

**DETAILS OF ACCEPTANCE OF NECESSITY (AoN) FOR ACQUISITION
04 X 250 MEN FERRY CRAFT**

1. Acceptance of Necessity (AoN) has been accorded for acquisition of 04 x 250 Men Ferry Craft on 30 Oct 25. The approved acquisition scheme is related to construction of 04 x 250 Men Ferry Craft 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). Vendors desirous of participating in the approved acquisition scheme related to procurement of 04 x 250 Men Ferry Craft are required to submit their willingness.

2. Technical Specifications of the project are placed at **Appendix 'A'**.

3. The willingness should be dispatched to the following: -

Cmde (Ship Production)
Directorate of Ship Production
Naval Headquarters, Ministry of Defence
Room No. E-201, 2nd Floor
East Wing, Nausena Bhawan
Delhi Cantt, New Delhi 110010
Tele: 011-20896998
E-mail: dsp@navy.gov.in

**TECHNICAL SPECIFICATIONS FOR CONSTRUCTION OF
04 X 250 MEN FERRY CRAFT**

SECTION A – GENERAL		
1.	Aim	To construct/ acquire mono hull ferry craft with carrying capacity for 250 personnel for operation within harbour limits.
2.	Functions	<ul style="list-style-type: none"> (a) Transport of personnel to and from ships at Anchorage to Jetty and vice versa. (a) Deliver stores/ rations to ships at Anchorage. (b) Patrol within harbour limits.
3.	General	<ul style="list-style-type: none"> (a) The vessel is to be built as per NHQ approved Classification Society (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 indicated in RFP. It should be able to operate in extreme tropical conditions. (b) Limited capability for salvage/ SAR after being suitably augmented by additional service personnel/ equipment. (c) The vessel is to be built complying with MARPOL and SOLAS regulations. (d) The vessel should have an expected life of 20 years.
4.	Speed	<ul style="list-style-type: none"> (a) Maximum - 20 Knots. (b) Economical - 15 Knots.
5.	Endurance	250 Nm at economical speed.
6.	Sea Worthiness	Should be capable of operating in sea state upto 4 and sustain upto 5.
7.	Dimensions	<ul style="list-style-type: none"> (a) Length - Less than 50 mtrs. (b) Breadth - 10.5 m ± 5%. (c) Draught - Not more than 2.5 mtrs. (d) Height (above water line with mast in folded condition) - Not more than 9.5 mtrs.
8.	Environmental Conditions	<p>All equipment should be marinised and capable of performing under the following ambient conditions: -</p> <ul style="list-style-type: none"> (a) Air Temperature - upto 45° C (b) Average Machinery Space Temperature - upto 55° C (c) Sea Water Temperature - upto 35° C

		(d) Relative Humidity - 95% condensation at 35° C
9.	Complement	<p>Should be manned by 12 qualified civilian crew consisting of: -</p> <p>(a) One Master Grade I.</p> <p>(b) One Master Grade II.</p> <p>(c) One Sarang of Lascar.</p> <p>(d) Four Lascar I.</p> <p>(e) One Senior Engine Driver.</p> <p>(f) One Engine Driver.</p> <p>(g) One Greaser.</p> <p>(h) One Fireman</p> <p>(j) One Electrical Fitter.</p>
10.	Special Features	<p>The following features are to be included: -</p> <p>(a) Passenger seats with Adequate cushioning and push back system to be provided with arm rests.</p> <p>(b) The windows in the passenger area should be large. The crew and passenger space should be efficiently ventilated. Design is to cater for cross ventilation. Heavy duty forced ventilation fan ducts are to be provided.</p> <p>(c) Low noise levels both interior and exterior.</p> <p>(d) High maneuverability in entire speed range is required.</p> <p>(e) Capability to stop from max. Speed in 2-3 ferry-lengths.</p> <p>(f) Should be highly stable for passengers and crew comfort.</p> <p>(g) The ferry should be so designed that it should have minimum roll and pitch for passenger comfort.</p> <p>(h) Passenger compartments are to be fully air conditioned with suitable marinised ACs.</p>
11.	Ergonomics	Latest design concept for ferry craft, with respect to ergonomics/ functional aspects and crew & passenger comfort are to be adopted. Sound insulation is to be provided at all accommodation, work spaces etc.

