

संख्या. पी-63013/234/01/2026/मोड-1/सीसुबल 2170-76

भारत सरकार, गृह मंत्रालय
महानिदेशालय सीमा सुरक्षा बल
(रसद निदेशालय: आधुनिकीकरण सैल)
(Email-comdtord@bsf.nic.in)

ब्लाक संख्या . 10,
सीजीओ काम्पलैक्स,
लोधी रोड, नई दिल्ली-03
दिनांक 01 अक्टूबर 2026

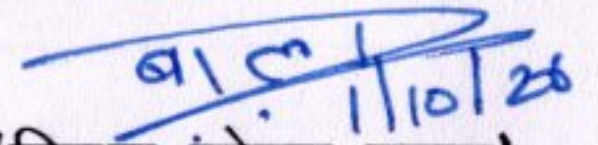
सेवा में,

महानिदेशक:- आसाम राईफलस (through LOAR), केन्द्रीय ओद्यौगिक सुरक्षा बल,
केन्द्रीय रिजर्व पुलिस बल, भारतीय तिब्बत बोर्डर पुलिस, सशस्त्र सीमा बल,
राष्ट्रीय सुरक्षा गार्ड एवं पुलिस अनुसन्धान एवं विकास ब्योरो

विषय: अनुमोदित गुणात्मक आवश्यकता /परीक्षण निर्देशों का प्रेषण

तकनीकी विशेषज्ञों के उप समूह द्वारा किए गये सूत्रीकरण एवं महानिदेशक सीमा सुरक्षा बल द्वारा अनुमोदित **“Boat Ambulance for Creeks of Gujarat and Sunderbans”** उपकरण के गुणात्मक आवश्यकता/परीक्षण निर्देशों को आपकी अग्रिम कार्यवाही हेतु प्रेषित किया जाता है।

संलग्न : उपरोक्तनुसार


(विपुल मोहन बाला)
उप महानिरीक्षक (रसद)

प्रतिलिपि :-

- तकनीकी निदेशक
The Technical Director
राष्ट्रीय सूचना-विज्ञान केन्द्र, नोर्थ ब्लाक,
गृह मंत्रालय, नई दिल्ली
NIC, North Block, MHA
New Delhi (द्वारा ई-मेल)
(ई-मेल पता : mpsugandhi@nic.in)
 - SO (IT), North Block, MHA
(Through E-mail)
(E-mail address: soit@nic.in)
 - Sh. Samarth Sharma,
Director Nodal Officer for MHA GeM,
3rd Floor, Jeevan Bharti Building
Conaught Lane, Janpath Cannaught
Place, N/ Delhi-110001
E-mail:directorcategory13@gem.gov.in
advisor-di@gem.gov.in
 - तकनीकी विंग, सीमा सुरक्षा बल
 - रसद निदेशालय, (जल स्कन्द), सीमा सुरक्षा बल
- : आपसे अनुरोध है कि उक्त उपकरण के गुणात्मक आवश्यकता /परीक्षण निर्देशों को MHA website (Division of MHA+ -Police Modernization Division-Qualitative Requirements- Qualitative Requirements of Machinery & Eqpt Items with Surveillance item) पर अपलोड करने का श्रम करें।
- : कृपया उपरोक्तानुसार कार्यवाही करने का श्रम करें।
- For info with request to upload the approved QRs & TDs of **“Boat Ambulance for Creeks of Gujarat and Sunderbans”** on GeM Portal. Copy of QRs & TDs is attached with this letter.
- : कृपया उक्त उपकरण के गुणात्मक आवश्यकता/परीक्षण निर्देशों को सीमा सुरक्षा बल की वेबसाइट पर अपलोड करने का श्रम करें।
- : आपके यूओ संख्या-1460 दिनांक 31 अगस्त 2026 के सन्दर्भ में अनुमोदित **“Boat Ambulance for Creeks of Gujarat and Sunderbans”** उपकरण के गुणात्मक आवश्यकता/ परीक्षण निर्देशों को आपके सूचनार्थ एवं अग्रिम कार्यवाही हेतु प्रेषित जाता है।

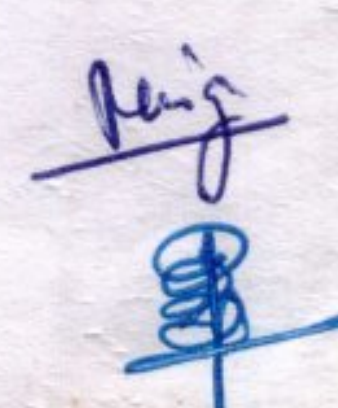
QRs & TDs OF BOAT AMBULANCE FOR CREEKS OF GUJARAT AND SUNDERBANS

S.No	Parameter	QRs Specification	Trial Directives
1.	Role & Function	The boat shall be designed to operate and maneuvered safely and effectively at specified speed with full complement in specified Creeks of Gujarat and Sunderbans of West Bengal. The Boats shall be highly sea worthy and very stable & resistant to capsize. The boat shall offer good maneuverability and throttle response throughout its speed range and particularly when coming alongside or breaking away from an underway vessel at its full load and complement. The boat shall have propulsion, power generation, lifesaving protection and other engineering and electrical systems to carry out safe and reliable operation to perform the following functions. (a) Use to transport sick and injured patient with Basic life support equipment. (b) Limited search & Rescue (SAR)	To be physically checked during inspection.
2.	Speed	i) Maximum 40 knots with full load displacement at 95% MCR ii) Cruising not less than 25 Knots.	To be checked during speed trial.
3.	Sea worthiness & Maneuverability	i. Excellent performance upto Sea State- 03, will remain operational with reduced performance and sustainability up to sea state -4. ii. The bottom structure of the water craft shall be designed in such a way to withstand slamming effect when the watercraft is operating at high speed in sea state-4. The vessel shall have good maneuverability for the following operational requirements: - a) Going alongside and leaving a vessel while under way for boarding purpose. b) Maneuvering safely under all conditions of loading and speeds in	To be checked during trial.



