संख्या. पी-63013/242/01/2026/मोड-I/सी0सु0बल/2328-32

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 3 नवम्बर 2026

वरिष्ठ तकनीकी निदेशक
The Senior 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)

Sub: **Request for comments of stakeholders/OEM on draft QRs & TDs**

कृपया गृह मंत्रालय के पत्र संख्या IV-24011/12/2011-Prov-I(part)(CFN 3300890)-1710 दिनांक 31st Aug 2015 के सन्दर्भ में।

2. उपरोक्त विष्यान्तर्गत सूचित किया जाता है कि तकनीकी विशेषज्ञों के उप समूह द्वारा **"Hovercraft"** के गुणातमक आवश्यकता/परीक्षण निर्देशों के मसौदें का प्रारुप दिनांक 08 अक्टुबर 2026 को आयोजित सभा के दौरान तैयार किया गया, जिसको इस आश्य से प्रेषित किया जा रहा है कि उक्त उपकरण के गुणातमक आवश्यकता/परीक्षण निर्देश को गृह मंत्रालय की वैबसाईट पर 15 दिन के लिए अपलोड करने का श्रम करें।

संलग्नः उपरोक्तनुसार

कपिल चाहिर 3/11/26
(कपिल चाहिर)
उप कमाण्डेंट (मोड)

प्रतिलिपि :-

1. SO (IT), North Block, MHA **(Through E-mail)** **(E-mail address: soit@nic.in)** : उपरोक्त उपकरण के गुणातमक आवश्यकता /परीक्षण निर्देशों के मसौदा को आपके सूचनार्थ एवं अग्रिम कार्यवाही हेतु प्रेषित किया जाता है।
2. IT Wing, FHQ BSF : उपरोक्त उपकरण के गुणातमक आवश्यकता /परीक्षण निर्देशों के मसौदे को सीमा सुरक्षा बल की वैबसाईट पर 15 दिन के लिए अपलोड करने का श्रम करें। आपसे अनुरोध है कि उक्त मसौदे को गृह मंत्रालय की वैबसाईट पर भी अपलोड करने हेतु निम्नलिखित पतों पर ई–मेल करने का श्रम करें:-
   (a) Technical Director, NIC, North Block, MHA
   (E-mail : mpsugandhi@nic.in)
   (b) SO (IT), North Block, MHA
   (E-mail : soit@nic.in)
3. Prov Dte (WW), BSF : For information w.r.t your UO No.1828 dated 29 Oct 2026.
4. File.

भारत सरकार, गृह मंत्रालय 2328-32
महानिदेशालय सीमा सुरक्षा बल
(रसद निदेशालय: आधुनिकीकरण सैल)
ब्लाक संख्या . 10,सीजीओ काम्पलैक्स,लोधी रोड, नई दिल्ली–03
(Email-comdtord@bsf.nic.in)

संख्या. पी-63013/235/01/2026/मोड–I/सी0सु0बल/ दिनांक 3 सितम्बर 2026

विषय : **"Boat Ambulance for Riverine Areas" के गुणातमक आवश्यकता/परीक्षण निर्देशों पर हितधारकों/ निर्माताओं/ विक्रेताओं की टिप्पणी के लिए अनुरोध।**

"Boat Ambulance for Riverine Areas" के गुणातमक आवश्यकता और परीक्षण निर्देशों को परिशिष्ट 'ए' के रुप में संलग्न किया गया है। हितधारकों/निर्माताओं/विक्रेताओं से अनुरोध किया जाता है कि वे उस उत्पाद की विस्तृत एवं स्टीक जानकारी दें। साथ ही प्रत्येक पैरामीटर के अनुरुप अपने उत्पाद के सही विवरणों को प्रस्तुत करें । सिर्फ 'अनुपालना' या ' अनुपालना नहीं' वाली टिप्पणी स्वीकार नहीं की जाएगी।

- क्या आप मूल उपकरण निर्माता/विक्रेता हैं?
- यदि विक्रेता मूल उपकरण निर्माता का विवरण देता है।
- मूल उपकरण निर्माता से प्राधिकरण प्रमाण पत्र।
- उत्पाद की मूल सूची।
- उत्पाद ब्रोशर एवं साहित्य रचना का ब्यौरा

