e)	Emergency lighting		(f)	Two Communication Sets (Below 1KW)		(g)	Flood and Fire Alarm Systems		(h)	Gyro and DDU	Online	(j)	GPS/ AIS/ VDR/ DAT Recorder/ ECDIS	battery	(k)	Machinery Control and Indication supplies		(l)	MDA/ MSS Tx/ Rx		(m)	GMDSS (MMB set)		(n)	Steering Controls and Indications		(p)	One Nav COTS Radar (with least blind arc)		(q)	Echo Sounder and Log		(r)	Rukmani/ INMARSAT/ ECL Beacon	
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SECTION K – FIRE FIGHTING AND NBCD

88.	Major NBCD System	<p>(a) Fire Main System and Fire/Salvage Pumping Arrangement. Details as per INBR 312.</p> <p>(b) Automatic Magazine Sprinkling System for Magazine and Barbette (Modification included in the CCS Note). As per INMER 1862.</p> <p>(c) Magazine flooding system as per INMER 1862.</p> <p>(d) Automatic Galley Fire Fighting System is to be provided in the galleys for containing galley fire as per IHQ MoD (N)/DNBCD policies and SOTRs. The galleys must also be provided with fire dampers in all HVAC trunkings. Additionally, indications should be provided in DCHQ, outside respective galleys and IPMS/BDCS during operation.</p> <p>(e) Addressable Fire Detection System (AFDS) is to be provided for all compartments and compartments which are likely to remain locked/ unmanned during non-working hours, to meet all requirements as per DEFSTAN-02-602/02/603 (NES 602/603), INBR 312, IHQ MoD (Navy)/ DEE Policy</p>
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		<p>EE/Policy/L-74/ POWER-21 dated 21 Feb 11 and DNBCD Policy letter NB/0695/AFDS dated 19 Jan 18. The system should be integrated with the BDCS for continuous monitoring and action.</p> <p>(f) Addressable Flood Alarm System (AFAS) to be provided as per IHQ MoD (Navy)/DEE Policy letter EE/Policy/L-84/POWER-27 dated 02 Apr 12 and DNBCD Policy letter NB/0695/AFAS dated 24 Aug 21.</p> <p>(g) Contemporary Fixed Fire Fighting System is to be provided for Paint Store/Bosun Store as per Class Authority and requirements as per NO (Str) 03/19.</p> <p>(h) Novec-1230 fire-fighting system in machinery compartments iaw IHQ MoD(N) letter EG/4707/06/NBCD dated 10 Jun 20.</p>
89.	Portable NBCD Equipment	Portable NBCD equipment to be provided as per INBR 312/CNAL
90.	NBCD Arrangements	<p>(a) Two NBCD lockers and stowage arrangements for stowage of DC and FF items. Design of lockers to accommodate part quantity of CNAL items.</p> <p>(b) Fitment of indicator test plugs on all doors and hatches in the Red Risk Zone to fitted as per Para 44 (b) of NO (Str) 03/19, Para 0201 (K) of INBR 312 and IHQ MoD(N)/DNBCD policy Nb/0695/ITP dated 07 Mar 19.</p> <p>(c) Fitment of photo luminescent markings for escape routes and first aid boxes.</p> <p>(d) Provision of emergency escapes routes with suitable hatches and ladders. Escape hatches to be lightweight and easy to operate.</p> <p>(e) Waterline marking and flooded volume markings for all compartments below the main continuous deck.</p> <p>(f) Fitment of First Aid Boxes.</p>
91.	Additional Features	<p>(a) All the compartments should have location markings as per policy in force.</p> <p>(b) All the openings to have risk and control markings.</p> <p>(c) NBCD Drawings are to be provided as per Para 0227 of INBR 312.</p> <p>(d) NBCD Boards are to be provided in DCHQ/MCR as per Para 1302 of INBR 1835 Vol II, INBR 312 and IHQ MoD(N)/DNBCD Policy letter NB/0695/ Policy dated 03 Jul 17.</p>