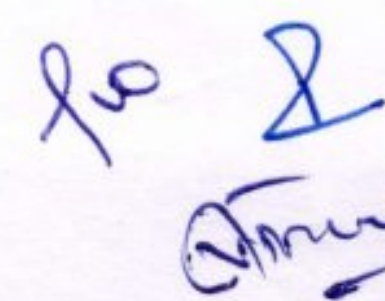
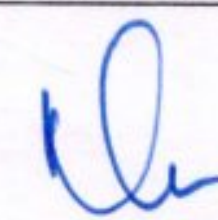




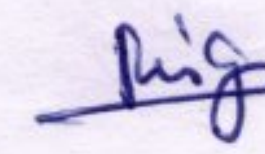




S.No	Parameter	QRs Specification	Trial Directives
		adverse weather and sea condition. c) Crash stop from full speed ahead in minimum 1.5 times of boat length or as per class requirement. d) Capable of maneuvering from one engine in case of failure of the other.	
4.	Endurance	6 Hrs at 25 Knots of cruising speed with full load	Trial to be carried out for 2 hrs @ 25 knots with full load (man & materials with eqpts) during trial (in favour & against the current) Distance travelled & fuel consumed to be recorded. Check & calculate fuel tank capacity meets endurance requirements
5.	Dimension	i) Length Minimum – 15 ± 0.5 Mtrs. (ii) Beam – according to ship stability criterion and design (iii) Draught – less than 01 meter with full load. (iv) Displacement: according to design criteria. (v) Depth: sufficient depth for comfortable sea operation.	To be physically checked
6.	General Features	a) The Boat Ambulance should be capable of operating in shallow waters in minimum depth of 5 feet in extreme tropical conditions b) Should be mono hull construction (Single mould) c) Have an expected service life of about 15 years for the machinery, equipment and hull. d) Suitable rated diesel engines with Water Jet propulsion	Check the criteria with classification society as per class requirement. IACS approved drawings NABL







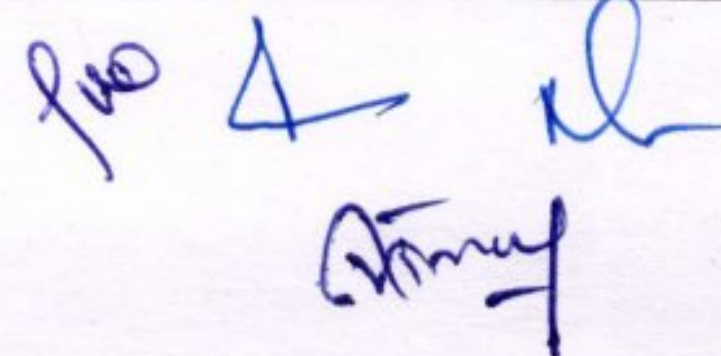

S.No	Parameter	QRs Specification	Trial Directives
		system meeting the speed requirement. e) Fresh /portable Water Capacity – Approx. 300 Ltrs f) Fuel Capacity – Sufficient to meet the range/ endurance criteria for 6 Hrs continuous run @ 25 Knots and reserve of 10 %. g) The craft shall be capable to operate in shallow water during day / night operation to transport sick and injured patient with Basic life support equipment. h) The water craft must have carrying capacity of 10 persons including patients, nursing and crew staff i) Cabin should have 2 open able windows each for Port and Stbd side. j) Latest design concept for the craft with respect to automation, sanctioned aspects and crew comfort are to be included. k) Sufficient hatches with pad locks and door to be provided to meet the comfortless and operational requirement as per class/user requirement. l) Watertight transverse bulkheads to be built in accordance with plan of watertight sections m) Watertight bulk heads are to be extended up to main deck. n) Multiple chamber hull with minimum 4 to 5 airtight chamber bulkhead shall be considered during design. o) Noise and vibrations in various sections of the vessel are to be limited as per class rules. p) Main Engine & its accessories and its electronic devices like control panel, control unit parameter display unit, wheel house operating console units and monitoring system related to engines should be the scope of main engine manufacturers (OEM) compatible with gear box and Water Jet propulsion units. q) Firm should finalize and project only one each make of engine,	accredited lab test reports.

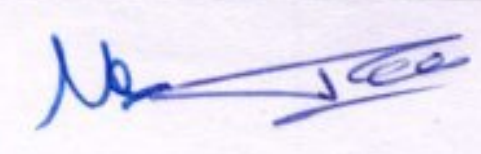
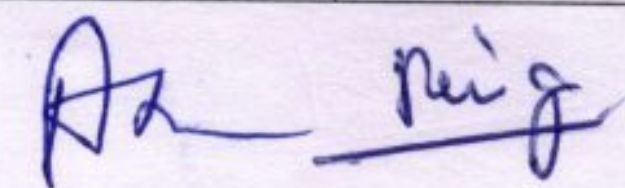
S.No	Parameter	QRs Specification	Trial Directives
		Gear box and Water Jet propulsion unit (selection of engine should confirm the compatibility of selection of Gear box make and propulsion unit make) which brand having indigenous product support facilities. The firm should submit complete literatures, specifications, list of on-board spares (OBS) along with technical bid. Offering of multiple engines will not be accepted. r) All fittings like railings, nut, bolt, screw, washer, Light fixtures etc and any such materials/fixtures should be of SS 316 marine grade steel. s) All sea water system pipes are to be made of 90/10 Cu/Ni. The externals of these pipes are to be painted with Chlorinated rubber paints.	
7.	Environmental conditions	The design & building of Boat Ambulance with the equipment and machinery fitted on board should be maintained and capable of satisfactory operation, under the following environmental conditions: - a) Wind speeds up to 30 knots b) Ambient air temperature from zero to +55 °C. c) Water temperature from 10 °C to 40 °C. d) Max relative humidity of 90% at 32 °C. e) Salinity of water up to 36000 PPM. f) Tidal Water current -5-6 Knots g) Wave height up to 8 Feet (Approx.)	General
8.	Annual exploitation	Engine Should be capable of annual exploitation of 1200 Hours at upto max speed of 40 Knots	General