1. आवश्यक जानकारी/विवरण 18 नवम्बर 2026 तक निम्नलिखित पते पर भेजे जा सकते हैं।

रसद निदेशालय, सीमा सुरक्षा बल
लेवल–8, ब्लाक–10,
केन्द्रीय कार्यालय परिसर, लोधी रोड,
नई दिल्ली–110003
ईमेलः– comdtord@bsf.nic.in

2. शीघ्र प्रतिक्रिया का अनुरोध किया जाता है।

कपिल चाहर 3/9/26

(कपिल चाहर)
उप कमाण्डेंट (आधुनिकीकरण)

Government of India
Ministry of Home Affairs
Directorate General Border Security Force
(Prov Dte: Mod Cell)
Block No.10, CGO Complex, Lodhi Road, New Delhi-03
(Fax: 011-24367683, Email-comdtord@bsf.nic.in)

No. P-63013/242/01/2026/Mod-I/BSF/ Dated, the __Nov 2026

Subject : **Request for comments of stakeholders/OEM/Firms on QRs (Qualitative Requirements) & TDs (Trial Directives) of "Hovercraft"**

The draft QRs/TDs **"Hovercraft"** is attached as Appendix-'A'. The OEMs/Vendors are requested to forward information of the product, which they can offer and also forward correct specifications of their system against each parameter. Only complied or not complied remarks will not be accepted. The firms are also requested to furnish the following details:-

- Whether you are OEM/Vendor?
- If vendor details of OEM.
- Authorization certificate from OEM.
- Original catalogue of the product
- Brochure/Literature of the product

2. The required information/details may please be forwarded at the following addresses by 18.10.2026.

Directorate General BSF,
Level-8, Block No. 10,
CGO Complex, Lodhi Road,
New Delhi-110003
Email: comdtord@bsf.nic.in

3. An early response is requested.

07/11/26

(Kapil Chahar)
Dy. Commandant (Mod)

Appendix-A

DRAFT QRs & TRIAL DIRECTIVEs OF HOVER CRAFT

S/No	QRs/Specification		Trial Directive	Remarks
1.	General	The Shipyard is to furnish all items of labour, equipment and materials required for the construction of the hovercraft, completely equipped and ready for sea/coastal, except for items specifically stated herein as being designated as Owner's supply.	Check the criteria with classification society representative and check other items as per class requirements	
2.	Functions	The Hover Craft will be used for multipurpose maritime coastal as follows: - (a) High speed coastal patrolling and reconnaissance in shallow waters, marshy areas. (b) Interception and Interdiction in area of operation by both day and night. (c) Search, patrolling and operational duties. (d) Rendering assistance to ships and water crafts. (e) Carry armed personnel and scores including logistics.	Check the navigational system for right ops. Trial be carried out in shallow during day and night. Craft design and construction is to meet class requirement.	
3.	Stability	Fulfil all stability requirements specified by the any member of Classification Society of IACS.	Check all documents issued by IACS	
4.	Physical Characteristics	The physical characteristics of Hover are as given below:- **4.1 HOVER CRAFT WEIGHT** **(a) Disposable Load** – The payload of Hovercraft shall not be less than 4.0 Tonnes. The disposal load shall include: - (i) Main Armament (ii) Small Arms (iii) Ammunition (iv) Reserve Fuel (v) Fresh Water (vi) Storage/cargo (vii) Passengers	Check as per physical characteristics All drawings are to be approved by Class prior to construction.	

S/No	QRs/Specification	Trial Directive	Remarks
	4.2 Length – The size of the Hovercrafts shall be in the range of 18-22 Mtr. **4.3 Construction** **(a) Hull & Superstructure** The primary hull structure for construction of Hovercraft including buoyancy tank, fore and after shear walls, engine and fan mounting structure shall be manufactured in any one of the following material composition- (i) All aluminium (ii) All GRP/Composite (iii) Aluminium hull with GRP Superstructure		
	(b) **Control Cabin -** The Bridge (control cabin) shall be fitted with armoured protection of suitable material as per international standards along with armour protection glass. The bridge (control cabin) shall be fitted with armoured protection certified for NIJ level 3 protection. (c) **Deck -** Deck shall be provided with non-skid surface. The side decks shall provide a working deck surface along both sides of the hull. (d) **Skirt System -** The firms may quote either for open or close loop skirt or both. All skirt components shall be accessible and skirts changeable from outside without having the need to jack up the Hovercraft. The selection of skirt material for an Air Cushion Vehicle (ACV) should be guided by the requirement to maintain structural integrity, airtightness, and operational performance over the intended service life of the craft. The principal material characteristics to be considered include:		

