संख्या. पी-63013/62/02/2023/मोड–I/सीसुबल/1307-17

भारत सरकार, गृह मंत्रालय
महानिदेशालय सीमा सुरक्षा बल
(रसद निदेशालय: आधुनिकीकरण सैल)
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(Fax: 011-24367683)

ब्लाक संख्या . 10,
सीजीओ काम्पलैक्स,
लोधी रोड, नई दिल्ली–03
दिनांक 28 अप्रैल 2025

सेवा में,

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

विषयः **अनुमोदित गुणात्मक आवश्यकता /परीक्षण निर्देशों का प्रेषण**

तकनीकी विशेषज्ञों के उप समूह द्वारा किए गये सूत्रीकरण एवं महानिदेशक सीमा सुरक्षा बल द्वारा अनुमोदित "Hand Held Laser Range Finder (HHLRF)" उपकरण के संसोधित गुणात्मक आवश्यकता/परीक्षण निर्देशों को आपकी अग्रिम कार्यवाही हेतु प्रेषित किया जाता हैं।

संल्गन : उपरोक्तनुसार

28.04.25
(धीरेन्द्र सिंह सिंधु)
उप महानिरीक्षक (वस्त्र/रसद)

प्रतिलिपि :-

1. **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)
   : आपसे अनुरोध है कि उक्त उपकरण के गुणात्मक आवश्यकता /परीक्षण निर्देशों जोकि गृह मंत्रालय की वैबसाईट (पुलिस आधुनिकीकरण संभाग) के गुणात्मक आवश्यकता पोर्टल में मशीनरी एवं उपकरण के साथ निगरानी उपकरण वर्ग के अर्न्तगत कमांक संख्या–159 पर पहले से अपलोड है के स्थान इस पत्र के साथ संलग्न संशोधित गुणात्मक आवश्यकता/ परीक्षण निर्देशों को अपलोड करने का श्रम करें।
2. SO (IT), North Block, MHA
   (Through E-mail)
   (E-mail address: soit@nic.in)
   : कृपया उपरोक्तानुसार कार्यवाही करने का श्रम करें।
3. Sh. Samarth Sharma,
   Director Nodal Officer for MHA GeM,
   3rd Floor, Jeevan Bharti Building Conaught Lane,
   Janpath Cannaught Place, N/ Delhi-110001
   E-mail:directorcategory13@gem.gov.in
   For info with request to upload the approved QRs & TDs of "Hand Held Laser Range Finder (HHLRF)"-Revision on GeM Portal. Copy of QRs & TDs is attached with this letter.
4. तकनीकी विंग, सीमा सुरक्षा बल
   : कृपया उक्त उपकरण के गुणात्मक आवश्यकता/परीक्षण निर्देशों को सीमा सुरक्षा बल की वैबसाईट पर अपलोड करने का श्रम करें।
5. रसद निदेशालय, (आयुद्ध अनुभाग) सीमा सुरक्षा बल
   : आपके यूओ संख्या–186 दिनांक 22 जनवरी 2025 के सन्दर्भ में अनुमोदित "Hand Held Laser Range Finder (HHLRF)" उपकरण के संसोधित गुणात्मक आवश्यकता /परीक्षण निर्देशों को आपके सूचनार्थ एवं अग्रिम कार्यवाही हेतु प्रेषित जाता है।
6. **फाईल**

Appendix-"A"

QRs & TDs OF HAND HELD LASER RANGE FINDER (HHLRF)-REVISION

S/No	QRs/ Specification	Trail Directives
1.	The instrument should be Binocular, compact, Hand held, easy to carry and user friendly.	Check the system for Binocular version, compact, hand held and easy to carry & operate.
2.	The system should have the following sub-units integrated in a single housing: i. LASER Range Finder ii. Thermal Imager for night time iii. Color Camera for day time iv. Global Positioning System (GPS) v. Digital Magnetic Compass (DMC)	Check the system for Sub-units mentioned at QRs Para 2 and integrated in a single housing.
3.	It should have • Standard connectors for analog (CCIR-PAL System) • HDMI , C2 external video Out-put (Optional)	Check the video out-put (CCIR- PAL system) for analog ➢ HDMI C2 external video Out-put. (optional)
4.	It should be light weight (Not more than 3.5 Kg with battery).	Measure the weight of the system including battery with the help of weighing machine. It should not be more than 3.5 Kgs.
5.	a) Diopter adjustment: Minus 4 to Plus 4 Diopter or better. b) It should have arrangement to adjust Inter-Pupillary Distance (IPD) i.e 55 mm to 70 mm. The mechanism should be easy to operate and user friendly.	a) Check the Eye-piece for Diopter adjustment limits with the Diopter apparatus in the SIW Lab. b) Check the system for adjustment of Inter-pupillary distance i.e 55 mm to 70 mm. And its adjustment for smooth functioning.
6.	It should display the data of Target Range, Azimuth, Elevation and Height Difference with the lasing (Through the use of LASER Beam).	Switch 'ON' the system, aim at targets at a distance of 1 KM with different terrain/ground like plain and height. Then, laze/fire the LASER. Check the information about the aimed target on the screen.
7.	It should be provided with adjustable, non- magnetic telescopic tripod. It should have the following features; i. Height of extended tripod should be 180 ±10 cm. ii. Suitable leg locking mechanism should be provided to lock the legs firmly.	• Check the Tripod telescopic type with adjustable legs and suitably interfaced with the system. • Check the Tripod made of non-magnetic material with the help of magnet. Check the Tripod height in fully opened condition with the help of measuring tape.