SECTION B – NAVIGATION

12.	Navigational Equipment	Following Class approved Navigational aids to be provided: - (a) Two GPS (b) One AIS (c) One Nav Radar (d) Echo Sounder (e) One Fast Settling Gyro/ Electronic Compass
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SECTION C – COMMUNICATION

13.	Communication	Following Class approved communication facilities are to be provided: - (a) VHF MMB Tx/Rx with DSC - Two (b) VHF hand held Radio sets - Five MOTOTRBO XIRP8668i (c) SART TBR - 600 - One (OEM M/s Thrane & Thrane) (d) EPIRB 406 MHZ - One (OEM M/s Thrane & Thrane) (e) Megaphone Bridge - Two (one) Top and one on the mast (f) 5" Hand signaling Lantern - One with stowage box (g) Portable loud hailers - Two (h) Call up bells - As Req. (j) Sound power telephone - As Req. (k) Class approved Internal Communication System - One
14.	International Communication	The following internal communication systems are to be provided as per IN policy: - (a) Main Broadcast system to be provided and should be able be audible in all compartments (for general and emergency announcements). (b) Intercoms between: - (i) Bridge, Forecastle and Quarter Deck.

		<p>(ii) Bridge, Engine Room, ASP and Crew Mess.</p> <p>(c) Sound power telephones between Bridge Foxle, Quarter Deck, Engine Room, ASP and crew mess.</p>
15.	SRE Equipment	Should have a PA system with the latest SRE system, cordless mike, speakers in all Passengers Sections and on upper deck.
SECTION D - HULL		
16.	Acc for Crew and Passengers	<p>The under mentioned accommodation is to be provided: -</p> <p>(a) Seating facility for 250 personnel divided into four separate sections. The seating arrangement is to be made as follows: -</p> <p>(i) Officers - 50 (ii) Sailors & others - 200</p> <p>(b) Removable seating arrangements for 40 passengers be made on open deck area, with suitable shade/ covering to protect passengers from weather.</p> <p>(c) Two cabins with attached WC & Bath are to be provided for Master and Engineer. Accommodation for Crew and separate bathroom with wash basins with mirror cabinets and toilets with separate deck drains for each cubicle as required.</p> <p>(d) Four separate modular toilets (Western style commode) with EVACs system two each for ladies and gents in passenger's area. Adequate numbers of wash basins with mirror cabinet and separate deck drains for each cubicle are to be provided.</p> <p>(e) The passenger and crew space to be provided with marinised air conditioners. In addition, natural and forced ventilation and wall mounted fans to be provided.</p> <p>(f) The furniture and fittings used in the passenger and crew space to be of non-combustible and fire resistant material.</p> <p>(g) The entrance/ exit into the ferry craft is to be wide enough to prevent any congestion during emergency/ abandon ship. It should also cater for carrying and accommodating stretchers, wheel chair personnel and baggage with provision of ramp for</p>

