

F.No. 12/969/2013-P/BSF/WC /MHA-Prov-I 268
Bharat Sarkar/Government of India
Griha Mantralaya/Ministry of Home Affairs
PM Division

26, Man Singh Road, Jaisalmer House
New Delhi, Dated 5th February, 2015

To,

DsG: AR (through LOAR), BSF, CISF, CRPF, ITBP, SSB, NSG & BPR&D.

Subject: QRs and Trial Directive for FRP Single Engine Speed Boat with 4 Stroke OBM.

file(s)

The QRs and Trial Directives in respect of FRP Single Engine Speed Boat with 4 Stroke OBM as per Annexure have been accepted by the Competent Authority in MHA.

2. The CAPFs concerned will be accountable for correctness of the QRs/Trial Directives
3. Henceforth, all the CAPFs should procure the above item required by them strictly as per the laid down Technical Specifications/QRs.

Yours faithfully,


Encl: As above


5/2/15
(M.K. Chahar)

Under Secretary to the Govt of India
Tel: 23381278

Copy forwarded for necessary action to :-

The Section Officer (IT), MHA: It is requested to host the QRs and Trial Directives (soft copy attached) on the MHA website (under the page of Organizational Set up- Police Modernization Division- Qualitative Requirement under Vehicle Equipments.


(R.K. Soni)
Section Officer (Prov-I)

Copy to: DDG (Procurement), MHA.

**QUALITATIVE REQUIREMENT/TECHNICAL SPECIFICATION OF FRP SINGLE ENGINE SPEED BOAT WITH
4 STROKE OBM**

APPENDIX-B

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S.No	Specifications/Parameters
General	
1.	For transport of men and materials, random patrolling, limited search and rescue operation in river & sea water having tidal current upto sea State-4. Provision of toughened glass wind screen. Have an expected life of 15 years.
Specifications/Parameters	
1.	Dimension :
Length	5.5±0.5 Mtrs
Depth	1.00±0.10 Mtrs
Breadth	1.8 – 2.0 Mtrs
2.	Engine
Fitted with four stroke petrol outboard motors (OBM) of reputed make, not less than 75 HP with remote rack and pinion wheel steering, remote trimming and tilting arrangement for engine and throttle/gear controls. The engine manufacturers should have established service support in India. Grade of lubricant oil Petrol/Motor sprit to match with grade of lubricants unleaded Petrol/Motor sprit compatible in Indian market.	
3.	Speed
a) Maximum speed - not less than 25 knots with 08 person on board@ 85% MCR.	
4.	Endurance
4 Hrs of continuous operation without refueling at the speed of 20 knots with full load (8 person on board).	
5.	Fuel Tanks
Portable marine fuel tank of 25 ltrs capacity with 02 Nos spare Marine container of 20 ltrs capacity. Plus 25% Reserve	
6.	Draught (Full Loaded)
Not more than 0.4 Mtr	
7.	Capacity – Secured & Comfort seating arrangement for 08 pers. For crew comfort/safety, necessary handles, seat belts etc.

PO [Signature] M-1 [Signature] M-2 [Signature] M-3 [Signature] M-4 [Signature] M-5 [Signature]

M-6 [Signature] M-7 [Signature] M-8 [Signature] M-9 [Signature] Co-opted Member [Signature]

S.No	Specifications/Parameters
8.	<p><u>Hull</u> FRP 'V' shape planning hull to ply smoothly at sea state-4. Made of vinyl ester resin for strengthening. Good intact and damage stability and damage survivability, water tight integrity and crew/equipment protection upto sea state 4. Rigid Transom to fit the OBM. The boat's entire region underneath the floor should be filled with polyurethane foam to make it unsinkable. four point lifting arrangement with approved ON/OFF load release hook be provided. Material used to be class approved.</p> <p>Boat shall be made under the parameters of the following duly approved by the class :-</p> <p>Tensile strength requirement : Minimum -12.6Kg/mm² Flexural strength minimum : Minimum -17.5 kg/mm² Glass content : Minimum - 35%</p>
9.	<p><u>Fendering</u> Heavy duty 'D' shape rubber fender all along the boat fixed with SS 316 Grade Bolt & capnuts. Two Nos each pneumatic fenders to be provided on either sides (PORT & STBD). Additional 04 Nos portable pneumatic fenders to be provided.</p>
10.	<p><u>Floor</u> Anti-Skid floor/deck and All surfaces shall be of minimum maintenance and easy to clean. The areas shall have adequate handholds.</p>
11.	<p><u>Lifesaving equipment (SOLAS/any of the classification society of IACS approved)</u> Lif jackets -- 10 Nos Life buoy -- 02 Nos</p>
12.	<p><u>Navigation/Communication</u> Simple bracket - mounted portable small size Mariner's compass shall be fitted on the instrument panel. Necessary fitments and securing arrangements for all instruments and VHF Communications be provided. Provision for navigation lights/sound equipment in accordance with IRPCS.</p>