[Handwritten signatures and initials in blue ink]

S.No	Parameter	QRs Specification	Trial Directives
9.	Class, Design and construction	The craft shall be designed and constructed as per High-Speed Craft HSC/HSLC rules for government service duly vetted by IRS or other IACS member society. Main propulsion machinery is to be as per Classification society standards. The craft should be of FRP (Vacuum infusion process for Sandwich Hull construction) or any suitable material for construction of stronger & lighter hull to meet above design criteria. All the fittings should be corrosion protective material SS marine grade 316. Automatic drainage system provision should be provided in all open decks for draining water during operations/sailing. It shall be of sufficient strength to withstand the/slamming effect of rolling pitching of waves and emergency beaching which will be encountered in the adverse service conditions All safety and operational features should meet with owner and class requirement. Gyro stabilization: Optional Provision of gyro stabilization system to minimize rolling and pitching, particularly during high-speed operation and transfer of patient when boat is placed alongside jetty/another vessel be made available as per the requirement of buyer.	To be physically demonstrated during prototype/JRI.
10.	3D Design	The builder shall provide complete 2D drawings and 3D design animations for review of comfort and operational requirements by the purchaser, class society, and builder at the design stage. The builder should submit 2D & 3D design animation within 30 days of issue of supply order / AT. Amendments, if any, shall be incorporated into the GA drawing prior to final class approval before starting the production of prototype boat."	To be checked on computer and manually

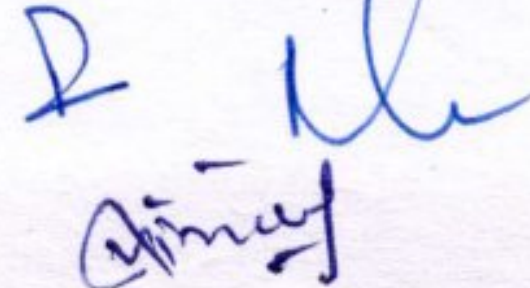




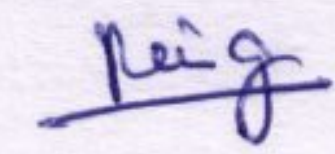




S.No	Parameter	QRs Specification	Trial Directives
		In case the offered design is a new one (not build and supplied in the past for the specified role/purpose), on placement of order, the builder is to carry out detailed design calculations and model testing of the hull from offered for its conformity to the requirements of this specifications and HSC Rules. The Model testing should cover resistance, powering and seakeeping parameters of the boat. The design calculations and the model test reports are to be vetted by the classification society in accordance with class rules.	
11.	Main Engines, Gear box & Propulsion System.	a) 2x In-board diesel engine turbo-charged and after cooled or advanced inboard marine diesel engines developing enough power to meet speed criteria mentioned in clause (2) of this Q.R. Diesel Engines are to be matched at 95% MCR for the full speed requirement. b) The engines should be able to carry out sustained operations for about 6 hours a day with an annual exploitation of about 1200 hrs. c) 02 Nos. gear box compatible with engine and Jet propulsion system Selection of gear ratio suitable to obtain the desirable speed as mentioned SI No. 2 of the QR. d) 02 Numbers Water Jet propulsion package should cater for shallow water operations. e) Main Engines, Gearbox and Propulsions shall be compliant to IACS class rules. The diesel engine should meet the latest international norms on exhaust emission and personnel safety (IMO/MARPOL regulations on exhaust emissions, SOLAS regulation on personnel safety). f) Machinery should be type approved by class where ever applicable for Medium/heavy duty operations. g) 02 Nos Hatch cover of appropriate size to be provided to lift up	To be checked physically.



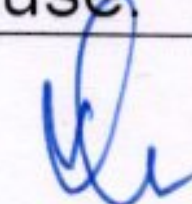
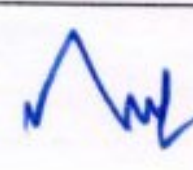
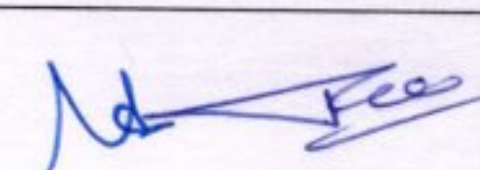
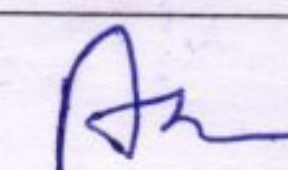
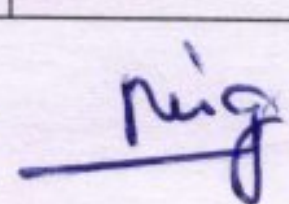





