

**Directorate General, C.R.P.F**  
Block No.1, CGO Complex, Lodhi Road, New Delhi  
(Ministry of Home Affairs/ Grih Mantralaya)  
(Tele No.011-24369587/Fax No.011-24360155)

No. M.V-1/2022-23-Prov-Ord-II

Dated, the 16 December, 2022.

To


The Technical Director, NIC  
North Block, New Delhi  
Email: [mpsugandhi@nic.in](mailto:mpsugandhi@nic.in)

**Subject: - Regarding publishing the draft QRs/TDs of “ Fusion Monocular**

CRPF intends to procure some Fusion Monocular for operational utilization ; so the draft of requirement is attached with a request to upload it on MHA's Website for a period of 15 days (From 20/12/2022 to 03/01/2023) for comments of eligible vendors. The interested vendors/OEMs may send their comments is the following channels :-

Through Mail	<a href="mailto:dcordnance@crpf.gov.in">dcordnance@crpf.gov.in</a>
Through Fax	011-24360155
By Hand	Room No. 10, Ground Floor, Block No. 01, Directorate General, CRPF, Lodhi Road, New Delhi-03

Encl:- Draft QRs/TDs of Fusion Monocular (02 Pages).

  
(Des Raj)  
DIG (Ordnance)

No. M.V-1/2022-23-Prov-Ord-II

Dated, the 16 December, 2022.

Copy forwarded to:-

SO (IT), North Block for necessary action please. ([soit@nic.in](mailto:soit@nic.in)).

  
(Des Raj)  
DIG (Ordnance)

## DRAFT QR/TD OF FUSION MONOCULAR

Sl No.	Specifications	Quality Requirements	Trial Directive
1.	Weight	500 gm $\pm$ 10% gm including Battery.	To be physically checked by BOO.
2.	Parameters	<ol style="list-style-type: none"> <li>1. Real time night vision capabilities of 18 mm II tube technology fused with silent shutter-less thermal imaging sight for surveillance purpose.</li> <li>2. Must be capable of being used as a hand held viewer, face &amp; helmet mounted. Suitable adaptor should be provided with each equipment.</li> </ol>	To be physically checked on OLED display and external screen.
3.	Thermal Imager parameters	<ol style="list-style-type: none"> <li>1. Spectral range - 8-14 um or better.</li> <li>2. Sensor Resolution 640x480</li> <li>3. Pixel pitch 17 microns</li> <li>4. Polarity:- Should feature black hot, white hot and edge detect for the ease of use.</li> </ol>	Firm to submit Detector datasheet and certificate of manufacturer.
4.	II tube Specifications	<ol style="list-style-type: none"> <li>1. Resolution – 64 lp/mm</li> <li>2. Signal to noise ratio – 24</li> <li>3. It should be military grade.</li> <li>4. It should have inbuilt AGC and BSP.</li> <li>5. It should be auto-gated.</li> </ol>	Firm to submit NABL certificate from any Indian accredited lab.
5.	System operational parameters	<ol style="list-style-type: none"> <li>(i) Operating temp- -20° to 55°C</li> <li>(ii) Storage temp- -30°C to 55°C</li> <li>(iii) System should be ruggedized as per latest Mil Std 810G/JSS-55555 in respect of humidity, shock, vibration, and bump supported by National/International accredited lab certificate.</li> </ol>	Firm to submit NABL certificate from any Indian accredited lab.
6.	Field of View	FOV 40° or more.	To be physically checked by BOO for both Day and TI.
7.	Recognition (In star lit conditions without moon)	For human being: Detection – 200 meter Recognition – 125 meters	To be physically checked by BOO.
8.	Frame rate	Not less 25 FPS.	To be physically checked by BOO.
9.	Battery backup	6 hours endurance to be checked on fusion mode. Battery should be easily commercially available.	To be physically checked by BOOs.
10.	Transportation case	Rugged case for transportation for	To be Physically

		equipment and accessories and soft carry case for equipment with shoulder strap.	checked by BOOs.
11.	Starting time	10 sec or less	To be Physically checked by BOOs.
12.	Diopter	+4D to - 2D or better	
13.	Battery Charger	It should have a commercially charger capable to charge the battery completely in less than 3 hours.	To be Physically checked by BOOs.
14.	Technical Manual	Technical manual / operational manual should be provided. 1. One spare Eye guard and OG cover, and one set of cells / battery should be provided with each sight.	To be Physically checked by BOOs.
15.	Warranty	Minimum 3 years	
16.	Service Life	Min 10 years	
17.	Water resistance	The complete equipment shall be capable of being submersed in to water in meter deep for half an hour without water leakage in to its interior. The PNV monocular should function properly.	
18.	Must have IR LASER illuminator for use in totally dark environment for recognition at a range of 125 meters or better.		
19.	Low battery indication	Low battery indication should be provided inside the field of view (FOV)	
20.	Magnification	1 x or better	
21.	Miscellaneous:- a. One additional set of battery be provided. b. Cleaning kit should be provided with each of the equipment. c. List of supporting test equipments and their rate should be provided. d. Supplier to submit undertaking to provide spare parts for next 10 years minimum from the date of supply. e. Technical manual/operational manual including repair manual of PNV monocular. f. Repair and maintenance training should be arranged for about 10 working days to minimum 10 technicians at OEM premises and operational training to 100 operators at field location.		