

PROCUREMENT OF 120XFIC-I

1. Acceptance of Necessity (AoN) has been accorded by MoD for 120X FIC-I on 03 Dec 24. The approved acquisition scheme is related to construction of 120x FIC-I for which RFP would be issued shortly under Buy (Indian-IDDm) Category with minimum IC 55% *iaw* Section 'B', Chapter-XII of DAP 2020.
2. The FIC-Is are planned for induction in **IN** as versatile Maritime Security assets. Their speed, manoeuvrability, versatility and ability to adapt to a wide range of missions make them indispensable for protecting coastal areas, enforcing maritime law, and responding to various threats and emergencies in littorals/ at sea.
3. Detailed technical specification are mentioned in '**Appendix A**'.

OPERATIONAL/ TECHNICAL SPECIFICATIONS FOR 120XFIC-I

<u>Sl. No</u>	<u>Purpose</u>	<u>Description</u>
1.	<u>Aim of Note</u>	To indicate the specifications of 120xFIC-I, to meet the Indian Navy's requirements.
2.	<u>Functions of FICs</u>	These craft would be required to Escort high value units, such as Aircraft Carriers, Tankers, Cruisers, Destroyers, Frigates, Submarines etc. while entering/leaving harbour.
3.	<u>Essential Features</u>	The FIC-I should be capable of operating in shallow waters and built as per IHQ MoD (N) approved Classification Society Standards (ABS/BV/DNV-GL/IRS/LR/RINA). Certificate is to be provided by the Classification Society confirming that Class Notations have been provided for all functional requirements indicated. In addition, IMO Code for Structural Fire Protection for High Speed Craft shall also be met.
4.	<u>Dimensions</u>	(a) Length Overall - Between 13 to 17m. (b) Draught - Not exceeding 1 m. (c) Displacement - 18 Tons +/- 15%.
5.	<u>Speed</u>	(a) Maximum speed of not less than 45 kn. (b) Sustained Speed to be more than 35 kn. (c) Economical Speed to be more than 15 kn.
6.	<u>Endurance</u>	Not less than 200 nm at economical speed with 25% fuel remaining onboard as reserve.
7.	<u>Propulsion</u>	Two suitably rated inboard Diesel Engines coupled to reversible gearboxes driving Articulated Surface Drive or Waterjets, meeting the speed requirements.
8.	<u>Equipment Operating Conditions</u>	Equipment and machinery fitted on the FIC-I should be marinised and capable of satisfactory operation, under the following environmental conditions: - <ul style="list-style-type: none"> (a) Ambient air temperature from Zero to +45° C. (b) Water temperature from 01 to +38° C. (c) Max relative humidity of 90% at +32° C. (d) Salinity of water up to 36000 ppm. (e) Water density from 1010 to 1025 Kg/m3. (f) Harbour waters which have incidence of water hyacinth, contaminants like polythene bags of varying size and mud sediments.
9.	<u>Sea Worthiness</u>	Sea-worthy upto Sea State 4 and able to patrol upto Sea State 3.
10.	<u>Design and Construction</u>	Designed and constructed as per High Speed Craft HSC/ HSLC rules (as applicable) for naval vessels of one of the <i>IN</i> approved Classification Societies i.e. ABS/BV/DNV-GL/IRS/LR/RINA. Main propulsion machinery is to be as per Classification society standards. The FIC-I should be of GRP construction . All the fittings should be corrosion protective material. Upper deck canopy should be bullet proof (NIJ Type 3, while glass should be NIJ Type 2). Automatic drainage system should be provided for draining water shipped on deck during operations.

