संख्या. पी-63013/109/03/2022/मोड–।/सीसुबल &oU- 13 भारत सरकार, गृह मंत्रालय महानिदेशालय सीमा सुरक्षा बल (रसद निदेशालय: आधुनिकीकरण सैल) (Email-comdtord@bsf.nic.in) (Fax: 011-24367683)

> ब्लाक संख्या . 10, सीजीओ काम्पलैक्स, लोधी रोड, नई दिल्ली–03

दिनांक 🚺 मार्च 2023

सेवा में,

महानिदेशक :– आसाम राईफल (through LOAR) , केन्द्रीय ओद्यौगिक सुरक्षा बल, केन्द्रीय रिजर्व पुलिस बल, भारतीय तिब्बत बोर्डर पुलिस, सशस्त्र सीमा सुरक्षा बल, राष्ट्रीय सुरक्षा गार्ड एवं पुलिस अनुसन्धान एवं विकास ब्योरो

विषय :- अनुमोदित गुणात्मक आवश्यकता / परीक्षण निर्देशों का प्रेषण।

तकनीकी विशेषज्ञों के उप समूह द्वारा किए गये पुनः सूत्रीकरण एवं महानिदेशक सीमा सुरक्षा बल द्वारा अनुमोदित "Thermal Weapon Sight" उपकरण के पुनः सूत्रीकरण गुणात्मक आवश्यकता/परीक्षण निर्देशों को आपकी अग्रिम कार्यवाही हेतु प्रेषित किया जाता है।

3.2.172 (इन्द्रं देव सिंह)

उप महानिरीक्षक (रसद)

प्रतिलिपिः-

 तकनीकी निदेशक The 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)

- SO (IT), North Block, MHA (Through E-mail) (E-mail address: soit@nic.in
- 3. तकनीकी विंग, सीमा सुरक्ष बल

आपसे अनुरोध है कि उक्त उपकरण के पुनः सूत्रीकरण गुणात्मक आवश्यकता / परीक्षण निर्देशों को गृह मंत्रालय की वैबसाईट [MHA website Division of MHA+ -Police Modernization Division- Qualitative Requirements-Qualitative Requirements of Machinery & Eqpt Items with Surveillance item] पर अपलोड करें एवं उक्त उपकरण के पुराने गुणात्मक आवश्यकता / परीक्षण निर्देशों जोकि गृह मंत्रालय की वैबसाईट [MHA website Division of MHA+ - Police Modernization Division -Qualitative Requirements- Qualitative Requirements of Machinery & Eqpt Items with Surveillance item] कम संख्या—99 पर अपलोड है को हटाने का श्रम करे।

कृपया उपरोक्तानुसार कार्यवाही करने का श्रम करे।

आपसे अनुरोध है कि उक्त उपकरण के गुणात्मक आवश्यकता / परीक्षण निर्देशों को सीमा सुरक्षा बल की वैबसाईट पर अपलोड करने का श्रम करें।

Appendix-'A'

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QRs & TDs OF THERMAL WEAPON SIGHT- REVISION