		<p>(e) NBCD Class & Specification Book is to be prepared by the shipbuilder and provided to the ship prior to commissioning as per Appendix 'B' of NO 27/16.</p> <p>(f) The CNAL will be provided by <i>IN</i>.</p> <p>(g) On-board Stability Software is to be provided.</p>
<u>SECTION L – MISCELLANEOUS</u>		
92.	Shock Protection	As per <i>IN</i> Shock policy letter EG/5522/Policy dated 11 May 07.
93.	Diving and VBSS Equipment	Diving and VBSS equipment are to be supplied as per Diving/VBSS Outfit Allowance List for class of ship with suitable stowage space.
94.	POL Storage Space	One RU locker at quarter deck for storing of POL.
95.	OBM Tank	One metallic heavy-duty anti-corrosive tank is to be provided with fresh water inlet and outlet to drains.
96.	Rubber Roller with Ball Bearing	Detachable rollers with rubber padding (size 2 ft) are required at launch site for hoisting/ lowering of inflatable craft. The rollers should protrude slightly outside the ship's side to avoid rubbing/ damage to inflatable crafts during manual lowering.
97.	Fresh Water Point	FW point should be provided near quarter deck for carrying out after-use routine of diving equipment.
98.	Life Saving Appliances	<p>(a) One 4.7m Rigid Inflatable Boat with OBM. Boat Davit SWL as per Naval Specifications.</p> <p>(b) Gemini Craft with OBM.</p> <p>(c) Two 20 men inflatable life rafts. Securing arrangement of life rafts are to be iaw FOST Safety Acquaint Safety/FOST/SS/2013/02 dated 20 Feb 13.</p> <p>(d) Life Jackets as per SOLAS requirement.</p> <p>(e) Hazardous Duty Life Jacket for crew are to be provided iaw IHQ MoD (N)/DSR policy letter WP/0702/HDLJ dated 29 Jul 15.</p> <p>(f) Two marker man overboard (smoke and light) are to be provided.</p> <p>Lifesaving appliances to meet the SOLAS requirement.</p>
99.	ICCP	To conform to NO 03/21 and INBR 372. Sacrificial Anodes should be provided iaw NCD 3908, Issue 1.

100	TV/ Music System	Three smart TVs with music systems to be provided in Captain Cabin, Ward Room and Sailors mess.
101	Physical Fitness Equipment	<p>Following Physical Fitness Equipment to be provided:-</p> <p>(a) Rowing Machine – Two</p> <p>(b) Set of weights for weight lifting – One</p> <p>(c) Bull worker – Two</p> <p>(d) Dumb Bells (with stowage stand)– Two pairs (5kg, 7.5 kg, 10 kg and 12.5kg)</p> <p>(e) Chest expander – Two</p> <p>(f) Yoga mat – Ten</p> <p>(g) Skipping Rope – Ten</p> <p>(h) Complete hockey gear for 16 players with team uniforms – One set.</p> <p>(j) Complete cricket kit for 16 players with team uniforms – One set.</p> <p>(j) Football, Volleyball and Basketball with other accessories – One set each.</p>
<u>SECTION – M: MEDICAL</u>		
102	Medical Locker	<p>(a) One small modular cabinet (with locking arrangement) for storing controlled/dangerous drugs.</p> <p>(b) Two modular shelves/cupboards for storing equipment, medicines and document within the space available.</p>
103	Medical Equipment	The ship should be provided with equipment scale N1 Type D by AFMSD as per GOI MoD Letter 20069/ME Scale/DGAFMS/DG2C/IN SHIPS/MOD/572/07/D (Med) dated 31 Aug 76.
104	Stretchers	02 x Neil Robertson Stretchers are to be positioned suitably along the main alleyways/in suitable positions distributed along the ship along with securing cabinet. Securing arrangements for stretchers are to be provided. Provision for other stretchers should be made in the medical store.
105	First Aid Boxes	First Aid Boxes are to be fitted and spread evenly across the ship. One First Aid Box each is to be located in fwd and aft sections.
106	Emergency OT	Wardroom area should be designated as Emergency OT. A fixed table [size at least 185cm (L) x 50cm (B) x 85cm (H) is to be provisioned along with securing/fitting arrangements. Shadow-less OT lights to be fitted on the ceilings of designated