S/No		QRs/Specification	Trial Directive	Remarks
		• Tensile strength – to resist the stresses induced by cushion pressure, skirt tension, and transient loads. • Tearing strength – to limit the propagation of accidental cuts or punctures. • Resistance to delamination – to ensure coating and substrate remain bonded under repeated flexing and environmental exposure. • Flexibility with ageing resistance – to allow repeated bending without cracking, even after prolonged service. • Low-temperature performance – particularly for craft operating in ice and cold climates, where material embrittlement must be avoided. Verification of selected skirt materials should be carried out by Class using testing programmes that reflect actual service conditions. These should include cyclic flexing endurance, impact and puncture resistance, coating, adhesion and abrasion testing under both wet and dry condition. (e) **Design** – Craft design and construction to be meet as per the class requirement. Following minimum list of drawings which builder have to be submitted a. General arrangement of ACV and principal particulars. b. Weights and centres of gravity of the hull, consumables, stores and payload. a. Load-carrying platforms and decks. b. Main longitudinal girders and beams. c. Main transverse and diagonal girders, frames and beams. d. Watertight bulkheads and integral buoyancy tanks. e. Integral fuel and water tanks. f. Bottom and side shell plating. g. Webs or other arrangements to resist impact loads. h. Machinery foundations.		

S/No	QRs/Specification	Trial Directive	Remarks
	i. Duct openings and framing. j. Side bodies. k. Superstructure and deck-house. l. Closing arrangements. m. Air rudders and propeller ducts. n. General arrangement and attachments of propeller ducts, pylons and air propellers. o. Lift fan inlet and outlet arrangements. p. General arrangement and attachments of skirts. q. General arrangements and attachments of external fuel and water tanks. r. Vehicle and cargo decks (including tie-down fittings). s. Crane foundation. t. Loading ramp. u. Anchoring and mooring equipment. v. Welding details. w. Operational-envelope diagram showing allowable **4.4** **Main Armament** - The root at control cabin should be strengthened to withstand: - **(a)** **Installation of Main Armament** – 12.7 mm SRCG **(b)** Total weight not less than 350 Kg (220 Kg gun system +130 Kg tor men). **4.5** **Armament Lockers** -. Two armament lockers shall be provided to store arms and ammunition having heat and smoke detectors (with warning and alarm system in the control cabin) in the main cabin adjacent to the control cabin. The3 dimensions of these lockers shall be finalised to have sufficient space for stowage of arms and ammunitions. **4.6** **Accommodation** – The Hovercraft shall be provided with accommodation for operation crew of 03 Officers and 16 personnel. In addition, capacity for 05 detainees/Control Store		

S/No		QRs/Specification	Trial Directive	Remarks
		Room shall also be made available. 4.7 **Messing Arrangement** - One electric induction stove and one domestic refrigerator, taking into account of the number of crew and endurance of the Hovercraft shall be provided. 4.8 **Ablution Facility** – One Marine compliant Toilet shall be provided. 4.9 **Fendering** - Rubber fenders shall be provided all-round the hull at deck level to offer protection to the ACV when required to come alongside other vessels at sea. In addition, securing arrangement shall be provided on deck for securing inflatable timber fenders for protection when the water craft is alongside in water. 4.10 **Bollards** **(a)** At least 04 heavy duty bollards shall. be provided (02 on the bows and 02 on the stern) for mooring, anchoring and towing purpose. **(b)** The bollard shall be capable withstanding the towing pull of similar sized Hovercraft. 4.11 **Mast –** A mast shall be provided on bridge top.		
5.	Operational parameters	The operational parameters of Hovercraft are as given below:- 5.1 **Operational Requirement -** The Hovercrafts shall have ability to travel at high speeds over deep or shallow waters, mud flats, coral reefs, grasslands, marshy land, swamps as well as high seas and should have night operating capabilities. 5.2 **Accessibility to all Ports -** The Hovercraft shall have ability to land and operate from unprepared beaches, shores up	Examination certificate issued by classification society for compliance to ICAS requirement and safety plan as per class rules.	