PO [Signature] M-1 [Signature] M-2 [Signature] M-3 [Signature] M-4 [Signature] M-5 [Signature]

M-6 [Signature] M-7 [Signature] M-8 [Signature] M-9 [Signature] Co-opted Member [Signature]

3.No	Specifications/Parameters
13.	<p>Instrument panel</p> <p>The instrument panel shall be mounted in front of the helmsman position and shall contain engine instrumentation and switching. Cable wiring shall be loomed inside the console and fed through ducting to the engine. The instrumentation shall include the following:-</p> <p>(a) One Engine key Switch. (b) Navigation light switches. (c) Dimmer switch for all instrumentations. (d) Horn button (e) Voltmeter (f) A hand held GPS of reputed firm facilitate to run with onboard battery (g) Digital meter with following features :- (i) RPM (ii) Temperature (iii) Oil pressure of engine (iv) Consumption of POL (v) Run hour (vi) Indication of trouble of the OBM</p> <p>All instruments and switches shall be weather proof and shock resistant. All buttons shall be rubber sealed. Meter illumination and warning lights shall be fitted. All wiring, cables, electrical & electronic components, starter motors should comply with IP 57 rating and above.</p>
14.	<p>Boat Equipment</p> <p>a) 12 Kg Graphitel anchor with 30 mtr , PP rope of sufficient strength. b) Boat Hook having 12 feet length (aluminum make folding type) c) Oars 02 Nos with (rowing lock) d) Mooring Lines 32 Mtr e) Horn f) Re-chargeable torch (with a signaling capability) g) First Aid Kit with case h) FRP Repair Kit</p>

PO [Signature] M-1 [Signature] M-2 [Signature] M-3 [Signature] M-4 [Signature] M-5 [Signature]

M-6 [Signature] M-7 [Signature] M-8 [Signature] M-9 [Signature]

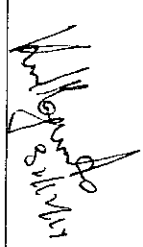
Co-opted Member [Signature]


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S.No	Specifications/Parameters
	<p>i) Fuel line with male/female adpater with priming valve - 01 set j) Fuel filter - 6 Nos k) Oil filter - 3 Nos l) Spark plug - 4 Nos m) Spare fuses - 1 set n) Socket and torque handle for spark plug removal - 1 No. o) Pliers (6 inch) - 01 No. p) Screwdriver - 01 Set q) Spare propeller, lock nut and special tab washer - 01 No. r) Suitable sockets for propeller removal - 01 No. s) Hand held Marine search light with adpater compatible with 12 volts panel system - 01 No. t) Portable spray type fire extinguisher capacity 01 kg suitable to extinguish ABC type fire - 02 Nos u) Oil filter opening tool- 01 No.</p>
15	<p>Bilging arrangement Electrical bilge pump run by on board OBMs battery be provided as per class requirement.</p>
16	<p>Bollard and cleats Bollards-03 Nos, 01 Fwd and 02 Aft Cleats -04 Nos 02 Fwd & 02 Aft Bollard & cleats to be of SS 316 grade</p>
17	<p>CERTIFICATE The following Certificate and Documents shall be supplied at the time of delivery of the vessel:- a) Classification Certificate issued by Classification Society Rules. b) GA drawing alongwith other plan approved by class. c) Stability booklet d) All manuals of machineries and equipment. e) All manuals and certificates be issued by Yard.</p>
18	<p>Classification / Regulations & Marks on Hull, Superstructure etc a) Boat shall be designed, built and outfitted to comply with all the applicable provisions of Class Rules of IRS/ABS/BV/DNV/LRS and requirements of the current International Rules and Regulations. b) All fitting & fixtures shall be of SS-316 grade. c) The crafts name, ID No, crafts emblem is to be affixed to both sides of the hull at super structure level. The crafts name, ID No. BSF emblem and National Flag to be affixed.</p>