11.	<u>Ergonomics</u>	Latest design concept for FIC-I, 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.
12.	<u>Manning and Carrying Capacity</u>	The FIC-I should be capable of being manned by crew of four personnel and have a lifesaving capacity of 14 personnel.
13.	<u>Weapons and Sensors</u>	<p>(a) 01x12.7 mm SRCG with EOFCS mounted on coxswain post with day and night capability. Armour plating is to be designed, without limiting Coxswain's field of view.</p> <p>(b) The SRCGs are to be sited with maximum coverage, both in training and elevation, to ensure maximum 'A' arcs.</p> <p>(c) 02 x Acoustic Warning Device (AWD).</p>
14.	<u>Magazines and Gun Wharf Stores</u>	<p>(a) Magazine/ Magazine locker for 12.7mm SRCG ammunition boxes and complete EP of small arms ammunition.</p> <p>(b) RU Lockers in the vicinity of small arms posts.</p> <p>(c) 01 x Pyrotechnic Locker.</p> <p>(d) Four bullet proof jackets (NIJ Type3) and Four bullet proof helmets (NIJ Type 3A) and MICH enabled to be provided.</p>
15.	<u>NAVAIDS</u>	<p>All Navigational aids should be available onboard the ship and should be provided iaw IHQ MoD (N)/DSR policy letter WP/0204 dated 02 Dec 19. In addition, following COTS NAVAIDS are to be provided: -</p> <p>(a) One FIC-I Compass (Class approved).</p> <p>(b) One portable GPS.</p> <p>(c) Solid-state gyro compass.</p> <p>(d) MFD which supports VER S-63 charts are to be provided to ensure timely updation and common reference with IN ships.</p>
16.	<u>Steering System</u>	Provision for steering the vessel in case of failure of one propulsion (Water jet or Articulated Surface Drive) is to be provided. Failure of one propulsion means, when one of the water jet/ASD is not available, the steering shall be capable of being maintained via available water jet/ASD.
17.	<u>Communication Sets/Equipment</u>	<p>The following communication facilities/equipment are to be provided: -</p> <p>(a) VHF Hands Free Radio sets</p> <p>(b) V/UHF MMB set</p> <p>(c) Portable loud hailer (battery operated)</p> <p>(d) Portable HF set (COTS police radio)</p> <p>(e) Hands free two way internal communication system/ broadcast including check fire bell and visual alarm</p> <p>(f) SDR Fixed Portable (It's a fixed equipment, but the nomenclature is SDR fixed portable)</p>
18.	<u>Seamanship Fittings</u>	<p>(a) <u>Anchor and Chain Cable.</u> As per Classification Society Rules should be provided.</p> <p>(b) <u>Towing Arrangement.</u> Suitable towing arrangements, to be towed and to tow a craft of min 18 tons or equal tonnage (whichever is greater) at min 10 kn. speed (log speed).</p>

		<p>(c) <u>Ropes</u>. PP ropes as per Class Rules should be provided for berthing and towing.</p> <p>(d) Stowage arrangement of all ropes including required for towing is to be provided on upper deck.</p> <p>(e) <u>Lifting & Stowing Arrangements</u>. Designed for being hoisted on to the jetty with crane and stowed on cradle. Suitable lifting slings/ arrangements to be provided to cater for lifting the craft by jetty crane.</p> <p>(f) Cradle with spreader and slings for undertaking maintenance/stowage during monsoons should be provided.</p> <p>(g) Six portable light weight fenders with stowage arrangement on upper deck should be provided.</p>
19.	<u>Life Saving Equipment</u>	<p>(a) Hazardous Duty Life Jacket for crew are to be provided <i>iaw</i> IHQ MoD (N)/DSR policy letter WP/0702/HDLJ dated 29 Jul 15.</p> <p>(b) Other lifesaving appliances are to be provided as per SOLAS.</p> <p>(c) Two ten men life rafts or one 20 men life raft and three life buoys with 30 mtrs line are to be provided with at least one marker man overboard (smoke and light). Securing arrangement of life rafts are to be <i>iaw</i> FOST Safety Acquaint Safety/FOST/SS/2013/02 dated 20 Feb13.</p>
20.	<u>Stability</u>	The FIC-I should be designed to meet stability requirements as per applicable HSC/ HSLC code of <i>IN</i> approved Classification Society Regulations.
21.	<u>Main Engines</u>	<p>(a) Two suitably rated inboard Diesel Engines (one per shaft) coupled to reversible gearboxes driving Articulated Surface Drive or Waterjets, meeting the speed requirements. Diesel Engines are to be matched at 85% MCR for the full speed requirement.</p> <p>(b) The engine (s) should be able to carry out sustained operations for about 10-12 hrs per day, with an annual exploitation of about 3000 hrs.</p> <p>(c) Main Engines, Gearbox and Propulsors shall be compliant to IACS class rules and meet the latest international norms on exhaust emission and personnel safety (IMO/ MARPOL regulations on exhaust emissions, SOLAS regulation on personnel safety).</p> <p>(d) Level indicators for all tanks be provisioned with digital display. Tanks should be connected to both engines.</p> <p>(e) FIC-I engines should be capable of running at minimum 33% load view patrolling in harbour at low speed (speed within harbour are limited to 8 kn as per extant orders).</p>
22.	<u>Fuel, Lubricants and Tank Capacities</u>	<p>(a) Fuel capacity should cater for endurance requirement of the vessel.</p> <p>(b) 'Lubricant storage should be provided to cater for at least one change of POLs for all equipment.</p> <p>(c) FW tank capacity is to be approximately 250 Lt \pm 5%.</p> <p>(d) 25% surplus fuel over endurance limit should be provided.</p>
23.	<u>Waste Disposal System</u>	As per Class norms.