S.No	Parameter	QRs Specification	Trial Directives
		and remove the engines for Repair & Maintenance.	
12.	Power generation: - (DG Set)	02 Nos of Marine diesel generators (one standby) of sufficient capacity of any reputed brand having indigenous product support facilities duly type approved by IRS or any member of IACS shall be provided, that shall meet the total power requirement including lighting and air conditioning with at least 20% reserve capacity. Type, quantity & capacity of generator shall meet class requirements. The power generated by DG shall be adequate for all auxiliary systems, heating, ventilation, Essential Medical Equipment's, air-conditioning lighting and Galley loads etc.	DG Set performance trial to be conducted by running for one hour continuously on full load. All parameters & load of DG Set must be in normal limits specified by the DG Set manufacturers.
13.	Electrical System	I. Electrical Installation a) All the cables, electrical equipments, machinery and associated systems shall confirm to Classification Society rules. b) All electrical fittings/Switches should have IP 65 rating or above. c) Electrical/Engineering emergency arrangements would be provided as per class rules. II. LIGHTING AND MISCELLANEOUS: a) Sufficient numbers of LED based light fitting are to be provided in engine room, wheel house. An addition light fitting will be provided in the wheel house for reading chart. b) Two Portable hand lamp of reputed make shall be provided. c) Sufficient numbers of LED based light fitting are to be provided in the troop's space. No light should shine directly outboard. d) Adequate Nos of sockets of 5A and 15A, shall be provided in wheel house and cabins for induction cook top, electrical kettle and charging of search light. e) Sufficient Mobile charger points required to be provided at cabins and wheel house	(a) Full power trials of boat at 100% MCR and to be conducted for one hour with recording of all system parameters and class approved certificate to be provided by the boat builder at the time of prototype/JRI.



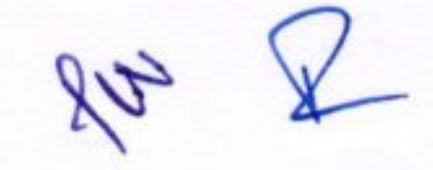


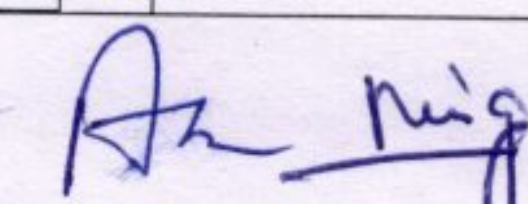

S.No	Parameter	QRs Specification	Trial Directives
		f) Two high definition, high beam, marinised Search lights for 360 degree having detection range 500 meter, identification range 400 meter and recognition 300 meter. g) All front windows be provided heavy duty wipers (Class approved, marine grade). h) The boat ambulance shall be fitted with suitable lightning conductor to protect the boat and onboard equipment's during lighting and thunderstorm conditions as per class requirements.	
14.	Fuel Tanks and Fuel System	Fuel tanks and fuel system is to cater for the following: - a) Separate fuel tanks for each main engine are to be provided with arrangement to run both engines from each tank. The tanks are to be located at appropriate place as per design and are to be interconnected. b) The fuel tanks should be of marine grade SS 316 with EPI Coat with baffles to reduce sloshing. The tanks are to have suitable inspection manhole, filling point on deck, drainage valve and suction lines with valves for each engine with water separator and filters. The tanks to be constructed with internal and external water tight welding at all joints. c) Fuel capacity to be designed in consonance with the type of engines and as per endurance criteria with 10% reserve. d) "Digital tank level indicators" are to be provided for the fuel tanks. The fuel state indication is to be provided on the bridge/wheel house control panel also visual fuel level indicator provided in each tank. e) The vent pipes shall terminate in atmosphere and be positioned with a NRV to avoid ingress of rain water or spray. f) Separate class approved certificate be obtained for each fuel tank separately and produced during prototype inspection.	Check fuel capacity. Tank capacity to meet endurance requirement

S.No	Parameter	QRs Specification			Trial Directives
		g) Calibration chart plate be installed in every tank			
15.	Steering system:-	The steering system shall be single station power assisted hydraulic system integrated with Water Jet propulsion system.			To be checked physically
16.	Patients Bed arrangement along with other accessories	i.	Patient Bed with accessories	02 Nos	To be checked physically
		ii.	Scoop stretcher	01 No.	
		iii.	Oxygen cylinder with regulator & Mask	02 Set	
		iv.	Suction apparatus electric	01 No	
		v.	Ambu bag	01 No	
		vi.	Suture set	01 No	
		vii.	Nebulizer machine	01 No	
		viii.	Splints set	01 No	
		ix.	Cervical collar	01 No	
		x.	Spinal stretcher	01 No	
		xi.	Dressing drum	01 No	
		xii.	Hand held Glucometer with strip	01 No	
		xiii.	Emergency medicines Tray	01 No	
		xiv.	Syringe Infusion pump	01 No	
		xv.	Sphygmomanometer	01 No	





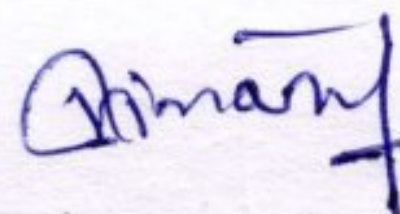
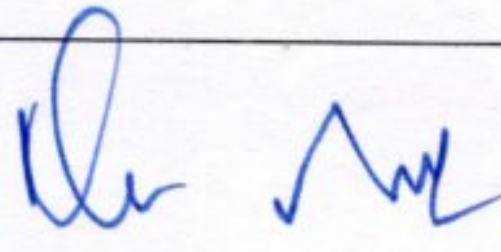



S.No	Parameter	QRs Specification			Trial Directives
		xvi.	Spine board	01 No.	
		xvii.	Mini refrigerator with freezer	01 No.	
		xviii.	Oximeter	02 Nos.	
17.	EQUIPMENT'S NAVIGATION AND COMMUNICATION Navigation and Radio Equipment	NAVIGATIONAL EQUIPMENT'S RADAR- 01 (High resolution) High resolution 12 NM RADAR able to track 10 targets simultaneously of reputed make consisting of color 10" / 12" RADAR monitor located in the wheel house and an enclosed scanner mounted on the mast. type A -01(Having option for reception and transmission Mode) GPS/Echo Sounder / Chart plotter One composite GPS/Echo sounder (Dual frequency capable of measuring up to 50 Mtrs depth)/chart plotter of any reputed make with chart Cardin wheelhouse shall be provided to suit speed requirement and shall be integrated with the RADAR and shall have multifunctional display with map. Magnetic Compass -01 Reputed make magnetic compass capable of being operational at high speeds. The compass shall be of 100mm diameter fitted in the wheel house at suitable location to facilitate navigation. The magnetic compass should meet class requirement.			To be checked physically (all items/Eqpts) Check class approved certificates/OEM literature wherever applicable