PO [Signature] M-1 [Signature] M-2 [Signature] M-3 [Signature] M-4 [Signature] M-5 [Signature]
 M-6 [Signature] M-7 [Signature] M-8 [Signature] M-9 [Signature] Co-opted Member [Signature] Contd ... P/5


19.	Canopy <ul style="list-style-type: none"> • A collapsible canvas canopy shall be fitted. • The canopy folds aft and stows above the transom. • The material of the canopy will be acrylic canvas polyurethane coated (PU coated).
20.	Electrical power supply Electrical power supply to the boat for wheel console meter, navigational lights, search lights, GPS etc shall be drawn from on board OBMs rechargeable secondary battery(12 Volt – 17 plate).
21.	Fresh water capacity Provision for keeping fresh water in two water tanks/containers having 20 ltrs capacity in each with securing arrangement in boat to be provided.


PO 
 (Kunal Mazumdar) DIG, BSF

M-1 
 (Ravindra Singh Kushwah), AC/NDRF

M-2 
 (SANJEEV SINGH) DC, CRPF


M-3 
 (Hardeep Singh, AC) ITBP

M-4 
 (J K Sharma) AC/SSB

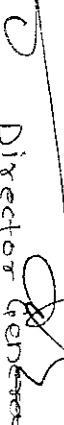
M-5 
 (S K Thakur), DC/AR (Inspr Rakesh Kumar) CISF

M-7 
 (Inspr Rajender Prasad) NSG

M-8 
 (Inspr Rajender Prasad) BPR&D
 WW Madhopur

Co-opted Member 
 (Dr K K Dhawan)
 Principal Surveyor IRS

Approved / Not approved


 Director General
 Border Security Force

**QUALITATIVE REQUIREMENT AND TRIAL DIRECTIVES OF FRP SINGLE ENGINE SPEED BOAT WITH
4 STROKE OBM**

APPENDIX - 'C'

S.No	Specifications/Parameters	Trial Directive
General		
1.	For transport of men and materials, random patrolling, limited search and rescue operation in river & sea water having tidal current upto sea State-4. Provision of toughened glass wind screen. Have an expected life of 15 years.	Check physically and verify with record of certification society.
Specifications/Parameters		
1.	Dimension : Length : 5.5±0.5 Mtrs Depth : 1.00±0.10 Mtrs Breadth : 1.8 – 2.0 Mtrs	Check lines plan and general arrangement drawings and compare by physical examination.
2.	Engine Fitted with four stroke petrol outboard motors (OBM), not less than 75 HP with remote rack and pinion wheel steering, remote trimming and tilting arrangement for engine and throttle/gear controls. The engine manufacturers should have established service support in India. Grade of lubricant oil Petrol/Motor sprit to match with grade of lubricants unleaded Petrol/Motor sprit compatible in Indian market.	Trials and endurance trials/performance of boat and engine to be checked during speed trial and functioning of all instrument panel be undertaken as per Class Specifications also check panel remote tilt & trim arrangements. Start stop engine 6-8 times.
3.	Speed a) Maximum speed - not less than 25 knots with 08 person on board@ 85% MCR.	Trial will be taken as per class specifications, and should consider the impact of tidal streams, at full load (8 POB).
4.	Endurance 4 Hrs of continuous operation without refueling at the speed of 20 knots with full load (8 person on board).	Distance travelled & consumption of fuel to be recorded
5.	Fuel Tanks Portable marine fuel tank of 25 ltrs capacity with 02 Nos spare Marine container of 20 ltrs capacity. <i>plus 25% Reserve M. M. M.</i>	Check fuel tank size if sufficient for endurance with 25% reserve.
6.	Draught (Full Loaded) Not more than 0.4 Mtr	To be physically measured after loading of 08 pers with all equipment and tallied with class approved drawings.
7.	Capacity --Secured & Comfort seating arrangement for 08 pers. For crew comfort/safety necessary handles, seat belts etc.	To be physically checked for comfortably sitting.

