PROCUREMENT OF TWO MULTI PURPOSE VESSELS

1. Approval of Necessity (AoN) has been accorded by MoD for Two Multi Purpose Vessels on 24 Jan 23. The approved acquisition scheme is related to construction of Two Multi Purpose Vessels for which RFP would be issued shortly {under buy (Indian – IDDM) with minimum 50% Indigenous Content (IC) in accordance with Section 'B', Chapter – XII of DAP – 2020}.

2. These ships would be capable of towing large ships, launch targets (sub-surface, surface & air) for exercises. These ships could be deployed for operating autonomous/ remotely operated / unmanned vessels.

3. Detailed technical specification are mentioned in '**Appendix A**'.

Appendix A

OPERATIONAL / TECHNICAL SPECIFICATIONS FOR MULTI PURPOSE VESSEL (ADDITIONAL 02 X MPV)

1.	**Aim of Note**	To indicate the specifications of Multi Purpose Vessels (MPV), to meet the Indian Navy's requirements.
2.	**Functions of MPV**	These ships would be capable of towing large ships, launch targets (sub-surface, surface & air) for exercises. These ships could be deployed for operating autonomous/ remotely operated / unmanned vessels.
3.	**Dimensions**	(a) Length – 110 m $\pm$ 5 %. (b) Beam – Commensurate with ship design.
4.	**Displacement**	3500 $\pm$ 15% Tons
5.	**Draught**	≤ 4.5m (in Full Load Condition)
6.	**Speed**	(a) Maximum sustained speed not less than 15 Kn at 85% Maximum Continuous Rating (MCR) of the engines, with the ship fully laden in Sea State 3. (b) Economical speed of $\geq$ 10 Kn. (c) The MPV is envisaged to have the capability of continuously towing a ship of approx 8000 tons at 08 Kn without any restrictions.
7.	**Propulsion**	The ship is to have twin shaft with CPP as follows:- (a) Single diesel engine per shaft through suitable reduction gear box in twin shaft configuration with CPP and bow and stern thrusters (to cater for DP Class 2 requirements). The arrangement should meet following requirements without overloading/under loading the engines:- (i) Normal and high speed operation (high speed : $\geq$15 Kn at 85% MCR). (ii) Dynamic Positioning (DP) of the vessel as per Class 2 for conduct of Salvage

		and Unmanned Marine Systems (UMS) operations. (b) Engine to cater for a factor that Ship will be employed for towing operations. (c) The diesel engines should be pneumatically started and meet international norms on exhaust emission (MARPOL norms in vogue)
8.	**Aviation Facilities**	The ship should have a Helo Deck in the aft section and be fully capable to embark fuel and operate one NUH/ ALH. The facilities would include NVG compatible lighting and landing aid suite for helicopter and RPA and their refuelling facilities.
9.	**Complement**	The ship would have a complement of 08 officers and 108 sailors. 06 officers and 24 sailors (additional crew for trials) Accommodation to be catered for Women Officers and Sailors
10.	**Hull Form**	Single hull construction based on proven hull form or supported by adequate model testing for resistance, propulsions, manoeuvring, sea-keeping and peculiarity of roles envisaged iaw requirements of NCD 0102.
11.	**Endurance**	(a) More than 7200 nm ± 5% at economical speed with 25% reserve fuel. (b) 4500 nm at 15 Kn with 25% reserve fuel.
12.	**Service**	The ship should be designed o have a service life of not less than 30 years.
13.	**Sea Worthiness.**	(a) Capable of operating helicopter up to **Sea State 3**. (b) Capable of performing its roles up to **Sea State 5**. (c) Survive up to **Sea State 8**.
14.	**Habitability**	Latest ship design/ modular concepts with respect to ergonomics/ functional aspects and crew comfort, are to be adopted. The equipment is to be sited so as to cause minimum discomfort/ disturbance to crew in operational

		compartments and living spaces. The doors, hatches and ladders are to be of modern design, to ensure easy and safe closing/ opening and speedy movement of personnel and equipment/ stores within the ship. Modular concepts are to be incorporated, to the extent feasible, in accommodation areas and galley. Modular and ergonomically designed furniture should be fitted onboard using lightweight composite (fire-resistant) material.
15.	**Engine Utilisation**	The exploitation of the ship **should not be less than 250 days in a year**, catering for **minimum 12000 hours per engine** during an operational cycle of 24 months.
16.	**Stability**	The vessel should satisfy the stability requirements for both intact and damaged condition, including growth margins as per NES 109 for Naval vessels in military role.
17.	**Navigational Equipment**	All navigational aids should be available onboard the ship, viz. Integrated Bridge System (IBS) as per latest IN policy, two ECDIS, AIS, LRIT, DGPS, two I- band COTS radars with ARPA displays etc. Standard Naval IFF system (transponder only) should also be fitted. Both I band Nav radars, two ECDIS, GPS, RLGs, AIS, LRIT, Bridge Navigational Watch Alarm System (BNWAS) and Voyage Data Recorder (VDR) to be included in deliverables for IBS. Additional MFCs and MFDs for Charthouse, Ops Room, Briefing rooms, LSO, ECP etc as required. Numbers to be finalised later.
18.	**Communication outfit and data link**	(a) The ship should have an Advance Composite Communication Suite (ACCS) integrating all external and internal communication equipment in all modes (Voice, Video and IP based data) to the communication data-bus. The number of aerial should be limited by using the concept of 'common aerial working'. The ACCS should be fully compatible with the data link equipment. (b) LINK II MoD 3 to provide connectivity with units operating in company. (c) Software Defined Radios capable of operating communication in HF Band (SDR-NC) and L Band (SDR-TAC) and two 1 KW HF Tx. (d) Emergency power supply for operating communication eqpt in case primary PGD system of the ship is not available.