		embarkation/ disembarkation of wheel chairs as necessary.
		(h) A separate stowage space for baggage/ limited cargo.
17.	Hull Material	The Ferry Craft is to be built of Class approved steel suitable for the type and function of barge.
18.	Construction Material	Class approved steel.
19.	Plate Thickness & Scantlings	Adequate corrosion allowances are to be given for hull structure scantling and specified at the design stage. As a minimum, the corrosion allowances specified in Classification Society rules are to be provided. Plate thickness of less than five mm is not to be provided.
20.	Deck Covering	Suitable Class approved Epoxy deck covering is to be applied in the relevant internal compartments (wet spaces, main alleyways, crew compartments and bridge).
21.	Mast	A retractable / telescopic Mast with a manually operated winch for hoisting/ lowering of the mast to be provided for accommodating Navigation lights, communication Antennae, flags and other mast-head fitments. Manual mode of operation be provided for collapsible mast with following requirements: - (a) The Equipment should have ease of maintenance. (b) The Equipment should have good reliability. (c) The Equipment should have good product support.
22.	Paint Scheme	Suitable Class approved Marine grade paint scheme with colour scheme as per NO 53/16 is to be applied on surfaces. Surface preparation, paint application, curing time etc. are to be ensured to the satisfaction of Paint OEM and Classification Society.
23.	Stability	The vessel should satisfy both intact and damage stability condition as per IMO, SOLAS and Class Society rules. Stability booklet is to be submitted on completion of design and on completion of inclining experiment as per the format indicated by Class.
24.	Noise and Hull Vibration	The vessel should comply to latest Class approved guidelines.
25.	Doors/ Hatches	All water tight doors and hatches are to conform to Classification Society rules.
26.	WT & GT integrity	The water tight integrity should be as follows: -

		<p>(a) Collision bulkhead is to be provided in accordance with class rules and should extend to the uppermost continuous deck.</p> <p>(b) No opening through watertight bulkheads is to be provided below damage control deck.</p> <p>(c) The main transverse bulkhead should extend at least upto the V-Line. No opening is permitted on the main transverse bulkhead below the damage control line. All openings, on the transverse deck above the damage control deck and below the V-Line should be water tight. All openings above the V-Line should be weather proof.</p> <p>(d) APT for compartments below the damage water line is to be conducted once prior launch and finally prior CST on completion of all outfitting work. The test is to be conducted at a pressure of 152 mm of water column and the pressure should not fall below 13 mm in 10 minutes. No temporary blanking of pipes, ventilation trunks and cable glands is allowed during APT. All doors and hatches should be closed hand tight only. Indicator Test Plugs (ITPs) as per IN specifications are to be used for the purpose. As far as possible, each WIT compartments should be considered as a single cluster. The Cluster Plan is to be approved by NHQ. All APT clusters and boundaries are to be tested as per Class rules.</p>
27.	Hull Protection	Cathodic Protection through Sacrificial Anodes is to be provided.
28.	Design Life	The design life of the vessel will be minimum 20 years.
29.	Safety, Escape Evacuation Arrangement	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 harbour limits.
SECTION E – ENGINEERING, FIRE FIGHTING AND DAMAGE CONTROL		
30.	Machinery	<p>The following machineries and auxiliaries are to be provided and it should be MARPOL compliant and as per approved class: -</p> <p>(a) Indigenous propulsion package to meet endurance and speed meeting class requirements. The propulsion system components are recommended to be from a package already existing in the naval inventory.</p> <p>(b) The propulsion package should include contra rotating, fixed pitch, twin screw arrangements with each propeller being powered by a medium speed marine diesel engine of requisite power.</p>

(c) Each shaft to have an independent diesel engine reversing reduction gear box and fixed pitch propeller meeting Class requirements.

(d) Auxiliary machinery as required.

(e) Engines controls, using modern, indigenous, COTS components, are to be provided on the bridge and in the engine room.

(f) Main and auxiliary machinery are to be mounted on anti-vibration mounts.

(g) The following main and auxiliary machinery are to be provided: -

- (i) Two Diesel Alternator of suitable capacity.
- (ii) One Emergency Generator of adequate Capacity.
- (iii) Air Compressor (Diesel Driven and Motor Driven).
- (iv) Bilge/ ballast pump.
- (v) Dirty Oil Pump.
- (vi) Fresh water pump.
- (vii) Fuel oil pumps.
- (viii) Fuel oil pump and Lub oil Centrifuge.
- (ix) General Service pump/ Fire pump.
- (x) Oily bilge Separator.
- (xi) Semi rotary hand pump of suitable capacity.
- (xii) Lub Oil Pump of suitable capacity.
- (xiii) Stripping Pump of suitable capacity.
- (xiv) Tank Content Gauges.
- (xv) Workshop Equipment.