PO *M. M. M.* M-1 *M. M. M.* M-2 *COMV* M-3 *sk* M-4 *M. M. M.* M-5 *M. M. M.*

M-6 *M. M. M.* M-7 *M. M. M.* M-8 *M. M. M.* M-9 *M. M. M.* Co-opted Member *M. M. M.*

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S.No	Specifications/Parameters	Trial Directive
8.	<p>Hull FRP 'V' shape planning hull to ply smoothly at sea state-4. Made of vinyl ester resin for strengthening. Good intact and damage stability and damage survivability, water tight integrity and crew/equipment protection upto sea state 4. Rigid Transom to fit the OBM. The boat's entire region underneath the floor should be filled with polyurethane foam to make it unsinkable. four point lifting arrangement with approved ON/OFF load release hook be provided. Boat shall be made under the parameters of the following duly approved by the class :- Tensile strength requirement : Minimum -12.6Kg/mm² Flexural strength minimum : Minimum -17.5 kg/mm² Glass content : Minimum - 35%</p>	<p>Approved certificate of type of materials to be submitted by builder. a) The inclining experiment of the first boat is to be carried out if applicable as per class requirement . b) Following tests to be carried out as per class requirements and included in the trials format :- (i) Swamp test-As applicable. (ii) Drop test-As applicable. (iii) Impact test- As applicable. (iv) Deflection test- As applicable (v) Lowering & Hoisting Test - As applicable Note: Tests will be carried out as applicable for such boat as per class requirement at the place of deployment. Check fender for adequacy/location. Check manufacturer test certificate.</p>
9.	<p>Fendering Heavy duty 'D' shape rubber fender all along the boat fixed with SS 316 Grade Bolt & capnuts. Two Nos each pneumatic fenders to be provided on either sides (PORT & STBD). Additional 04 Nos portable pneumatic fenders to be provided.</p>	<p>To be physically checked.</p>
10.	<p>Floor Anti-Skid floor/deck and All surfaces shall be of minimum maintenance and easy to clean. The areas shall have adequate handholds.</p>	<p>i) Lay out the buoys/jackets count and record. (ii) Check storage area. (iii) Check class approved certificates. (iv) Random testing of kit be done to ensure functionality</p>
11.	<p>Lifesaving equipment (SOLAS/any of the classification society of IACS approved) Lifejackets - 10 Nos Life buoy - 02 Nos</p>	<p>Check all navigation and communication equipment with regard to fitment and securing arrangement.</p>
12.	<p>Navigation/Communication Simple bracket - mounted portable small size Mariner's compass shall be fitted on the instrument panel. Necessary fitments and securing arrangements for all instruments and VHF Communications be provided. Provision for navigation lights/sound equipment in accordance with IRPCS.</p>	<p>Check all navigation and communication equipment with regard to fitment and securing arrangement.</p>

PO [Signature] M-1 [Signature] M-2 [Signature] M-3 [Signature] M-4 [Signature] M-5 [Signature]

M-6 [Signature] M-7 [Signature] M-8 [Signature] M-9 [Signature] M-10 [Signature]

Co-opted Member [Signature] Contd ... P/3

S.No	Specifications/Parameters	Trial Directive
13.	<p>Instruments panel</p> <p>The instrument panel shall be mounted in front of the helmsman position and shall contain engine instrumentation and switching. Cable wiring shall be loomed inside the console and fed through ducting to the engine. The instrumentation shall include the following:-</p> <ul style="list-style-type: none"> (a) One Engine key Switch. (b) Navigation light switches. (c) Dimmer switch for all instrumentations. (d) Horn button (e) Voltmeter (f) A hand held GPS of reputed firm facilitate to run with onboard battery (g) Digital meter with following features :- <ul style="list-style-type: none"> (i) RPM (ii) Temperature (iii) Oil pressure of engine (iv) Consumption of POL (v) Run hour (vi) Indication of trouble of the OBM <p>All instruments and switches shall be weather proof and shock resistant. All buttons shall be rubber sealed. Meter illumination and warning lights shall be fitted. All wiring, cables, electrical & electronic components, starter motors should comply with IP 57 rating and above.</p>	<p>Check equipment's for quantity and quality.</p>
14.	<p>Boat Equipment</p> <ul style="list-style-type: none"> a) 15 kg Graphinell anchor with 30 mtr , PP rope of sufficient strength. b) Boat Hook having 12 feet length (aluminum make folding type) c) Oars 02 Nos with (rowing lock) d) Mooring Lines 32 Mtr e) Horn f) Re-chargeable torch (with a signaling capability) g) First Aid Kit with case h) FRP Repair Kit 	<p>Check equipment's for quantity and quality.</p>