S/No	QRs/Specification	Trial Directive	Remarks
	to a gradient of 1:10 and not require jetties/wharves for berthing. 5.3 **Propulsion -** Diesel propulsion system (02 Main Engines with electric start) with elevators shall be fitted to meet the operational requirement. Propulsion Engines are to be Certified by Class Following to be approved by Class Arrangement and detailed plans, including particulars of materials, of propellers and lift fan assemblies. (a) The methods and procedures for construction, testing and balancing of propellers and lift fans. (b) Schematic of propeller pitch control system. (c) The manufacturer is to issue a Certificate for Air Propellers for each propeller stating the agreed International/ National Standard to which the propeller was designed, manufactured and tested. Documentation is to be provided that verifies the propeller performance in accordance with the agreed standard. 5.4 **Speed Curves -** Speed versus sea state and wave height curves with different payloads of the proposed Hovercraft shall be forwarded for evaluation. 5.5 **Speed -** The speed of the Hovercraft with maximum AUW (All up Weight) when operative over calm water and in still air shall not be less than 45 Knots. 5.6 **Endurance -** Not less than 12 Hrs of endurance with expendable fuel at cruising speed of 35 Knots. 5.7 **Range -** Maximum range of operation shall not be less than 420 Nm (12 Hrs @ 35 Knots), Endurance and fuel consumption rate in the boating mode shall also be specified. 5.8 **Sea Worthiness -** The	Endurance and Range (maximum) calculation of the said hovercraft to be done physically during prototype inspection/JRI by conducting minimum 02 hours physical trial at cruising speed.	

S/No		QRs/Specification	Trial Directive	Remarks
		Hovercraft shall be able to clear obstacles of i.e 1.25 m in height without any damage to its hull and fittings and be able to operate up to sea state 3 and have survivability up to sea state 4.		
6.	Navigational Equipment's	**6.1 <u>Navigation Equipment</u>** - Navigation equipment to navigate safely and operate effectively in restricted waters as in open sea shall be fitted and shall be compliant with the IMO High Speed Craft code well. The following equipment shall be provided: - **(a)** A Mini integrated Bridge System (MIBS) with redundancy of operating the equipment interfaced within the stand-alone mode. **(b)** Electronic Chart and Display Information System (ECDIS) **(c)** P C based Rader **(d)** Night Navigator **(e)** CCTV system **(f)** DGPS **(g)** Fiber Optic Gyro Compass **(h)** Long Range Acoustic Hailing Device **(i)** Layout of integrated bridge to be approved by class. **(j)** Arrangement of navigation lights to be approved by class. **6.2 <u>Meteorological Instruments</u>** – Following meteorological instruments shall be fitted **(a)** Barograph **(b)** Anemometer (Wing Indicator) **(c)** Wet and dry bulb thermometers **6.3 <u>EPIRB & SART</u>** - Emergency Position Indicating Radio Beacon (EPIRB) and Search & Rescue Transponder (SART) as per IMO shall be provided.	Check all the navigational equipment's.	

<table>
<tr><th>S/No</th><th colspan="2">QRs/Specification</th><th>Trial Directive</th><th>Remarks</th></tr>
<tr><td></td><td></td><td>6.4 <u>Navigational Light</u> - Electrical navigation lights and signal lights shall be installed according to international regime, and COLREGS - 1972.

6.5 <u>Loud Hailer/Police Light & Siren</u> - One loud hailer with siren yelp and wail facility and complete with blue flashing strobe light shall be fitted. The loud hailer shall be mounted on a rotatable platform, which shall be remotely controlled from the helm and will be trainable into targets.