S.No	Parameter	QRs Specification	Trial Directives
		Search Light: - 02 Nos Search light for 360° coverage with remote operation from wheel house of minimum 200 Watt Xenon lamp (minimum 200 Mtr range) to be positioned on wheel house roof with operating system from inside the wheel house. Loud Hailer: - 01 Nos with speaker at forward and aft. Electric Horn/ Whistle: - 01 Nos One electric whistle / horn shall be fitted for navigation. Ambulance Siren and Light: - 01 each required to be fitted NAVTEX: - For weather and navigational warning shall be provided. Binoculars: - One Marine binocular of Magnification 7 x 50, with protection case of reputed make. One-night vision binocular of 7 x magnification be provided. One Barometer, One Anemometer at suitable place with display on wheelhouse, Inclinator and wet & dry bulb thermometer in the wheel house shall be supplied& fitted Navigational lights: - Navigational lights as per COLREG 1972 as amended rules as applicable shall be provided. Additional Items	

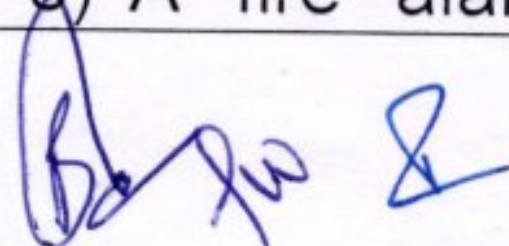
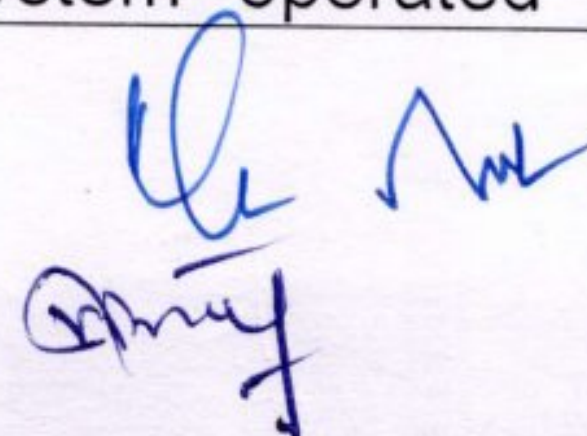




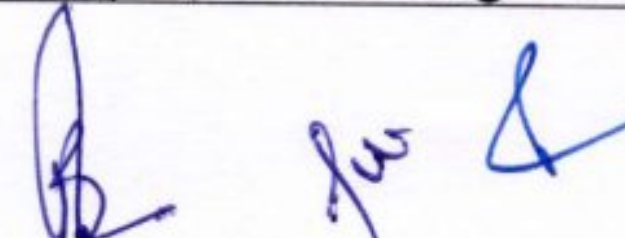
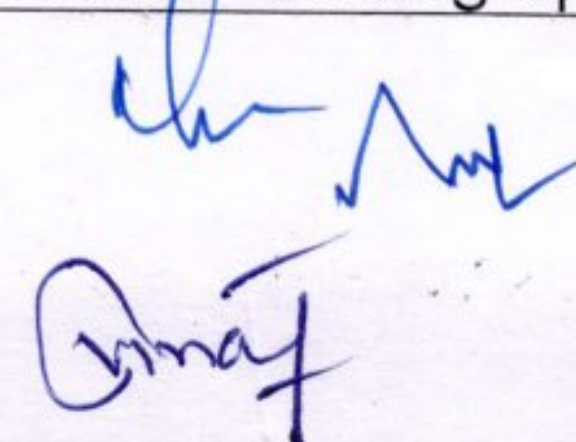

S.No	Parameter	QRs Specification	Trial Directives
		Following additional items shall be provided: - 1. Ship's clock- 01 2. First Aid Box 3. Additional android map navigation with google map screen (offline & online) having access facility with wired/wireless connectivity with mobile phone etc. COMMUNICATION EQUIPMENT VHF Radio (Marine) with DSC capabilities: - 01 25W VHF TX/ RX multi-channel marine radio telephone shall be provided positioned in the wheelhouse. Police Radio:- To be provided by BSF	
18.	Associated safety equipment's	Lifesaving appliances as per the statutory requirements (applicable Inland Rules -2022) for the craft shall be provided. Stowage space shall be provided for life jacket and mounting brackets for life buoys. Lifesaving equipment's shall be class approved type as per SOLAS/MMD/ Class requirements. a) Life raft – 02 (08 men capacity fitted one on each side with HRU. b) Life jackets – 20 (Adult Jacket Type) 12 normal and 08 hazardous duty life jackets. c) Lifebuoy- 06 (30" diameter) three with life line and three with light and smoke signal) d) Flares pack- 01 - Comprising 6 red rocket parachute flares, 12 red hand flares and 2 orange buoyant smoke signals / markers) e) Signaling Mirror- 01 (Daylight signaling) f) Torch- 01 (Water proof electric torch suitable for mores signaling) g) Whistle- 01 (Whistle or equal sound signal)	To be physically checked by deployment/folding demonstration during prototype inspection and JRI.