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S/ N	Parameters	Qualitative Requirements	Trial Directives	Result expected/ desired
1.	General	A Thermal weapon sight (Un-cooled) is a light weight and military standard rugged sight.	To be physically checked by board of officers.	It should be as per specification mentioned in the QRs
2.	Options for TWS (User will define the weapon and caliber for which they are procuring the TI sight at the time of tender.)	(i) LMG version(ii) Rifle version	To be physically checked by board of officers.	It should be as per specification mentioned in the QRs
3.	Non Uniformity correction (NUC)	Sight should have manual and automatic (shutter less technology) feature in it.	Firms to provide OEM certificate in this regard and BOO to physically check the NUC feature.	It should be as per specification mentioned in the QRs
4.	Size dimension with unit mm	LMG and Rifle version-180 (L) x 100(W) x 90(H) (+10% tolerance in each segment)	To be physically checked by board of officers.	It should be as per specification mentioned in the QRs
5.	Field of View	 (i) LMG version -Entire range between 10.6° x 8° and 2.65° x 2° (ii) Rifle version - Entire range between 12° x 9° and 4° x 3° 	OEM to provide certificate in respect of the same. BOO to physically check the parameter at SIW, BSF or any other Indian government agency.	It should be as per specification mentioned in the QRs
6.	FPA Resolution	640 x 480 or better with 12 micron or better.	OEM of micro bolometer to provide certificate in respect of the same. BOO to check the certificates.	It should be as per specification mentioned in the QRs
7.	Range	 (i) LMG version Detection- 1000m (minimum) Recognition- 600m (ii) Rifle version Detection- 800m (minimum) Recognition- 400m (minimum) 	Human target must be detected from a distance of 1000m minimum clearly and should be recognized from a distance of 600 meter minimum clearly. (For LMG version) Human target must be detected from a distance of 800m minimum clearly and should be recognized from a distance of 400 meter minimum clearly. (For Rifle version)	It should be as per specification mentioned in the QRs
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S/ N	Parameters	Qualitative Requirements	Trial Directives	Result expected/ desired
Style 1			BOO to physically check the same.	
8.	Weight	 (i) LMG version - Maximum weight should not be more than 1 kg with battery and mounting adapter, OG cover and Eye cup. (ii) Rifle version - Maximum weight should not be more than 750 gm with battery and mounting adapter, OG cover and Eye cup. 	To be physically checked by board of officers.	It should be as per specification mentioned in the QRs
9.	Diopter Adjustment	-4D to +2D or better	To be physically checked by BOO at SIW, BSF or any other Govt. agency.	It should be as per specification mentioned in the QRs
10.	OLED Resolution	800 x 600 or better	OEM certificate in respect of the same. BOO to check the certificates.	It should be as per specification mentioned in the QRs
11.	Spectral Range	8 to 14 μm.	OEM certificate in respect of the same. BOO to check the certificates.	It should be as per specification mentioned in the QRs
12.	Sensor/ Detector	12 micron detector or better. (Micro bolometer or better technology)	OEM of micro bolometer to provide certificate in respect of the same. BOO to check the certificates.	It should be as per specification mentioned in the QRs
13.	Frame Rate	50 fps or better.	Firm to provide OEM certificate in respect of the same.	It should be as per specification mentioned in the QRs
14.	Eye Relief	Not less than 50mm	To be physically checked by board of officers.	It should be as per specification mentioned in the QRs
15.	Electronic Zoom	Should have following modes 1x, 2x and 4x.	To be physically checked by board of officers.	
16.	Reticule (User will define the weapon and caliber for which they are procuring the TI sight	 (i) Fine cross hair with Centre Dot and stadimetric scale capable to zero the weapon in azimuth & elevation with resolution up-to cm level on target. There should be facility of changing 	Switch on the equipment and observe for reticule pattern confirmation with the facility of changing colour. Three different reticules i.e. 100, 200 and 400 meter should be physically checked by BOO for	It should be as per specification mentioned in the QRs
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S/N	/ Parameters	Qualitative Requirements	Trial Directives	Result expected/ desired
	at the time of tender.)	 the color of the reticule. (ii) The reticule pattern 200m, 400m and 600 meters should be provided for LMG version. (iii) The reticule pattern for 100m, 200m and 400 meters should be provided for rifle version. 	rifle version and 200, 400 and 600 meter for LMG version.	
T	 7. Firing Accuracy (a) Wpn types will be informed by User at Tender stage. (b) Amn to be provided by User for Zeroing & Test fire. 	 a) Zero the sight with the weapon at 100 m. Reasonable time to be given to firms for zeroing. b) After zeroing, sights to be checked by firing at 100, 200 and 400 meter range for rifle version by using respective reticules. For LMG version, sights to be to be checked at 200, 400 and 600 meter range. c) Their accuracy shall be checked by firing 10 Rds at 4x4 target at 100, 200 and 400 meter range for rifle version, sights to be using respective reticules. For LMG version, sights to be to be checked at 200, 400 and 600 meter range. d) The weapon should be able to hit min 80% shots from 100 meter range and 50% shots from 400 meter range on 4x4 target. For LMG to hit min 80% shots 	To be physically checked by BOO.	It should be as per specification mentioned in the QRs
N /		from 200 meter range, 60% shots from 400 meter range and 50% shots from 600 meter range. To be physically checked by board of officers.		(
1	8. Focusing	10 m to Infinity	To be physically checked by board of officers.	It should be as per specification mentioned