6.6 <u>Search Light</u> –

(a) One search light shall be fitted on bridge top, which shall be remotely controlled from bridge.
(b) One portable handheld search light with recharging facility and an illumination power of 6,00,000 candles shall be provided.
(c) Three Marine Binoculars shall be provided.
Two night vision IR Binoculars shall be provided.</td><td></td><td></td></tr>
<tr><td>7.</td><td>Wireless Equipment's</td><td>7.1 <u>Wireless Equipment</u> –

(a) The Hover Craft shall be equipped with the following GMDSS compliant wireless equipment in the bridge: -

<table>
<tr><th>S/No</th><th>Equipment</th><th>Qty</th></tr>
<tr><td>1.</td><td>VHF (25 W) Maritime Mobile Band VHF Transceiver</td><td>02</td></tr>
<tr><td>2.</td><td>250 W MF/HF Transceiver with DSC</td><td>01</td></tr>
<tr><td>3.</td><td>Manpack Satcom Terminal (MST) (BFE), Satellite Communication</td><td>01</td></tr>
</table>
</td><td>Check all the wireless equipment's.</td><td></td></tr>
</table>

S/No	QRs/Specification	Trial Directive	Remarks

4.	GMDSS Compliant Hands-free Walkie Talkie Sets (VHF)	04
5.	Potable V/UHF SDR (BFE)	01
6.	Portable HF SDR (BFE)	01
7.	ALDIS Lamp, Input communication Lamp	01
8.	VHF Hands-free Walkie Talkie Sets with Voiceducer and water proof leather carrying case and spare battery.	04

(b) In addition, following equipment shall be also fitted: -

(i) One Universal Automatic Identification System.

(ii) One Mobile Satellite System Version - II Tx Rx from M/S Avantel (BNE).

7.2 **Visual Signalling** – For day and night visual signalling the Hovercraft is to be equipped with one hand operated electric signalling lantern and one set of semaphore flags.

7.3 **Internal Commination -** An arrangement for internal communication shall be provided between all the compartments in the Hovercraft.

7.4 **Audio-Video Devices/Entertainment** – One screening device, Smart TV, music/audio system, musical instruments and indoor sports items shall be provided

8.	Operation & Maintenance Requirement	**The operation and maintenance requirement of Hovercraft are as given below: -** **8.1** **Expected Life** - The Hovercraft shall have expected life of not less than 15 years with annual exploitation up to 500 hrs.	Full power trail of boat at 100% MCR and to be conducted for one hour with	

S/No	QRs/Specification		Trial Directive	Remarks
		Fatigue life assessment for service life of 15 years to be assessed and verified by the class. **8.2** **Noice Levels** - The noise level for each compartment shall be validated through vibration measurement during sea trials and recorded. Noise level shall be as per HSC code. Noise level within the main cabin and wheel house should not be more than 80 dB (A) and 77dB (A) respectively. **8.3** **Skirt Damage** – The Hovercraft shall be capable of operating as a conventional boat with 50% skirt damage and able to operate as an ACV With 15-20% skirt damage. **8.4** **Temperature Parameter** – The Hovercraft should be capable of operation in temperature/tropical conditions in maximum air ambient temperature up to 50^0 C and sea water temperature of 25^0 C - 32^0 C. **8.5** **Manpower** - Each Hovercraft shall have a complement of 03 Officers and 16 personnel as operating crew. In addition, 02 Officers and 08 Personnel as technical manpower for base maintenance set-up of Hovercrafts. **8.6** **Fuel, Oil & Lubricants** – Hovercraft shall carry fuel, oil and lubricants to meet the endurance specified. **8.7** **Fresh Water** - Arrangement to store and distribute 1000 litres fresh water as, required to cater for the requirement of crew shall be provided. **8.8** **Power** – **(a)** Adequate power generation and distribution system as per action load requirement plus 25% reserve growth shall be available through alternators. i) The craft shall be fitted with 02 Nos portable 230V, 3 Phase AC 50Hz marine Diesel Generator including AC plant (01 for standby) having sufficient capacity to cater for the entire electrical equipment and with a minimum 25% growth margin. The generator shall have its controls and indicator gauges near the generator and remote	recording of all system parameters. Class type approved certificate to be provided by the boat builder. (a) Full power trials of craft at 100% MCR and to be conducted for one hour with recording of all system parameters.	