PO [Signature] M-1 [Signature] M-2 [Signature] M-3 [Signature] M-4 [Signature] M-5 [Signature]

M-6 [Signature] M-7 [Signature] M-8 [Signature] M-9 [Signature] Co-opted Member [Signature]

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10/7

S.No	Specifications/Parameters	Trail Directive
	i) Fuel line with male/female adopter with priming valve - 01 set j) Fuel filter - 6 Nos k) Oil filter - 3 Nos l) Spark plug - 4 Nos m) Spare fuses - 1 set n) Socket and torque handle for spark plug removal - 1 No. o) Pliers (6 inch) - 01 No. p) Screwdriver - 01 Set q) Spare propeller, lock nut and special tab washer - 01 No. r) Suitable sockets for propeller removal - 01 No. s) Hand held Marine search light with adopter compatible with 12 volts panel system - 01 No. t) Portable spray type fire extinguisher capacity 01 kg suitable to extinguish ABC type fire-02 Nos u) Oil filter opening tool- 01 No.	
15	Bilging arrangement Electrical bilge pump run by on board OBMs battery be provided as per class requirement.	Operation of bilge pump to be checked.
16	Bollard and cleats Bollards-03 Nos, 01 Fwd and 02 Aft Cleats -04 Nos 02 Fwd & 02 Aft Bollard & cleats to be of SS 316 grade	i) Check bollards in number and load for length/thickness. ii) Test certificate is to be submitted by builder.
17	CERTIFICATE The following Certificate and Documents shall be supplied at the time of delivery of the vessel:- a) Classification Certificate issued by Classification Society Rules. b) GA drawing alongwith other plan approved by class. c) Stability booklet d) All manuals of machineries and equipment. e) All manuals and certificates be issued by Yard.	Check the documents and record fitness certificate for craft to be provided by the builder at dock before sea trials.
18	Classification / Regulations & Marks on Hull, Superstructure etc a) Boat shall be designed, built and outfitted to comply with all the applicable provisions of Class Rules of IRS/ABS/BV/DNV/LRS and requirements of the current International Rules and Regulations. b) All fitting & fixtures shall be of SS-316 grade. c) The crafts name, ID No, crafts emblem is to be affixed to both sides of the hull at super structure level. The crafts name, ID No, BSF emblem and National Flag to be affixed.	Examine for compliance.

PO [Signature] M-1 [Signature] M-2 [Signature] M-3 [Signature] M-4 [Signature] M-5 [Signature]
 M-6 [Signature] M-7 [Signature] M-8 [Signature] M-9 [Signature]
 Co-opted Member [Signature] Contd ... P/5

S.No	Specifications/Parameters	Trail Directive
19.	Canopy • A collapsible canvas canopy shall be fitted. • The canopy folds aft and stows above the transom. • The material of the canopy will be acrylic canvas polyurethane coated (PU coated).	To check the materials to ascertain its quality. Check the folding of canopy by physically doing it at the time of inspection.
20.	Electrical power supply Electrical power supply to the boat for wheel console meter, navigational lights, search lights, GPS etc shall be drawn from on board OBMs rechargeable secondary battery (12 Volt - 17 plate).	Check physically for working condition of all equipments.
21.	Fresh water capacity Provision for keeping fresh water in two water tanks/containers having 20 ltrs capacity in each with securing arrangement in boat to be provided.	Physically check with measured volume of water.

PO [Signature]
 (Kunal Mazumdar) DIG, BSF

M-1 [Signature]
 (Ravindra Singh Kushwah), AC/NDRF

M-2 [Signature]
 (SANJEEV SINGH) DC, CRPF

M-3 [Signature]
 (Hardeep Singh, AC) ITBP

M-4 [Signature]
 (J K Sharma) AC/SSB

M-5 [Signature]
 (S K Thakur), DC/AR (Inspr Rakesh Kumar) CISF

M-7 [Signature] M-8
 (Inspr Rajender Prasad) NSG

M-9 [Signature]
 (Dr. M M Goyal), BPR&D (G B Pathak, AC), BSF
 WW Madhopur

Cc-opted Member [Signature]
 (Dr K K Dhawan)
 Principal Surveyor IRS

Approved / Not approved

[Signature]
 Director General
 Border Security Force.