(h) **Gear Box.** Hydraulic reverse reduction gear box of suitable ratio to be provided. Suitable shaft locking arrangement to be provided.

		<p>(j) Steering Gear. Electro Hydraulic steering gear of suitable torque.</p> <p>(k) Fuel with adequate capacity to cater for endurance of the craft with 25% reserve capacity is to be provided. The fuel tank should be equipped with appropriate sounding measurement device.</p> <p>(l) Design of stern gland and associated fittings should be leak proof.</p> <p>(m) The machinery control system should conform to the Classification Society standards.</p> <p>(n) Adequate quantity of water for specified endurance for passengers and crew is to be provided.</p>
31.	Portable Pumps	<p>Following portable pumps are to be provided: -</p> <p>(a) 2 x 20 TPH MD submersible pumps, including portable starters.</p> <p>(b) 2 x 40 TPH MD submersible pumps, including portable starters.</p> <p>(c) 1 x 37 TPH (or higher) DD non-submersible fire pump.</p>
32.	BASCCA (EE)	Provision is to be made for BASCCA(EE) sets for the complete crew along with suitable arrangements.
33.	Fire Fighting	<p>The following firefighting appliances should be positioned and are to be procured from vendors approved by Classification Society: -</p> <p>(a) Firefighting appliances to be provided as per the regulations of Classification Society. Lockers to be provided for stowage of the items.</p> <p>(b) A Fixed CO₂ system with dual shot arrangement is to be provided for fire protection of engine room. The system is to be class certified conforming to IN SOTRs.</p> <p>(c) A fireman ring, below Number 1 deck, with adequate sea water pressure, is to be provided to meet the requirements of firefighting as per Classification Society requirements.</p> <p>(d) Portable firefighting and damage control equipment are to be provided as per Specifications provided by Classification Society.</p> <p>(e) Fire Hydrants are to be of Double Lug meeting Classification Society requirements.</p>

34.	Central Control Alarm & Safety Systems	Adequate audio and visual alarms & safety system for smoke and Flood alarm to be provided as per approved Classification Society rules and INBR 312. Smoke sensors is to be fitted in all compartments and flood sensors is to be fitted in all Red Zone compartments.
35.	ELSA	Adequate number of ELSA sets for crew and passengers for emergency escape.
36.	Sewage Treatment Plant	One IMP/ MARPOL approved electro-catalytic/ biological STP of adequate facility with H ₂ S sensors (MCR and bridge) and sufficient ventilation arrangement of the compartment be provided. The STP is to be integrated with Gravity Toilet System.
7.	Incinerator	Incinerator for disposal of solid garbage as per latest MARPOL Standards.
38.	Structural Fire Protection Plan	Structural Fire Protection Plan and fire boundaries should be in accordance with IMO/SOLAS and Class requirements.