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5 CALLS	S/ N	Parameters	Qualitative Requirements	Trial Directives	Result expected/ desired
					in the QRs
	19.	Reticule polarity	Sight should have dual colour (Black/White) digital reticule or better.	To be physically checked by board of officers.	It should be as per specification mentioned in the QRs
	20.	Locking Mechanism (Picatinny rail)	 (a) It should have locking arrangement for quick attachment and detachment. Time < 1 min without any extra tools. (b) It should have a rugged locking mechanism compatible with Mil Std 1913 rail. (Optional) (c) If user also wants the locking attachments of sight on their existing weapons additionally, same may be mentioned at the time of indent. (optional) 	To be physically checked by board of officers.	It should be as per specification mentioned in the QRs
	21.	Features and Operational Switches	Brightness & contrast control, Black hot & White hot, NUC, reticule toggle option, Power On/Off.	To be physically checked by board of officers.	It should be as per specification mentioned in the QRs
	22.	Carrying Case	 (a) <u>Soft Carrying Case</u>:- Firm to provide a soft carrying case complied to IPx5 along with each sight. (b) <u>Hard Carrying Case</u>:- Firm to provide a rugged hard carrying case, which will sustain a drop test from 2m height on a hard surface. No deformation and breakage of box is acceptable. Sight to be checked for operational use post 	Firm to provide National/NABL accredited lab cert for Soft carrying case and BOO to physically conduct the Drop Test for Hard carrying case.	It should be as per specification mentioned in the QRs
N	23.	Black Hot White Hot	drop test. The equipment must work effectively and	To be physically checked by board of	It should be as per
/	23.	Mode	be successfully be able to show image in Black hot and white hot mode.	officers.	specification mentioned in the QRs
	24.	Ruggedness	QR:- (a)Weapon system should be ruggedized	Certificate from by Indian Govt lab/National accredited lab certificate.	It should be as per specification mentioned
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S/ N	Parameters	Qualitative Requirements	Trial Directives	Result expected/ desired
		as per latest mil Std 810 H or JSS 55555/JSS 5855 for following test: - Shock test. -Vibration. -Bump. -Thermal shock. -Humidity. -Low pressure (altitude) (b) Should be IP-67 complied. (c) Should be able to withstand sustained firing with the weapon without any effect on zeroing optics of sight after firing 100 rds in burst mode.	BOO to physically check the (c) point with the weapon at firing range by firing 100 rounds in burst mode with small and long burst. If sights went off during firing. It should be treated as major defect and consider as failed.	in the QRs
25.	Initialization Time	Time < 30 Second	To be physically checked by board of officers. Equipment shall be ready to engage target in less than 30 seconds.	It should be as per specification mentioned in the QRs
26.	Visibility	Must be able to penetrate through fog, smoke and complete darkness	To be physically checked by board of officers.	It should be as per specification mentioned in the QRs
27.	Battery	Commercially available rechargeable lithium based battery with min endurance time of 6hrs on single/set of battery.	To be physically checked by board of officers.	It should be as per specification mentioned in the QRs
28.	Bty Charger	 A universal charger operating between 100V to 270 V AC main and 12 to 48 V DC (entire range). Should be able to charge battery fully in less than 4 hrs. The charger should be able to show the charging status of battery alongwith an auto-cut system to avoid over charging. 	To be physically checked by board of officers.	It should be as per specification mentioned in the QRs

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S/ N	Parameters	Qualitative Requirements	Trial Directives	Result expected/ desired
29.	Low Battery Indicator	Low Battery indication status to be displayed on OLED/screen.	To be physically checked by BOO.	It should be as per specification mentioned in the QRs
30.	Spare Battery	For multi-day/ long operation, it must provide 03 set of spare batteries to be provided by the firm.	To be physically checked by board of officers.	It should be as per specification mentioned in the QRs
31.	Operating Temperature	-20° C to $+50^{\circ}$ C ($\pm 3^{\circ}$ C)	Test Certificate from Indian Govt lab/National accredited lab certificate.	It should be as per specification mentioned in the QRs
32.	Storage Temperature	-30° C to $+55^{\circ}$ C ($\pm 3^{\circ}$ C)	Test Certificate from Indian Govt lab/National accredited lab certificate.	It should be as per specification mentioned in the QRs
33.	Warranty min 02 years & shelf life of 10 years.	An undertaking in this regard must be obtained by the firm.	Warranty of min 02 year and shelf life of 10 years.	It should be as per specification mentioned in the QRs
34.	Technical Literature	User Hand-book, operating manual and technical manual to be provided.	To be physically checked by board of officers.	It should be as per specification mentioned in the QRs
35.	Spare part list	Illustrated spare part list along with photograph and cat part number to be provided.	Firm to provide under taking certificate for the same.	It should be as per specification mentioned in the QRs
36.	Training : Operational & Repairs	 (a) Operational user training for 3 days to be provided for at-least 50 persons at location decided by indenter. (b) Base level Repair and maintenance training should be provided at-least to 5 technicians for 1 week at firm premises. 	Firm to provide OEM certificate for the same.	It should be as per specification mentioned in the QRs
37.	Minimum Resolvable Temperature Difference (MRTD)	Value to be specified by the OEM of the equipment.	OEM to provide CoC (Certificate of Confirmation) for the same and BOO to check correctness of the certificates.	It should be as per specification mentioned in the QRs
38.	Misc (To be specified by User if required)	 (a) Purging kit to be provided by the firm. (Quantity to be decided by User at tender stage) 	Firm to provide under taking certificate for the same.	It should be as per specification mentioned in the QRs

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S/ **Parameters Qualitative Requirements Trial Directives** Result expected/ N desired (b)Acceptance Test station for Base level repair to be provided by Firm. (Quantity to be decided by User at tender stage) ono queesuho 20 (Ajeet Kumar), Comdt. (SIW), BSF (B K Mehta), (Happy Verma), Comdt (Dr. Raveesh Kumar), PSO(W), Ordnance, BSF BPR&D ADG (Log), BSF 20/02/2023 23 (K Saha), Astt. Director, DCPW (Subhash Gautam) IRDE, DRDO, (Vinay Verma), DC, CRPF (S P Singh), TC, NSG Dehradun attended through VC 200123 in (Gaurav Drall), AC, SIW, BSF (Mithilesh Kumar), AC, CISF (Inspr/RM Manish Raj), SIW, BSF (Ajay Dhyani), AC/ATO, BSF Alushia aler (Nb/Sub D P Mishra), Assam (ASI/Comn R K Swami), SSB (Inspr/Tele Kapoor Singh),ITBP Rifle Approved/Not approved **Director General Border Security Force**

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