S/No		QRs/Specification	Trial Directive	Remarks
		position at Coxswain's post. The gen set shall be fitted with silencer to reduce the noise. ii) Both of the following standard power supplies (as appropriate) are to be used on the craft:- (i) 230 V 50 HZ 1ph. (ii) 24 V DC. iii) An emergency battery backup system to cater for uninterrupted power supply, for a minimum duration of 06 hrs to essential equipment viz. controls, navigation, communication, lighting and domestic equipment is to be provided. A load analysis chart justifying the capacities of the power supply source and a single line schematic diagram showing arrangement of the power generation and distribution is to be provided at the time of Proto type inspection for both generator and UPS. **(b)** Facilities for shore supply connection (230V single phase, AC supply) shall be provided. **(c)** Adequate battery power for meeting engine starting and emergency service requirements shall be provided. **(d)** Cabling and circuit breakers are to be as per current Classification society rule. **(e)** Solar power generation.	(b)Class type approved certificate to be provided by the boat builder. (c) DG Set performance trail to be conducted by running for one hour continuously on full load. All parameters of DG Set must be in no9rmal limits specified by the DG Set manufacturers. This trial will be done twice after interval of half hour.	
9.	Air Conditioning and Ventilation System	Air Conditioning system shall be provided for bridge and crew space. The system shall be designed for cooling and non-conditioned ventilation. Portable air conditioning plant (Trolley mounted) shall be provided for meeting the crafts requirement while docked in Hoverport.	To be physically checked as per approved drawing plan. Functional test of all equipment to be carried out & record.	
10.	Life Saving, Safety & Emergency Equipment	Lifesaving, safety and emergency equipment is to be supplied in accordance with SOLAS/Class requirements. Arrangement of LSA items to be approved by class. (a) Life Jacket - 24 Nos (20 Nos life jacket i.e jacket type with nylon strip belt & 04 Nos Hazardous duty life jacket)	Must be as per specification	

S/No	QRs/Specification		Trial Directive	Remarks
		(b) Life Buoys – 06 Nos Life Buoys SOLAS approved with proper hanging/stowage arrangement on outer deck along with 30 Mtrs life lines.		
11.	Anchoring & Mooring Arrangement	The Hovercraft shall be provided with suitable anchoring and mooring arrangement. Suitable length of chain cable and mooring rope as per class rule shall be provided.	Must be as per specification	
12.	Operational ad Refit Cycle	The Hovercraft shall. Be operationally available for a period of 200-210 days in a year. The periods are indicative and may vary slightly depending upon operational and other commitments. The Hovercraft shall be subjected to periodical maintenance schedule.	Must be checked the maintenance schedule	
13.	Spares	(a) <u>On Board Spares (OBS)</u> – OBS for equipment/machinery shall be provided for 02 years consumption on completion of one year warranty period (Total 03 years). (b) <u>Base & Depot (B & D) Spares</u> – The B&D spares tor the machinery/equipment fitted on board shall be provided for 05 years consumption. Spares shall be mutually decided and limited to 10% of the basic cost of the Hovercraft	To be checked physically	
14.	Inspection Arrangement	Soft jacks or cradles or chocks shall be provided to allow the Hovercraft to be supported off the ground for inspection of the hull, repairs and stowing. The drawings of inspection arrangement shall be provided.	To be checked physically	
15.	Auxiliaries	The selection and sitting of auxiliary machinery shall be provided permitting accessibility, maintenance and watch keeping Maximum utilization of Artificial Intelligence to be used with self-learning capabilities in various systems.	To be checked physically	
16.	Modular Design	Modular concept should be followed for accommodation/ equipment systems. Latest designing techniques with respect to ergonomics/functional aspects and crew comfort to be adopted.	To be physically checked as per approved drawing plan.	