24.	<u>Fire Fighting and Damage Control</u>	<p>The following firefighting arrangement should be provided:</p> <p>(a) Portable fire extinguishers and fixed firefighting arrangement to meet the requirement of Classification.</p> <p>(b) The machinery space should be provisioned with environmentally benign NOVEC-1230 FF System as major firefighting system. The system should have capacity for two shot operation.</p> <p>(c) The control of NOVEC-1230 FF system is to be located in the Coxswain's Post preferably on the Coxswain's panel.</p> <p>(d) Fire detection sensors as per NHQ policy.</p> <p>(e) Flood alarm sensors are to be provided in Red Risk Zone (below water line) as per NHQ Policy.</p> <p>(f) Two fire pumps.</p>
25.	<u>NBCD</u>	NBCD allowance list is to be as per NHQ policy letter.
26.	<u>AC & Ventilation</u>	AC & Ventilation should be provided as per Class rules.
27.	<u>Hydraulic Pipelines</u>	Robust hydraulic pipelines are to be provided for steering/reversing deflector.
28.	<u>Equipment/ Lighting</u>	<p>(a) <u>Equipment/Lightings</u>: - All Electrical Equipment/ LED lighting shall be conforming to Class.</p> <p>(b) <u>Power Generation</u>: - Suitable number of generators of reputed make and of adequate capacity with 100% reserve power and redundancy conforming to Classification Specification regulations."</p> <p>(c) <u>Emergency DA</u>: - One fixed air cooled emergency diesel generator of reputed make and of suitable capacity conforming to Class specifications to be provided to cater for emergency supplies to the essential equipment including electric lighting, steering gear, Nav aids and Communication <i>iaw</i> SOLAS requirements.</p> <p>(d) <u>Power Supply Requirements</u>. Power supplies with quality as per Class Specifications are to be provided as follows (not limited to): - (i) 230V AC, 50Hz, 1 Phase (ii) 24V DC.</p> <p>(e) <u>Main Switch Board</u>. As per the Class requirements</p> <p>(f) <u>Shore Supply Arrangements</u>.</p> <p>(i) A watertight Shore Supply Connection Box 230 V, 1 Phase, 50 Hz shall be fitted on weather deck at an appropriate position on both Port and Stbd conforming to Class specification, to meet the requirements of the harbour loads.</p> <p>(ii) Stowing arrangement for flexible cable, suitably located at below deck is to be provided.</p> <p>(g) <u>Transformer/ Rectifiers/ Inverters</u>. Required number of Transformer/ Rectifiers/ inverters conforming to classification society's rules are to be provided if required.</p> <p>(h) <u>Motors, Starters and Controllers</u>. The motors shall be selected so as to meet latest available marine grade specifications. The starters & controllers shall be enclosed type and suitable for marine use. Siting of motors should be as per Class regulations.</p>