

**DIRECTOR GENERAL BORDER SECURITY FORCE
PROVISIONING DIRECTORATE (Mod Cell)**

Expression of Interest

Commandant (Ord)
HQ DG BSF, Prov Dte (Ord Sec)
Block No. 10, CGO Complex
Lodhi Road, New Delhi
(Tele/Fax No. 011-24367683)
Mail id: comdtord@bsf.nic.in

The Sub group of Technical Experts on Surveillance Equipment constituted by MHA vide their letter No. IV 1017/18/2001-Prov-I dated 05th July 2002 held its meeting at BSF Headquarters on 25th Nov 2016, 20th March 2017, 12th April 2017 and 30th Aug 2017 to revise the QRs of Hand Held Search Light (HHSL).

QUALITATIVE REQUIREMENT OF HAND HELD SEARCH LIGHT (HHSL)

S.No.	Specification	Parameter	
1.	Casing/Body	Casing/body of HHSL should be tubular heavy duty water resistant (Should pass IP X3 test for water protection) and one piece moulded with integral handle of ABS. It should be light, impact proof and corrosion proof should be able to withstand impact from one meter on hard surface.	
	a	Maximum weight including the battery	3.8 Kgs
	b	Length maximum	35 Cms
	c	Front dia maximum	22 Cms
	d	Rear dia maximum	19 Cms
2.	Construction		
	a	Modular construction consisting of replaceable modules for ease of servicing/repairs.	
	b	The lamp shall be replaceable by unscrewing the front cover.	
	c	The battery and blown fuses can be replaced without disturbing electronic circuit.	
	d	Colour of the casing should be preferably black or olive green.	
	e	Markers name shall be clearly printed on the body of the cabinet.	
f	Operational instruction in brief shall be printed on the casing of the body.		
3.	Operating Temperature	Equipment shall be able to operate satisfactorily in the temperature range of -20 ^o C to 55 ^o C and 95% RH at 40 ^o C. National/International accredited Lab certificate should be furnished by the firm along with tender documents.	
4	Battery	Rechargeable sealed minimum 12 volts and minimum 7 AHC maintenance free batteries. The battery if customised should be of standard, dimension as per 12 Volt 7 Ahc available in market and easily replaceable.	



5	Housing of Battery	
	a	Housing for the battery should be provided in the cabinet/casing of equipment.
	b	There should be adequate space around the battery in the battery housing for dissipation of heat developed in battery while charging.
	c	The battery fuse should be easily accessible from outside for ease of replacement.
	d	The battery compartment should not be over crowded by placing electronics all around it.
	e	All electronics should be placed on lamp end of the search light.
	f	Electronics should not be in direct contact with body of the battery.
	g	The housing is such that the battery could be replaced easily.
6	Circuit	
	a	Glass epoxy PCB.
	b	Electronic component nomenclature should not erase.
	c	Wire should be heavy duty.
	d	PCB should be easily removable for repairs.
	e	Moulded modules should not be sealed at any stage.
	f	Electronic circuits should not be sealed at any stage.
	g	Any additional circuitry for facilitating like traffic light, LCD display, torch light etc will not be acceptable to avoid complexity in circuit.
7	Minimum Continuous Operation	Should operate minimum of 90 minutes continuously.
8	Wiring	Wiring should be neat and clean using minimum number of wires for ease of serviceability. Wire should be heavy duty.
9	Switches/Selector	Suitable control for ON/OFF and function like flasher, dimmer and timer
	Single rotary selector for all the following modes :-	
	a	Continuous/direct light
	b	Minimum 2 positions for dimmer to extend battery life to 2 and 5 hrs respectively.
	c	Flasher to give 45 flashed (± 2 flashes) per minute.
	d	Timer 1 minute
e	Remote control (As an option to be specified by the user).	
10	Battery Statuses	Low battery indicator and DC blown fuse indicator shall be provided.
11	Beam Distance/Range	Search light should be able to detect a group of moving persons at a distance of 400 meters minimum.
12	Reflector	
	a	Parabolic reflector mounted in shock resistance cap of good quality rubber.
	b	Sealed/glass beam reflector should not be used.
13	Front Glass	The glass should be of a good quality and should be heat and shock resistant. It should not crack when water droplets fall on it when used continuously.

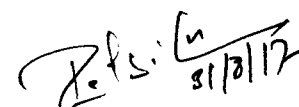
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14	Shoulder Straps	Shoulder straps would be adjustable, should be minimum 150 cm long 3 cm wide, made of good quality nylon and the metallic part to connect the strip the search light should be coated with non shinning paint/non fluorescent/non phosphorescent. Strap should have a pad of minimum 20 cm long, 5 cm wide and 1 cm thick.
15	Battery Charger	
	a	In built battery charger.
	b	Input voltages 90 to 270 volts, 50 HZ single phase AC.
	c	Charging time maximum 10 hrs.
	d	Charging Status : Charging and fully charged indication should be provided through LED.
	e	Adequate protection shall be provided against short circuit, bty over charge, bty deep discharge and reserve polarity.
	f	When battery voltage drops to around 10.5 V advance low battery indication should be provided through LED and battery should cut off at 10.5v ($\pm 0.2V$)
16	Resting Support	Should be provided on front and back cover plates as well as on the body of the casing.
17	Power Cord	3 meters long fitted with suitable connector.
18	OPTIONAL ACCESSORY (To be decided by the user)	
	a	Remote Control
	(i)	The transmitter should work on 9V/12V battery.
	(ii)	Dimension of Tx Unit :- 80 mm x 50 mm x 20 mm ($\pm 5mm$)
	(iii)	Range minimum 100 meters.
	b	IR Filter :- Should have IR filter which can be attached ir detached with ease. IR collar should be able to jack on the Hand Held Search Light.
	c	Specification of Wired Control :-
	(i)	Length of the cord 100 meters minimum
	(ii)	Cord shall be spooled on a plastic or metallic reel having knob for spooling and mounted in a powder coated metal frame.
19	Misc	
	a	User manual should be provided with each equipment.
	b	Technical manual including schematic diagram and spare parts list should be provided (Qty as specified by the user).

Note- All firms are requested to provide the following.

1. Original Brochure of product by OEM.
2. Detail literature about the product.
3. Comprehensive comments for incorporation in the specifications.

The Sub-group has decided to upload the QRs on MHA and BSF website for 15 days to invite the views/ comments/ suggestions of prospective bidders to make the QRs more broad based.



(Rishipal Singh)
Second-In-Command (Mod)