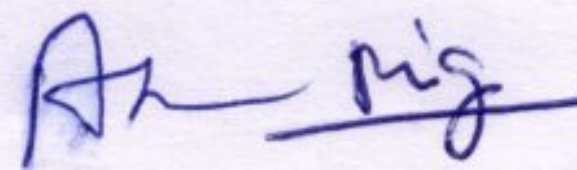
S.No	Parameter	QRs Specification	Trial Directives
		h) One buoyant safety knife shall be provided. One bucket shall be provided. i) Hand held spotlight with wander leads x 2, low level deck lighting as per design. j) Shore power connection facilities (230 Volt, Single phase) with 100 mtrs cable of required capacity. k) Hull lifting points along with lifting arrangements and slings x 4 nos with spreader bar to suit to the length & breadth of vessel. l) Firefighting system and damage control system as per class requirements. m) Water jet Propulsion unit with Inspection hatches, fully complaint engine room with forced air ventilation system and full compliant ships wiring and fuse system. n) Adequate deck rails and hand holds to the deck areas of the craft and suitable foldable mast to host navigational and communication equipment. o) Boat poles /hook x 2 floating type & mooring line x 4 p) Towing line with stern mounted towing posts and towing line storage locker. Towing post should be strengthened with additional stiffeners. q) Mooring bollards, cleats and fairleads of SS 316 to be provided and strengthened by providing additional stiffeners linked with bulkheads to withstand the watercraft load in the tidal current / bad weather to ensure proper mooring of watercraft. r) The Machinery space shall be fitted with fixed firefighting system and fire-alarm & smoke detection system meeting class requirements. s) A fire alarm system operated by smoke detectors shall be	



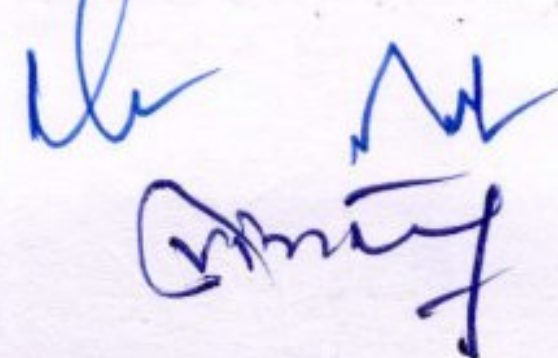
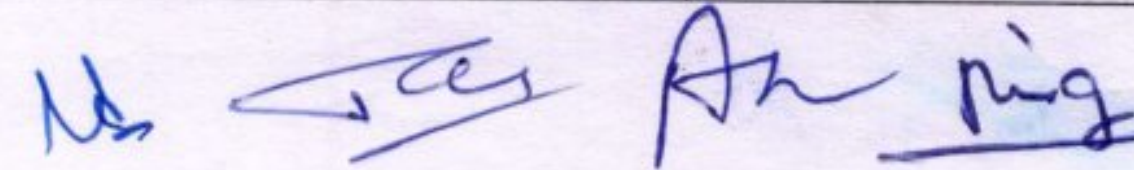
S.No	Parameter	QRs Specification	Trial Directives
		provided for engine room generator room (Detectors installed above the engines), accommodation cabin and wheelhouse. An audible alarm shall be fitted at the helm console. t) Poly propylene (PP) ropes of following length and thickness to be provided for berthing, towing, mooring, and anchoring the boat. a) For berthing - 12 mm dia- 100 meters b) For mooring - 12 mm dia - 100 meters c) For anchoring - 18 mm dia - 100 meters. u) Foldable Gangway: Provide corrosion-resistant foldable gangway with non-skid surface and foldable handrails for safe evacuation & embarkation/disembarkation of patients, crew and medical staff. The gangway/handrails system should not be obstructive.	
19.	Cabin	Spacious enough to accommodate arrangements of 10 pers including patients, nursing staff and crew and It should be air conditioned with adequate cooling. a) Cabin should have 2 open able windows each for Port and Stbd side. b) One toilet with reserve tank with flushing / pumping arrangement shall be provided it should have following fittings: - (i) Water closet – 01 No. (ii) SS 316 wash basin with fittings – 01 No. c) Suitable cupboard be provided in patient cabin to store the Medicines and Medical equipment's. d) Folding Seats: Provide folding/tip-up seats in patient cabin to	To be physically checked for smooth folding and unobstructed movement.



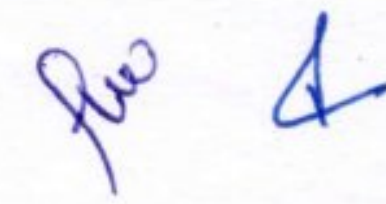
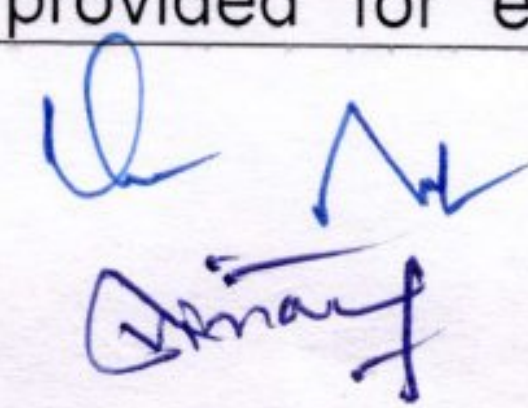

S.No	Parameter	QRs Specification	Trial Directives
		facilitate easy internal movement of patients, stretchers and medical staff.	
20.	Wheel house	It should be air conditioned & shall have 4 numbers of suitable seat with fixed arm rest & lap belt for operating crew in the wheel house. The wheel house must be provided the following equipment's facilities: - • Almost 360-degree vision • Overhead vision (Hatch) • Steering system • Engine/ propulsion controls and instrumentation • Ventilation and air conditioning including open able side windows 1 No each of Port & Stbd and roof hatches • Adequate stowage areas for all navigation equipment like RADAR DGPS / Magnetic compass etc. • Master control panel for system • Wall mounted fan for cabin. • Wind screen wiper (heavy duty).	To be checked physically as per approved drawing plan
21.	Air condition plant	a) The craft shall be provided with marine reputed make air conditioning system (or Split AC System). The system shall be compact environment friendly and have low-power consumption. The capacity of the AC shall be as per requirement. The AC shall be capable of maintaining 24° C room temperature in an ambient temp of 45° with humidity above 80 percent. b) The air conditioning system chosen shall provide adequate cooling capacity in wheel house and crew accommodation separately to maintain cool condition even at high temperature. c) Number of Air changes required for the accommodation	To be physically checked and all ACs to be run during full load trial