S/No	QRs/Specification		Trial Directive	Remarks
17.	Emergency Arrangement	The Hovercraft shall be fitted with all essential and emergency service batteries to meet the requirement of Hovercraft in accordance with IMO code	To be physically checked as per approved drawing plan.	
18.	Fire protection, Damage Control & Fire Fighting Arrangement	**(a)** Standard portable fire extinguishers, shall be provided in each compartment as per Class. **(b)** Engine bay (Engine Room) shall be provided, with an effective fire extinguisher system with remote operation facility from bridge (control cabin) as per Class. **(c)** Audible fire warning and alarm system shall be provided in bridge, ammunition locker and engine room spaces **(d)** One electrical & hand operated pump shall be provided in main cabin tor emergency use. **(e)** Four electrically operated bilge pumps shall be fitted in the engine bay. **(f)** Repair kits to rectify emergency damages of the skirt and other parts of the hull shall be provided.	Arrangement of Fire Fighting equipment, their operation to be checked physically as per Class approved drawing	
19.	Training of personnel	**(c)** The proposal shall include a training package for operation and maintenance of the Hovercraft.	Checked physically the training schedule prepare by the builder	
20.	Warranty	**(d)** One year warranty on complete Hovercraft including warranties from equipment manufacturers shall be provided by Seller.	Checked warranty documents.	
21.	Maintenance	First and second line maintenance training for the Hovercraft is to be provided by the seller. Special tools required for the maintenance of the ACV are to be provided by the seller. CMC package will be part of the acquisition proposal for propulsion system including Main Engines, Propellers, Transmission System, Lift Fan, and Conning PC & Display System for a period of 05 years beyond guarantee period.	Physically checked the maintenance schedule prepared by the builder	

S/No	QRs/Specification		Trial Directive	Remarks
		(e) During CMC period all equipment and the craft to be maintained as per class Rules.		
22.	Miscellaneous	**Induction Process –** All onboard equipment shall be subject to Factory Acceptance Trials (FATs). The Hovercraft shall be subjected to inspection and acceptance trials, Setting to Work (STW), Harbour Acceptance Trials (HATs)/Basin Trials, Sea Acceptance Trials (SATs), for equipment being inducted for the first time, FATs shall be witnessed by Border Security Force representative.	Physically checked as per approved drawing plan	
23.	Painting and Finishers Painting	i) Hull area below the waterline shall be painted with a TBT free Anti fouling paint as per the latest IMO regulations. ii) The armament lockers shall be painted with flame retardant painting system. iii) The craft shall be painted in disruptive pattern colour with markings as per user requirement. iv) The craft name, ID No., BSF Emblem and National Flag shall be fixed on both sides of the Hull at superstructure at an appropriate place.	To be physically checked.	
24.	Guard Rails	Stainless steel guard rails of min 20 mm dia with stanchions shall be provided around the main deck as per GA. GA. Stainless steel material for guard rail should be SS-316 storm rails also be provided all along raised deck house.	To be physically checked from location as per GA. Material test certificate to be provide by builder	
25.	3-D Design Animation	Complete design scheme, drawings and 3 D design animation (in any suitable software) to be provided by the builder to finalize the comfortness and operational requirement of purchaser and for discussion between purchaser, class society and builder before finalization of drawings within 2 weeks of issue of AT. Amendments in the 2D and 3D drawing animation may be incorporated in the GA drawing as per the user's requirement before approval of GA drawing.	To be checked.	

S/No	QRs/Specification		Trial Directive	Remarks
26.	Supervision	(a) One officer along with team of 03 members (including 01 SO each from Wksp, Master & Engine Driver) be detailed to supervise the construction of the boat in various stage of construction. 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 required specification. (b) Craft is to be built as per IACS class rules and all construction stages to be verified by class prior to inspection by BSF team.	-	
27.	Product support	(b) All equipment / machineries installed in the craft should have service facility in India with product support of minimum 10 years.	Physically checked document provide by builder	
28.	Certification	(c) Inspection of the craft is to be carried out by IACS. The class certificate is to be submitted upon completion of the inspection.		

तकनीकी विशेषज्ञों के उप समूह द्वारा यह निश्चित किया गया है कि उक्त गुणातमक आवश्यकता को अधिक बेहतर बनाने के लिए गृह मंत्रालय एवं सीमा सुरक्षा बल की वैबसाईट पर विक्रेताओं/फर्मों के सुझाव प्राप्त करने हेतु 15 दिनों के लिए अपलोड किया जाए।

नोट – सभी विक्रताओं/फर्मों से निवेदन है कि अपने सुझावों के साथ निम्नलिखित कागजात संल्गन कर ई–मेल पता comdtord@bsf.nic.in पर भेजने का श्रम करें:–

1. उत्पाद की वास्तविक विवरण पुस्तिका।
2. उत्पाद की साहित्यिक रचना का ब्यौरा।
3. गुणातमक आवश्यकताओं के उपर व्यापक टिप्पणीयॉं।

कपिल चाहर 03/11/16

(कपिल चाहर)
उप कमांडेण्ट (आधुनिकीकरण)