		Emergency OT table. A clear area of 1m should be available all around the OT table, except head end of table where it should be 1.5m.
<u>SECTION N – INFORMATION TECHNOLOGY</u>		
107	General	It is planned to install an Administrative Local Area Network (ALAN) to network all departments of the ship. The LAN will facilitate sharing of resources (storage media, printers, applications software) and electronic mail amongst users.
108	Servers	Blade Servers. The hardware specifications should be as per IT hardware specs promulgated on yearly basis or latest available at the time of installation.
109	NAS Storage	Minimum 10 TB in RAID 5 configuration.
110	Core Switch (L3)	24 Port Managed switch with fibre termination with 1KVA smart rack type UPS with 30 minutes backup power.
111	Desktop PCs	For officers, admin offices and to meet administrative functionalities. Hardware is to be as per latest IT Minimum Hardware Specifications promulgated by DIT. All PCs to be provided with 1KVA UPS for 30 minutes backup power. The minimum recommended quantity of PCs is 10 with a tolerance of +20%.
112	Printers	01 Network laser printers, 02 stand-alone laser printers, 01 Colour Multi-function devices (A3 size, copier, scanner) functionality.
113	Portable Work Station	01
114	I/O boxes or Node points	Equal to no of PCs on LAN & Network/ Multifunction printers (+20% additional) node points are to be positioned in all central places like MCR lobby, JS and SS Dining halls, Ward Room, Foxle, Midships, Quarterdeck (port and starboard sides) etc. In addition, I/O boxes on the weather deck are to be IP 67 compliant. Minimum of 03 such I/O boxes are to be provisioned to cater for LMC connectivity and gangway kiosks.
115	Network Architecture	(a) Network Standards. The overall network architecture should conform to IEEE 802 set of standards of LANs. The standard recommended to be implemented is 802.3ae-2010 standard with fully duplex switches only. These relate to 40/100 Gigabit Ethernet Standards. The detailed networking standards are available on IT portal and the same downloaded if required. The technology selected for establishment of the network should be futuristic, keeping in view the average life of a ship to be 20 years. The entire network should be modular in design to ensure ease of maintenance and future growth. All network components (Core switches, Access switches, servers and other hardware) and complete network as such to be IPv6 compliant. The network should be able to support IP video

		<p>conferencing and IP telephony. Networking standards and provisioning has to consider the requirement of LAN on-board ship for next 20 years.</p> <p>(b) Cabling. Category 6a standards would be applicable to the Shielded Twisted Pair (STP) cabling between Access switch to the node. Positioning of Access switches is to be in a manner to ensure that point-to-point distance from switch to node (> 90 metres) is avoided. Nodes in machinery/ops compartments that require fibre to unit will be provisioned as per requirement. Positioning of Access switches is to be in a manner such that a particular watertight/gas tight section is served by dedicated switch/switches. The number of Access switches be chosen accordingly. For interconnection between Access switches located across water tight/gastight sections, armoured OFC is to be used and cable glands are to be sealed properly.</p> <p>(c) Redundancy. Redundancy and fail-safe operation options are required to be provided for power supplies and network respectively. In case of power supplies, redundancy would have to be provided separately for UPS and mains supply. In case of network architecture, following is to be implemented:-</p> <ul style="list-style-type: none"> (i) Core switches to be inter-connected with two sets of fibre optic cable for redundancy. (ii) Hybrid mesh topology for all access layer switches involving each switch connected to the core switch. (iii) Dual redundancy at all nodes in machinery compartments, NAS boxes and for critical PCs. Alternatively, redundant Access points be provided in critical compartments through terminations from different access switches.
116	Drawing and Documentation	A separate drawing and documentation should be provided for cabling and admin LAN arrangement while designing the ship, similar to other system drawings. Documentation of network architecture is also essential for Vulnerability Assessment (VA). Electronic version of the document is also to be provided.
117	Standards	The connectorisation of STP or OFC cables is to be according to industry standards and should have safeguards against EMI / EMC. All cable termination, splicing, laying, earthing, colour coding, cable marking (both internal and external) are to meet stringent industry standards which are to be clearly indicated by the vendor in the technical bid.

118	List of Deliverables	Ser	Recommended Items	Quantity
Hardware				
		(a)	Blade Servers	02 servers
		(b)	Desktop Personal Computers	4 + 20%
		(c)	1 KVA UPS	4 + 20%
		(d)	Zonal (access) Switches (L2)	01
		(e)	Core Switches (L3) 24 Ports	-
		(f)	NAS Storage	01
		(g)	Network Laser Printers	01
		(h)	Scanner	-
		(j)	Standalone Laser Printer	02
		(k)	Multi Function Printer	01
		(l)	UPS 15 KVA	01
		(m)	Server Rack- 42 U	-
		(n)	Smart UPS	As per requirement of server & switches
Software				
		(p)	Windows Server 2019 Standard edition or latest version	01
		(q)	Windows Exchange Server 2019 or latest available with 20 CALs for clients (10+20%)	01
		(r)	Microsoft Office 2019 Professional edition or latest version	10+20%
Networking Components				
		(s)	Fibre Optic Cable, outdoor Armoured cable	As per actuals
		(t)	Cat 6 cable	As per actuals
		(u)	RJ 45 Connectors	As per actuals
		(v)	I/O Boxes IP 67 Compliant	As per actuals
		(w)	I/O boxes	As per actuals
		(x)	24 Port LIUs with SC coupler	As per actuals
		(y)	24 Port UTP CAT 6 jack panel for STP cable	As per actuals
		(z)	Patch Cords of various sizes	As per actuals
		(aa)	Plastic Conduit	As per actuals