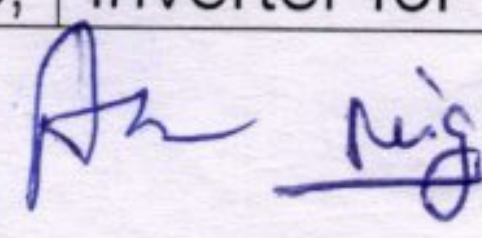


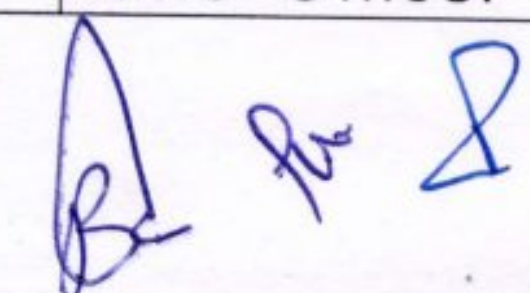
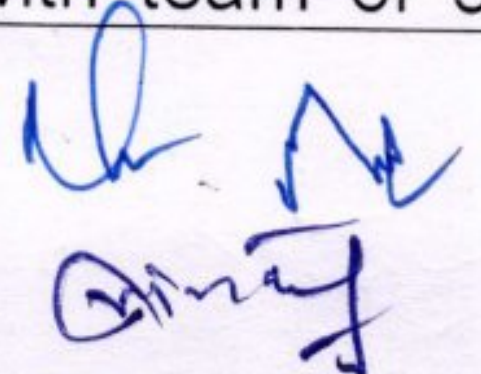

S.No	Parameter	QRs Specification	Trial Directives
		space/wheel house to be provided as per National/International standard d) Air conditioning system suitable for operating in 220V electrical system of the boat shall be provided. AC system should have the service facility in India. (Preferably Generator driven)	
22.	Fenders	Rubber fender provided all around (except aft transom). The material shall be of low weight with high shock absorbing and good buoyancy. 06 Nos adequate pneumatic fender to be provided with the boat for additional safety.	Check fender and class approvals certificate for materials
23.	Anchor, windlass, pockets, Hose pipe	As per the class requirement shall be provided. The complete system shall have galvanic protection inside cable locker. Fore peak shall be built for stowage of anchor chain cable and other ropes. A Naval pipe of stainless steel shall be fitted in the compartment for anchor chain cable. Arrangement for securing the inboard end of the chain cable shall be provided in the compartment. A drainage arrangement shall be provided as per class requirements	To be physically checked
24.	Railing	Stainless steel 316 hand / grab rails shall be fitted throughout accommodation and service area for safety of personnel on board. Stainless steel 316 guard rails all-round the main deck for safety of crew and personnel shall be provided.	To be physically checked
25.	Anode protection external	Suitable anodes to be fitted on the hull sea chest & other appropriate places for 18 months of continuous service	To be physically checked
26.	Inverter / UPS	Hybrid Inverter & Lithium-Ion battery capacity of 3 KW maximum power point tracking (MPPT) with independent charging facility by 1.5 KW flexible bipole solar panel and remaining through DG / Shore connection shall be provided for essential medical Equipment's,	To be physically checked and run fan & light etc connected to inverter for 1 hour

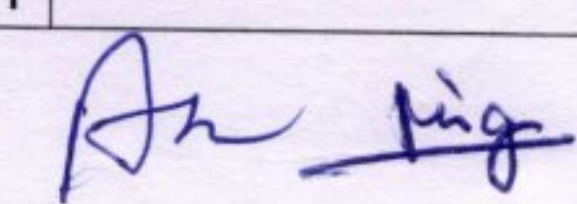




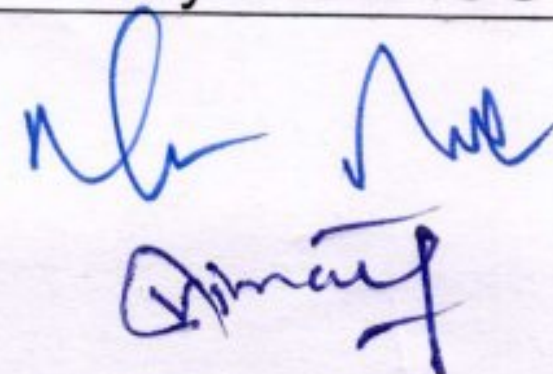

S.No	Parameter	QRs Specification	Trial Directives
		communications and emergency lighting / Fan etc. for all cabins etc. backup upto 8 hours.	
27.	Bilge pump	Electric power operated automatic bilge pump (vertical type) be provided in each bulkhead compartment of the hull. One additional stand by manual/hand operated bilge pump in Engine room to be provided.	To be physically checked along with alarm.
28.	Aft Deck	All surfaces shall be of minimum maintenance and easy to clean. The areas shall have adequate handholds	To be physically checked
29.	Paint	Tin free anti fouling paint system as per latest International Maritime Organization (IMO) regulations shall be applied to hull bottom (below water line) The pattern of the paint on the outer body and inside hull part of the boat will be white colour.	To be physically checked and tallied with class certificate/ inspection report
30.	Marks on Hull superstructure etc.	The crafts name, ID No., crafts' emblem & National flag is to be affixed to both sides of the hull at super structure level. The craft's name "AMBULANCE" (In both side middle of the Boat), ID No. BSF emblem to be affixed on transom.". Size and location will be decided at the time of building of vessel.	To be physically checked
31.	Supervision	As the vessels are being built to IRS or any other IACS member, these would be inspected by the classification society as per class requirement. However the owner shall undertake stage wise additional inspections during Hull, Engine installation, Accommodation etc. Shipyard would be required to provide all inspection facilities at OEM premises/builders yard to the inspection team. Periodic reviews by the owner would be conducted for ascertaining work progress by a team including technical officer and member from user end for the complete project. One Officer alongwith team of 3 members (including 01 SO each	Periodic check