SECTION F – ELECTRICAL

39.	Power Generation and Distribution System	<p>The following electrical equipment and fittings are to be Provided.</p> <p>(a) Generators. The Ferry Craft is to be provided with suitable number of DGs with electrical load satisfactorily under various conditions. The DG is to be chosen from the standard range of class type tested models of DGs.</p> <p>(b) Power Supply. Suitably rated power supplies conforming to latest Classification Society regulations according to the load requirements of the craft (and load chart calculations), with adequate levels of redundancies as per Class Specifications is to be provided. 230 V AC, 50 Hz, 1 Phase, 4 wire supply system derived from the primary supply, (obtained through secondary star connected transformer) with earthing of neutral to vessel's hull for domestic and COTS equipment is to be provided.</p> <p>(c) Lighting. The following general lighting and fittings are to be provided: -</p> <p>(i) The Ferry Craft lighting supply would be 230V, 50Hz, 1Ph and the entire vessel would be fitted with LED light fittings conforming to latest Classification Society rules/ specifications and standards for marine use.</p> <p>(ii) Navigation lights should conform to latest Classification Society regulations. Two in number 1000W search lights without shutters are to be fitted on wheel house top.</p>
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	<p>Arrangements are to be provided to control these lights from Wheel House.</p> <p>(iii) Adequate number of flood lights of 200 watts are to be provided at suitable positions, duly complying to Class specifications.</p> <p>(iv) Emergency lights fittings of 24V complying to Class specifications are to be supplied in each compartment.</p> <p>(v) Adequate number of hand held lamps With suitable length of flexible cable complying to Class specifications to be provided.</p> <p>(d) Main Switch Board. The Main Switch Board and Distribution Panels should be certified by Class and conform to IN SOTRs.</p> <p>(e) Shore Supply Arrangements. Suitable water tight shore supply connection box (with enclosure protection IP 57 or higher) conforming to latest Classifications Society rules/ specifications and standards for marine use should be fitted.</p> <p>(f) Batteries. Adequate number of maintenance free batteries of contemporary technology, with suitable charging arrangement conforming to Classification Society rules are to be provided.</p> <p>(g) Motors, Starters and Control Panels. All motors, starters and control panel should conform to classification rules suitable for marine use and procured from Class approved list of reputed vendors.</p> <p>(h) Cables. EBXL cables are to be provided as per EED-50-13 or relevant applicable standard.</p> <p>(j) Transformers and Rectifiers. Transformers and rectifiers, confirming to Class specifications.</p> <p>(k) All electrical equipment/ machinery and fittings are to be selected from the standard range and sourced from Class approved list of reputed vendors.</p> <p>(l) All the electric equipment shall be capable of continuous operation when fitted at any direction up to an angle of 35 degree from vertical plane passing through the center line of the equipment.</p>
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		<p>(m) Window Wipers. Class approved Window Wipers is to be provisioned.</p> <p>(n) Cabin Fan. Class approved Industrial fans with metal casing operating on 230 V AC are to be provided in accommodation spaces, offices and manned stores/ space.</p> <p>(p) HV Mats. Class approved High voltage insulated synthetic mats are to be used in Switchboards, Convertor Rooms Equipment Rooms, Battery Compartments.</p> <p>(q) Galley Power Supply Isolating Switch. To ensure safety of galley spaces, galley equipment is 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. The same should be complying to Class Society rules.</p>
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40.	Ventilation	<p>(a) Adequate natural and forced ventilation should be provided in machinery space, accommodation, store rooms and wheel house/ bridge.</p> <p>(b) Sea water cooled Marinised air conditioner is to be provided in wheel house/ bridge, passenger and crew accommodation spaces.</p> <p>(c) WCs, galley and bath rooms should have forced supply and exhaust as per Class.</p>
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SECTION G – ACCOMODATION AND HABITABILITY

41.	Medical	First aid boxes are to be provided in crew space, each passenger section, engine room and wheel house. In addition, six stretchers (three Neil Robertson, one floatable and two ambulance stretchers) are to be provided at different locations.
42.	Recreation Facilities	<p>(a) Four 40" LED Smart TV monitors for each passengers section be provided and one each in crew 24" LED Smart TV cabins/ mess be provided. A dish antenna satellite TV reception system is also to be provided.</p> <p>(b) Two sets of each carom-board and chess board for the crew.</p>