QUESTIONNAIRE FOR NEW WATERJET FAST ATTACK CRAFTs

1. What will be the displacement/ dimensions of the ships?
2. What are the comments on proposed Delivery Schedule of the Vessel?
3. What is the capacity/ infrastructure of the shipyard to meet the delivery schedule?
4. What would be the approximate cost of the vessel (material cost, labor cost, training cost, product support cost (if applicable) and taxes) and shipyards financial capability to undertake the project?
5. What is the past experience of shipyard in similar projects?
6. What are your order book status?
7. Details to be submitted for generating/ refining/ rationalizing the SQRs prior issuance of RFP.
8. Furnish details that go into determining the cost of the scheme, including factors such as Annual Maintenance Contract (AMC), product support package, training, documentation, etc.,
9. Furnish details of capability clearance certificate to indigenously design and develop the required equipment/ platform.
10. What are the applicable key technologies and materials required for manufacturing of the equipment/ system/ platform and the extent of their availability or accessibility in case they are not available in India?
11. What is the approximate cost estimation and suggestions for alternatives to meet the same objective as mentioned in RFI?
12. What are the capabilities of Indian Shipyards to Indigenously Design, Develop and Manufacture (IDDM) the required equipment?
13. Availability of the equipment/ system/ platform in the Indian market, level of Indigenization, delivery capability, maintenance support, life time support, etc.
14. Will there be a collaboration with experienced foreign shipyard for design of the envisaged FIC? If so, forward information of shipyard collaboration with foreign ship yards.

SHIPYARD INFORMATION PROFORMA1. **Name of the Shipyard/ Company/ Firm and Unique ID (if any).**

(Company profile including Share Holding pattern, in brief, to be attached)

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

Original Equipment Manufacturer (OEM) Yes/ No

Authorized Shipyard 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.**

(a) Category of Industry(Large/ medium/ small Scale) : _____

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

Name of Agency	Certification	Applicable from (Date &Year)	Valid till (Date &Year)

7. **Details of Registration.**

<u>Agency</u>	<u>Registration No.</u>	<u>Validity(Date)</u>	<u>Equipment</u>
GeM			
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 RFI.
11. Any other relevant information: _____.

13. **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 Organisation and that there is no inquiry going on by CBI/ ED/ any other Government agency against the firm.

(Authorised Signatory)

Appendix D

{Refers to Para 8(c)}

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 FIC/similar vessels 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 Shipyards and in US dollars for foreign Shipyards)							
	(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 FIC offered to meet the specified requirements and build period from date of order	
11		Detailed specifications of commercially off the shelf (COTs) FIC if available for outright purchase, if any	

(Authorised Signatory)

**GUIDELINES FOR FRAMING CRITERIA FOR SHIPYARD SELECTION/
PREQUALIFICATION IN 'BUY (INDIAN-IDDMM)' 'BUY (INDIAN)'
AND 'BUY & MAKE (INDIAN)' CASES**

1. The guidelines prescribed for short-listing/ pre-qualification of Indian Shipyards in Buy (Indian-IDDMM), Buy (Indian) & Buy & Make (Indian) cases are enumerated in the succeeding paragraphs. Paragraph 2 deals with the parameters that may be considered for short-listing of Shipyards, whereas Paragraph 3 amplifies the process for applying selected parameters to the process of Shipyard Short listing.

2. **Parameters.**

(a) **General Parameters.**

(i) Applicant Entity should be an Indian shipyard 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 Defence, 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) Shipyards shall be a manufacturing entity or a system integrator of defence equipment and not a trading company, except in cases where the OEM participates only through its authorised Shipyards.

(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).** Shipyards should be either holding a valid defence industrial license or should have applied for the same before responding to RFP. In any case the shipyard 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) Shipyard 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 shipyard is already a supplier to MoD and/ or has already provided the above documents in such cases, it should be necessary

for the shipyard to resubmit only such documentations as is necessary to update the above).

(f) Any shipyard 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 Shipyard 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 shipyard 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.