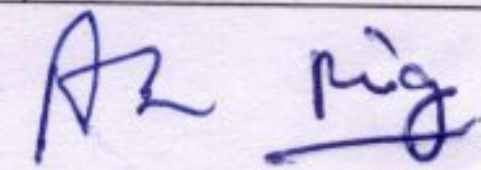







S.No	Parameter	QRs Specification	Trial Directives
		from WKSP, Master & Engine Driver) be detailed to supervise the construction of the boat in stage wise. They will visit the building yard and all machineries and equipment manufacturing yard / company in a regular interval to confirm the quality and ensure the boat shall be built as per requirement specification. Firm to intimate to owner 7 days in advance before commencing of specified work.	
32.	Certificates	Following documents to be provided by builder with each vessel on delivery two sets in hard copy & one set in soft copy:- - All class society approved drawings, booklets, manuals & trial data - Built and as fitted drawings and consolidated schedule of piping, painting, insulation, and paneling's etc. - Manual with regards to installation, operation and maintenance of various equipment / fittings, systems. - Service manual, part catalogue/ identification list of major machinery such as main engine, gear box, generators, pumps & other accessories. - Docking plan, LSA plan, FFA plan along with instruction of operating safety equipment. - Certificate of IACS class for the water craft. - Builder's certificate - FO tank calibration chart. - Anchor & chain cable mooring ropes certificate. Major machinery (Main Engine, Gear box, water jets & generators etc.) type approval certificate. - Stability booklet. - GA Drawing: The L1 firm shall submit all approved drawings, design documents and relevant certificates/documents issued/approved by the IACS-member Classification Society (as	To be checked physically during prototype inspection and JRI along with class representative.

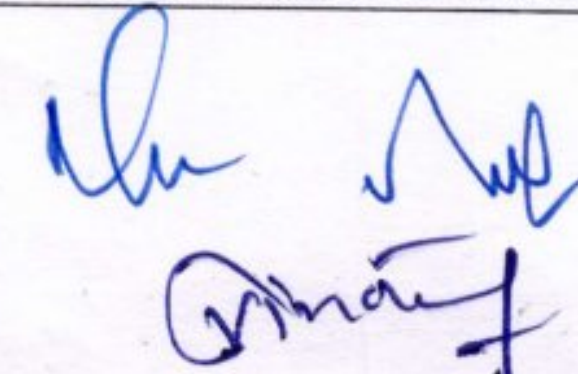





S.No	Parameter	QRs Specification	Trial Directives
		mentioned in above) within 30 days from the date of issue of the Acceptance of Tender (AT).	
33.	Associated equipment	i) Basic maintenance kit related to repair. ii) On board spares (OBS) The craft to be supplied with basic maintenance on board spares of main engine, gear box, propulsion system annually for 1200 hours & DG set for 1500 hrs operation. As per OEM recommendation (list should be prepared and submitted along with technical bid)	Also to be physically checked
34.	Inspection, Test & Trials	The test and trials shall be carried out as per the standard procedure of class requirement or as per following details. a) Deflection test b) Anchoring trial c) Mooring trials d) Speed trials i. Light load condition ii. Full load condition e) Endurance/Sea trial f) Maneuverability trials g) Turning circle trials h) Astern trials i) Crash stop j) Electrical equipment's trials k) Navigation equipment's trial	To be checked during prototype inspection along with class representative. Speed and maneuvering trials need to be conducted again during JRI
35.	Guarantee Warrantee	/ The firm will have to provide 01 years guarantee/warranty for boat from the date of acceptance of consignee location in satisfactory condition. Guarantee & warranty services on site (BSF deployment locations) shall be provided by the OEM/authorized service agencies of respective	Physically check the documents






S.No	Parameter	QRs Specification	Trial Directives
		machineries. The Guaranty / Warrantee shall be comprehensive i.e. for all system. The company will provide all the consumable items including oil / lubricant, filters, batteries, spares of all machineries (Except fuel) for the period of guarantee / warrantee on free of cost. All periodical maintenance should be done by the firm for all machineries/equipment. The OEM service provider of the respective machineries shall provide a certificate that they have the experience of servicing similar type of engines/machineries during last 05 years in India.	

(Harbax Singh Dhillon), ADG
(Log), BSF

(Lalit Kumar Hurmade), DIG
(WW), BSF

(Anil Kumar Lal), Comdt.
(SIW), BSF

(Dr. Narendra Pr. Kohli),
Comdt(Med), 25 Bn BSF

(K L Puri), SP, BPR&D (through
VC)

(Lt. Col. Karan Deep Joshi),
Assam Rifles (through VC)

(P.K. Thapliyal), DC, CISF

(Sharjeel Khan), DC/WW, BSF

(Paras Singh Sahi), AC(TPT),
ITBP

(Vinay Pal), AC, CRPF

(Bhupender Singh), AC/Team
Cdr, NSG

Azharuddin, Surveyor, IRS
(through VC)

Inspr/GD Ram Singh Thakur,
SSB (through VC)

APPROVED/ NOT APPROVED

approved
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DIRECTOR GENERAL
BORDER SECURITY FORCE