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S/No	QRs/ Specification	Trail Directives
		• Open the Tripod and check the legs locking mechanism for its suitability and smooth functioning.
8.	The system should display the output video of the day and night camera on single screen.	Check the out-put of both the cameras on OLED screen.
9.	It should have OLED Display having minimum Resolution 800 x 600	Check the system for display type and its resolution. The firm should submit OEM certificate in r/o the same.
10.	POWER SUPPLY	
	i. Battery – Rechargeable battery inside cover of main equipment. It should run the equipment at least 3.5 hours continuously on single charge. Two spare battery will also be provided with each equipment.	• Physically check the rechargeable batteries and their quantity. • Switch 'ON' the system on fully charged battery and observe the continuous operation on single charge.
	ii. External power source: AC adapter on 110- 270 Volt, 50 Hz mains Supply.	Connect the AC/DC adopter on 50 Hz variable AC mains supply and check the out-put voltage by varying the in-put voltage from 110 to 270 volts.
	iii. Battery charger operable on AC (110 V-270 V) & DC (12 /24V) to be provided.	To be physically checked by the BOO
	iv. Battery charging time 4 hours maximum.	Put a fully discharged battery with the battery charger on AC mains supply and observe it to charge fully within 4 hours.
11.	LASER RANGE FINDER :	
	i) Range: Minimum 100 meter to 8,000 meter or more for target size – 2.3 mtr x 2.3 mtr.	Switch 'ON' the system and check the range of targets at 100 meters and 8 Km away by firing the LASER.
	ii) Accuracy: ± 5 meters or better.	To be physically checked by the BOO
	iii) Measuring frequency : a) Normal: 1 shot and measurement in every 6 seconds. b) Best: Maximum 3 shots and measurements in 6 seconds.	To be physically checked by the BOO
	iv) Multiple targets: Displays first and last target.	To be physically checked by the BOO. Fire a LASER on a target along the single line of axis having multiple targets in between.
	v) Discrimination : 50 meters or better	To be physically checked by the BOO
	vi) False range detection: Not more than 1% of the number of shot.	To be Physically checked by the BOO, select 10 Nos of target of different ranges and fire the Laser and note their measuring value. This procedure

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S/No	QRs/ Specification	Trail Directives
		to be repeated 10 times.
	vii) Laser pulse: should be Class-I eye safe, Ocular hazard distance of Zero meter. .	The firm should submit OEM Certificate.
	viii) Reticule : Reticule required in HHLRF System Centre circle with Horizontal and Vertical scale	To be physically checked by BOO.
12.	THERMAL CAMERA:	
	The Thermal Camera should have: i. Cooled Thermal Imager. ii. FPA resolution : 640 x 512 (Minimum) iii. Spectral Wave band in 3 to 5 µm or 8 to 14 µm. iv. Field of view: Wide : 12.5^0 x 10^0 (min) Narrow : 2.5^0 x 2^0 (max) v. Optical zoom of 5X (min) vi. Digital zoom : 4X (min)	i.Check the DDC OEM certificate or data sheet submitted by the firm. ii.Check the data sheet/OEM certificate submitted by the firm. iii.Check the data sheet/OEM certificate submitted by the firm. iv.Check the FOV in the SIW Lab on ATS and note down the measurements. v.Fix the equipment on ATS and measure the Optical zoom. vi.Procedure suggested in point no. v
	Range :	
	a) Range for human target Detection : 5 Km (min)	Detection : Move a group of 03 persons at a distance of 5 Km. Thermal camera should detect the movement. Detection means: - Ability to detect vehicles, structures (man-made/normal) and any movement of man or animal.
	Recognition : 2.5 Km (min)	Recognition: Move group of 03 persons at a distance of 2.5 Km. Thermal camera should recognize the human being. Recognition: - Ability to differentiate between civilian/uniformed personnel with man pack/weapon.
	b) Range for Vehicle Detection : 8 Km (min).	Detection: Place vehicle at a distance of 8 Km. HHTI should detect the movement of (broad side) of vehicle.