		(e) Visual signaling eqpt (signaling projector, Aldis lamp etc). (f) Portable HF manpack, handheld VHF Tx/Rx, V/UHF manpack. (g) Cryptographic equipment. (h) GMDSS with STD 'C' SATCOM terminal.
19.	**Davits**	For hoisting / lowering of two inflatable craft and OBM.
20.	**Boats**	(a) **Two 7.0 m RHIBs** with chock stowage arrangement as per *IN* specifications are to be provided. These RHIBs should have asymmetric warfare capability and Gun mounting stands (as per current policy). Boat arrangement is to be in accordance with current SOLAS regulation. (b) RHIBs alongwith associated launching/ recovery and stowage arrangement are to be capable of launching/ recovery whilst ship is underway. (c) RHIBs are to be provided with lifting sling as per *IN* specifications. (d) Additionally, two inflatable crafts with 25 bhp OBMs and wooden chocks and suitable launching/ recovery arrangement are to be provided.
21.	**Power Generation.**	(a) The ship should have 100% reserve of electrical power with regard to operation of systems/ equipment which are part of Dynamic Positioning System (Class 2). (b) For all other systems/ equipment, there should be sufficient main generated capacity (with generators loaded at 80% of nominal rating) to make ship capable of sustaining all important loads upon loss of one biggest generator in the entire power generation system. (c) The full load of the ship would be shared between two DGs during sailing without loading DGs beyond 80%. Load sharing of the DGs would be done using an Automatic Power Management System (APMS). All engineering requirements for auto starting of the DGs (automatic time bound priming, coolant circulation, availability of compressed air/ battery backup etc) as required are to be provided. The diesel engine power is to be adequate for driving the generator set in extreme tropical conditions.

22.	**Salvage System**	A salvage system consisting of adequate number of pumps/ eductors of adequate capacity and meeting class/***IN*** requirements to be provided.
23.	**NBCD**	(a) Modern fixed Fire Fighting (FF) system(s) for Machinery Compartments using FM 200. (b) Automatic Fire Detection and Suppression system for magazines and explosive risk areas. (c) Fixed fire fighting system in galley. (d) Fixed fire fighting systems for hazardous compartments like paint store, Bosun store, inflammable stores, ghee stores, Laundry. (e) Fire main system and Salvage/ Pumping arrangement. (f) Ballasting/ De-ballasting system. (j) Flood warning and alarm system. (k) Ship Installed Radiac System (SIRS) for detection and warning of nuclear/ radiological contaminants. (p) Ship Installed Chemical Agent Detection System (SICADS).
24.	**CAIO**	A next generation CAIO, comprising of mod-CMS and datalink, interfaced to all the sensors and weapons on the ship and IFF. Details of consoles would be finalised later.
25.	**Weapons and Sensors (Buyer Nominated Equipment)**	Self defence and LIMO armament to include the following:- (a) Two 30 mm NSG guns with EOFCS. (b) Two 12.7 mm SRCGs for Force Protection Measures.
26.	**Fitted for Facilities**	**Fitted for Facilities**. The ship is also envisaged as a trial platform for weapons and sensors under development and would have to be fitted for with facilities/ space available for the following trial equipment:- (a) Adequate space and weight consideration for MR Gun (up to 5”) and ASW Rocket Launcher to be catered for in the design. (b) One heavy weight torpedo launcher. (c) One light weight torpedo launcher. (d) Foundation for one Chaff launcher.

		(e) Provision for fitment of Underwater Telephone. (f) In addition to space for 2 x 20 feet containers, space for winch for launch and recovery system for towed array sonars & Unmanned Marine System (UMS) on quarter deck. **Deck space required is atleast 10 m x 10 m** with adequate deck fittings and foundations to install Launch and Recovery Systems consisting of Winch Handling Systems. (g) A single mast with adequate space to cater for trial antennae – FCR/ ASR/ SSRs (**not exceeding 4 tons**). (h) Space for launcher of PTA/ EAT/ AUVs/ micro and RPAs. (i) Adequate space on mast for fitment of communication and EW antennae for trials.
27.	**Medical**	The role of the medical department is to provide medical cover to the crew as also to those embarking the ship for trials and as part of HADR operations. The facilities should comprise of Sickbay, Isolation Ward and Burns Ward.