SPECIFICATIONS OF FAST PATROL BOATS (FPBs) FOR FLOATING BORDER OUT POSTs (BOPs)

1. Overview

The Patrol Boat (PB) proposed for the BSF Floating BOP has been specifically designed to meet the projected role in river Brahmaputra. A fundamental consideration has been provision of high reliability high performance and low maintenance.

A rough GA drawing of the proposed Patrol Boat is enclosed for guidance. However, the prospective tenderer will submit the GA Drawing for approval of BSF in consultation with Indian Register of Shipping (IRS).

The Boat to be designed as per rules and regulations of the IRS covering hull design, construction and machinery/equipment/system. Structural design and drawing of the boat shall be approved by IRS. Boat shall be built under the supervision of IRS and also trials are to be carried out in presence of IRS and owner.

The boat is to be constructed under survey of IRS Class and Building certificate issued upon suitable test and trial.

2. Hull

The hull be manufactured from lightweight, high-strength, PVC foam core, FRP construction. The hull and superstructure are to be painted with a good quality 2-pack polyurethane paint for long life and ease of repair as decided by BSF.

3. Dimensions

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>5.8m – 6.2 m max.</td>
</tr>
<tr>
<td>Beam</td>
<td>2.3m – 5cm</td>
</tr>
<tr>
<td>Draft (hull)</td>
<td>0.2m</td>
</tr>
<tr>
<td>LWL</td>
<td>4.00m-4.7m</td>
</tr>
<tr>
<td>Hull depth (midships)</td>
<td>1.0m</td>
</tr>
<tr>
<td>Freeboard (midships)</td>
<td>0.8m</td>
</tr>
<tr>
<td>Weight (Hull approx)</td>
<td>800Kg + 20 Kg</td>
</tr>
<tr>
<td>Dead Rise</td>
<td>12° - 15° (Suitable for operation in river Brahmaputra and to achieve specified speed and stability)</td>
</tr>
</tbody>
</table>
4. **Engines**

4 stroke petrol outboard motors (OBM) (Mercury/Johnson/Suzuki/Yamaha/Evenrude) have been selected on the grounds of high reliability, low weight, low cost, ease of maintenance and high standard of support. Power ratings have been selected to meet BSF’s requirement of 25-30 knots speed with POB 8 (i.e. eight persons on board) in adverse conditions, whilst being capable of operating at low power for slower speed patrols. With POB2 and twin 90-hp OBM, the PB would be capable of speeds of above 35 Knots.

5. **Engine Features**

Two 90-hp 4 stroke OBM with electric start, long shaft, power trim and tilt and oil injection are required to be fitted. The OBM to be linked together for remote wheel steering and can be individually trimmed and raised electrically from the helm. Engine features electric start, electronic ignition, forward and reverse gears, remote control from the forward helm station, power trimming and raising, and use unleaded regular fuel with Oil injection.

6. **Standard Fitted Accessories**

The PBs are to be fitted with remote wheel steering, remote throttle/gear controls, tacho, hour meter, water temp gauge and boat speed indicator, and are supplied with operating and service manuals.

7. **Fuel**

Two integral Stainless Steel (SS) Hull Tanks to be placed at centre line of capacity 100 Ltrs each capable of supplying any /both engines with suitable shut off arrangement and change over arrangements. Appropriate provision on board to be made to keep 05 Jerricans of 20 Ltrs each for keeping fuel reserve.

8. **Electrical**

The electrical system is to be 12-VCD and power sources are to be two 18 – amp engine mounted alternators with regulators and one 12-V/11-plate low maintenance marine battery. Normal navigation lights are to be fitted and a 150 mm/100-W handheld searchlight is to be provided.

9. **Navigation & Communication**

A simple bracket – mounted magnetic compass is to be fitted to the instrument panel. A handheld Raytheon/Raystar GPS System or of latest model should be fitted. The unit should have a holder and power supply that is fitted to be PB. One advantage is that the GPS can be removed and used on the land, or when leaving the PB unattended.
10. **Accommodation**

Two padded crew seats are provided at the forward station as shown in the GA drawing. An island box seat with hinged storage lid is installed in the cockpit area, as shown. Seating arrangement for the remaining persons to be provided at appropriate place.

The area below deck forward of the helm provides a storage area, or could be used as a small cabin with bunks, or as a gunner’s station. Grab rails on either side at the rear of the cockpit may be used as shackle points for detainees.

11. **Lifting/Lashing**

Three lift points are provided for a triple quick-release sling to enable simple lifting on board the BOP by davit.

A simple cradle and quick-release tie down strap is provided for deck stowage of the Boat on the BOP.

12. **Boat Equipments to be Supplied.**

* Galvanized anchor, chain and 50m of warp  
* Boat hook  
* Mooring lines  
* Onboard spares kit. Each Patrol Boat is supplied with kit comprising: basic hand tools; a spare propeller; floating propeller tool; spark plugs; and fuel filters.

13. **Canopy**

A stowable acrylic canvas canopy may be fitted.  
The canopy folds aft and stows above the transom.

14. **Life saving Equipments**

Following Life saving equipments as per SOLAS standard to be provided.

i) Life Jackets - 10 Nos.  
ii) Life Buoys - 02 Nos.  
iii) Fire Extinguisher (Hydrogen) - 02 Nos.

15. **Performance**

**Speed**

The boat speed (90hp OBM) in 0.5m waves with POB-2 shall be not be less than 35 knots and may be higher. Speed with POB 8 will be not less than 29 knots and may be higher.

**Range**

The unfuelled range at 25 Knots speed with POB 2, the petrol Boat will travel 64 NM per 100 Ltrs fuel. At maximum speed of 35 Knots with POB-02, the boat will cover 44 NM per 100 Ltrs fuel.
**Endurance**

At 20 Knots speed with POB-02, endurance would be approx 4 hours.

**Trials**

(a) **Basin trials** – Test and trials as listed below will be carried out as per approved test/trial schedule of IRS.

(i) Swamp Test  
(ii) Drop test  
(iii) Impact test  
(iv) Deflection test  
(v) Weighing test  
(vi) Inclining experiment  
(vii) Lowering/hoisting trials (to be proved at the area of operation to BSF)

(b) **Sea trials** –

(i) Fuel consumption trials  
(ii) Speed trials  
(iii) Range/Endurance trials  
(iv) Performance trials  
(v) Manoeuvring trial

(c) One prototype shall be offered for trial/evaluation by the BSF. Observations/modifications if any shall be carried out by the firm before supply of remaining boats.

16. **Warranty**

Warranty on the boat and OBM should be 12 months from acceptance of each Patrol Boat by the BSF ex-builder’s works.

17. **Annual Maintenance Contract (AMC)**

On expiry of warranty period, the boat builder should provide AMC for a period of 05 years including Base & Depot spares.
No. 12/257/2007-P/BSF/WC
Government of India
Ministry of Home Affairs

New Delhi, 6.9.2007

To

The DGs: Assam Rifles/BSF/CISF/CRPF/ITBP/NSG/SSB/BPR&D

Subject:- Finalization of QR/specifications for Fast Patrol Boats.

The QR/specification for Fast Patrol Boats has been finalized and accepted by the MHA.

2. Henceforth, all the CPMFs should procure the above items required by them strictly as per the laid down QR/Specifications.

(Alok Mukhopadhyay)
Under Secretary (Prov-I)

Copy to:-

DD(Procurement), MHA

Copy for information to:-

1. PS to JS(PM), MHA
2. Dir(Prov), MHA