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S/No	QRs/ Specification	Trail Directives
	Recognition : 4 Km (min). Note: Vehicle dimension minimum 4010 x 1540 x 1875 mm (LxBxH)	Recognition: Place vehicle at a distance of 4 Km. HHTI should recognize the type of vehicle.
13.	COLOUR DAY CAMERA : Specification	
	i. High Resolution Colour CMOS Camera	Put the Day Camera in normal mode so that only day camera image is displayed on the screen.
	ii. Resolution : 8 MP (3840(H) x 2160 (V)) or better	Firm has to submit OEM certificate for Camera.
	iii. Field of View (FoV) : Wide : 16^0 x 12^0 (min) Narrow : 4° x 3^0 (max)	To be physically check by the BOO in the lab as per the procedure.
	iv. Optical Zoom : 4 X (min)	Check the optical zoom physically in the lab as per the procedure.
	v. Digital Zoom : 4X (min)	Check the digital zoom physically in the lab as per the procedure.
	vi. Focus : Auto & Manual both	Check the focusing mechanism provided for automatic and manual focusing.
	Range : Colour Day Camera	
	a) Range for human target Detection : 5 Km (min).	Detection : Move group of 03 persons at a distance of 5 Km. Day camera should detect the movement.
	Recognition: 2.5 Km (min).	Recognition: Move group of 03 persons at a distance of 2.5 Km. Day camera should detect the nos of persons with or without man pack/ weapon.
	b) Range for Vehicle Detection: 08 Kms (min).	Detection: Place Vehicle at distance of 8 Kms. Day camera should detect the presence of moving vehicle (broad side).
	Recognition : 4 Kms (min) Note: Vehicle dimension minimum 4010 x 1540 x 1875 mm (LxBxH)	Recognition: Place Vehicle at a distance of 4 Kms. Day camera should recognize the type and class of vehicle.

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S/No	QRs/ Specification	Trail Directives
14.	NAVIGATION SATELLITE SYSTEM:	
	i. It should give co-ordinates in Lat/Lon & Military GR system on Indian datum.	To be Physically checked by the BOO
	ii. Accuracy : < 05 meters	To be Physically checked by the BOO
	iii. Acquisition: ≤20 second with update rate of 1 per second continuous in clear weather condition.	To be Physically checked by the BOO
	iv. Supports: The system should also support GPS, IRNSS, GLONASS, GALILEO & NAVIC.	To be Physically checked by the BOO.
15.	DIGITAL MAGNETIC COMPASS :	
	i. DMC Resolution should be 1° or better. ii. Accuracy should be ≤1°.	Choose two targets at the range of 2 km and should apart 50 meter with each other in azimuth direction. Now aim the targets one by one and note the bearing.
16.	ENVIRONMENTAL :	
	i. Operating temp Range : Minus 30°C to Plus 55°C ±2°C	Check the National /International Accredited lab certificate/report submitted by the firm in respect of operating temperature.
	ii. Storage temp Range : Minus 30°C to Plus 60°C ±2°C	Check the National /International Accredited lab certificate/report submitted by the firm in respect of storage temperature.
	iii. The equipment should meet military standard 810- G/JSS 55555 or higher.	Check the National /International accredited lab certificate/ report in respect of the same.
17.	MISCELLANEOUS:	
	i) Vendor to provide User's manual and Technical /Maintenance Manual.	To be Physically checked by the BOO.
	ii) Base Workshop level training to minimum 10 technicians at OEM premises on full-fledged running testing, diagnostic and calibration set up.	An undertaking in this regard will be obtained from the firm
	iii) Should have a ruggedized / customized container for transportation.	To be physically checked by the BOO. Transportation case placed at a height of minimum 2 mtr with HHTI inside and drop on a hard surface. Transportation case should not be deformed and have any crack. Eqpt should work properly.
	iv) Warranty: The warranty period should be10,000 hrs for TI cooler	Undertaking in this regard must be obtained from firm.

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S/No	QRs/ Specification	Trail Directives
	or 2 years whichever is earlier.	
	v) Electronic support Package (ESP) should be provided by the OEM in consultation with the user.	An undertaking in this regard will be obtained from the firm

(Mahesh Kumar Aggarwal), IPS, ADG (Log), BSF

(Ashok Kumar), DIG (SIW), BSF

(Happy Verma, Comdt, Ord, BSF

(Mukesh Kumar), 2IC (SIW), BSF

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(Sub Jagdish Prasad Gaur), Assam Rifle

(NB Sub Chhatar Singh), 52 SAG, NSG

(Inspr Monendra Kumar), CRPF

(Inspr/RM S Chakrabarty), SIW, BSF

(SI/Tele Kanchhi Ram Sharma), ITBP

Approved/Not approved

Director General,

Border Security Force