SECTION H – SEAMANSHIP, LIFE SAVING AND SAFETY EQUIPMENT

43.	Life Saving Equipment	<p>Lifesaving appliances/ gears to be provided, as per current IMO/ SOLAS regulations.</p> <p>(a) Life jackets are to be catered for 150% for the crew and 250 passengers as per Class. The passengers' lifejackets to be stowed in suitable lockers in respective passenger compartments.</p>
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		<p>(b) Adequate 20 men life raft are to be provided for crew and passengers as per IMO/ SOLAS regulations.</p> <p>(c) 20 circular Life Buoys to place in suitable racks at various locations for ease of throwing in emergency for life saving.</p> <p>(d) 10 light and smoke markers are to be stowed in suitable bracket at bridge wings and on Quarter Deck.</p> <p>(e) Adequate facility is to be provided for rapid and safe evacuation of all personnel into survival craft. In addition to the above, the craft must conform to approved Class Society standard for 'Life saving appliances and arrangements.</p>
44.	Safety Equipment	<p>The following safety equipment to be provided: -</p> <p>(a) Helmets - 22</p> <p>(b) Ear defenders - 22 pairs</p> <p>(c) Hand Gloves - 22 pairs.</p> <p>(d) Goggles - 8</p> <p>(e) Dust Protector - 12</p>
45.	Anchor and Cables	<p>The craft should be provided with two anchors and cable with associated gear and fittings for anchoring (upto 30 m depth of water) and cable heaving in arrangements including manual/ emergency as per Classification Society rules.</p>
46.	Towing and Berthing	<p>Adequate size and number of towing and berthing hawsers and deck fittings to be provided for berthing and towing forward and aft as per Classification Society rules. In addition following be added:-</p> <p>(a) Minimum two sets of bollards with fairleads be provided on each port & starboard sides on bow & stern parts. One set of bollard with fairleads each be provided on centerline on the stem and at centerline on stern part of the craft. Two sets of bollards with fairleads be provided on each port & starboard sides on midship part of the craft for enabling it to secure alongside pontoon/ catamaran while going alongside larger ships like Carriers/LPDs/ Tankers. Sufficient numbers of stag horns/ cleats of requisite strength be provided on each side for securing of breast ropes/ fenders, etc.</p>

		<p>(b) Adequate numbers of upper deck drainage system to be provided to drain out rain water, etc clear of shipside.</p> <p>(a) Fixed/ collapsible guardrail arrangements on upper decks as per Class.</p>
47.	Fendering	<p>(a) Adequate non- marking type fendering around the gunwale (port, starboard, stem & stern) and fixed fenders at least at 12 locations to be provided all around the ferry craft for protection of the hull.</p> <p>(b) Eight portable (two big and six small) fenders to be provided.</p>
48.	Brow	A suitable light weight Load Tested Aluminum brow is to be provided.
SECTION J – ARMAMENT		
(Not Applicable)		
SECTION K - MISCELLANEOUS		
49.	Fuel	As required for specified endurance.
50.	Water	As required for specified endurance for passenger and crew.
51.	Domestic Arrangements	<p>The following is to be provided:-</p> <p>(a) One crew galley with electric hot plates and one refrigerator.</p> <p>(b) Two water coolers for passenger sections.</p> <p>(c) Two electric kettle, one coffee machine and one tea dispensing machine for each passengers section.</p> <p>(d) One Microwave oven of 25 ltrs capacity and one hot case are to be provided.</p> <p>(e) 1000 ltrs of fresh water (in overhead tanks) is to be provided for availability of water round the clock for the crew (even when power supply is not available). The overhead tank should be capable of being refilled with fresh water from ashore.</p> <p>(f) One crew Dining Hall for 12 persons to be provided with suitable table and chairs.</p> <p>(g) RO Water Purifier.</p> <p>(h) Adequate numbers of utensils, cutlery and crockery is to be provided for 22 crew members.</p> <p>(i) The stores are to be provided with natural and forced ventilation.</p>

		(j) Two water points/ taps (one on Foxle and other on QD) to be provided for deck/ anchor washing or any other requirement.
52.	Noise	<p>(a) Engine and auxiliary machinery compartments are to be insulated using sound insulation material.</p> <p>(b) Resilient mountings and flexible connection to minimise structure borne noise.</p>
53.	Ships Husbandry	<p>Following ship husbandry tools are to be provided:-</p> <p>(a) Two 5" Angle Grinder.</p> <p>(b) Two 7" Angle Grinder.</p> <p>(c) Two portable exhaust fan.</p> <p>(d) One HP water jet cleaning machine.</p> <p>(e) One spray painting machine.</p> <p>(f) Drilling machine with accessories.</p>