संख्या. पी-63013/2019/मोड-।/सीसुबल अD93-95 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 16 सितम्बर 2021

वरिष्ठ तकनीकी निदेशक The Senior 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)

Sub: Request for comments of stakeholders/OEM on draft QRs.

कृपया गृह मंत्रालय के पत्र संख्या IV-24011/12/2011-Prov-I(part)(CFN 3300890)-1710 दिनांक 31<sup>st</sup> Aug 2015 के सन्दर्भ में।

2. उपरोक्त विष्यान्तर्गत यह सूचित किया जाता है कि तकनीकी विशेषज्ञों के उप समूह द्वारा "Ground Penetrating Radar (Hand Held)" के गुणातमक आवश्यकता/परीक्षण निर्देशों का प्रारुप दिनांक 13 सितन्बर 2021 में आयोजित सभा के दौरान तैयार किया गया था जिसको इस आश्य से प्रेषित किया जा रहा है कि उक्त गुणातमक आवश्यकता/परीक्षण निर्देश, को गृह मंत्रालय की वैबसाईट पर 15 दिन के लिए अपलोड करने का श्रम करें।

संल्गन : उपरोक्तनुसार

## प्रतिलिपि :-

-2

- SO (IT), North Block, MHA (Through E-mail) (E-mail address: <u>soit@nic.in</u>)
- IT Wing, FHQ BSF

: उपरोक्त गुणातमक आवश्यकता का मसौदा आपके सूचनार्थ एवं अग्रिम कार्यवाही हेतु।

(दिगेन्द्रे सिंह पॅवार) उप कमाण्डेंट (मोड)

 i) उपरोक्त गुणातमक आवश्यकता का मसौदा सीमा सुरक्षा बल की वैबसाईट पर 15 दिन यानि 28 सितम्बर 2021 तक अपलोड करने के लिए प्रेषित की जा रही है। उक्त मसौदे को सीमा सुरक्षा बल की वैबसाईट से दिनांक 29 सितम्बर 2021 को हटाने का श्रम करें। आपसे अनुरोध है कि उक्त मसौदे को निम्नलिखित पतों पर ई—मेल करने का भी श्रम करें:-(a) Technical Director, NIC, North Block, MHA (E-mail : mpsugandhi@nic.in) (b) SO (IT), North Block, MHA (E-mail : soit@nic.in)

## QUALITATIVE REQUIREMENT AND TRIAL DIRECTIVE FOR GROUND PENETRATING RADAR (HAND HELD)

S No.	PARAMETER	SPECIFICATION	Procedure suggested for trial for Board of Officers	Result expected / desired	Complied / Not
1.	Features	<ul> <li>i) The GPR system should be capable to detect metallic and non-metallic threats like IEDs, Pressure plates, wires and mines (Anti-Personnel &amp; Anti-Vehicle) etc.</li> <li>ii) The system must provide GPR data in real time to detect, investigate and mark IEDs or suspicious objects. GPR should</li> </ul>	Physically check GPR for the detection of metallic and non- metallic objects like IEDs, pressure plate wires and mines etc, underground in specific depth. Physically check the system for the detection of IEDs or suspicious objects by displaying the data in real time on LCD screen to investigate and mark the threats.	The GPR system must be capable to detect metallic and non-metallic threats like IEDs, Pressure plates, wires and mines (Anti-Personnel & Anti-tank) etc. The system must provide GPR data in real time to detect, investigate and mark the IEDs or suspicious objects.	Complicu
		have option of GPS logging, mapping feature for scanning.			
2.	Self-test	The system should have self- test feature to ensure the system operating properly with respect to the electronics and calibration between the device and the search head for its accuracy in terms of accurate depth measurement at all times.	Switch 'ON' the system and put it in self-test mode to ensure proper operation of the system.	The system must have self-test feature to ensure the system operating properly.	
3.	The system should be able to plot the threat on <b>LCD display</b> in real time. Operator's graphical display to be available in <b>English language and desirable in Hindi language.</b>		Check the detected threat indication on the <b>LCD display</b> .	The system must display the threat in real time on <b>LCD display</b> .	
4.	Availability of approximate Target depth indication for the operator on screen.		Physically check by the BOO.	The system must give approximate target depth.	
5.	Inbuilt GPR pre-programs (up to 7) to suit or work in different ground conditions (for e.g. Uneven ground, uneven wet ground, dry ground etc)		Physically check by the BOO.	The system must have Inbuilt GPR pre- programs (up to 7) to suit or work in different ground conditions (for e.g. Uneven ground, uneven wet ground, dry ground etc).	
6.	Low battery Indication( Audio/ visuals)		Physically check by the BOO.	The system must give Low battery Indication either Audio/ visual after that system must run minimum 30 minute.	

7.	False Alarm- 2%		Physically check by the POO Take	The system False Alarm rate should not	
1			35 motallia and nan matallia threate	he more than 2%	
			Uke IEDa Dagage and hon-metallic threats		
	•		ike IEDs, Pressure plates, wires and		
			mines (Anti-Personnel & Anti-		
			Vehicle) available with the users.		
			Make 50 pits at a distance to be		
			decided by the BOO in a single line.		
			Put metallic and non-metallic threats		
			like IEDs, Pressure plates, wires and		
			mines (Anti-Personnel & Anti-		
			Vehicle) in 35 pits out of 50 pits		
			randomly and make the record of 50		
			pits on paper in a tabular form by the		
			BOO The firm representative has to		
			swap 50 pits in sequence as decided		
			by the ROO 02 times Record of		
			detection should be maintained		
			detection should be maintained.		
8.	Manual/Automati	ic brightness sensor or adapt to	Physically check by the BOO.	The system must have	
	environment lighting conditions.			Manual/Automatic brightness sensor or	
				adapt to environment lighting conditions.	
9.	Automatic marking of co-ordinates on the map.		Physically check by the BOO.	The system must have Automatic	
				marking of co-ordinates on the map.	
10.	Separate error message for GPR and MD systems		Physically check by the BOO.	The system must have Separate error	
	ease troubleshooting.			message for GPR and MD systems ease	
4.4				troubleshooting.	
11.	Physical	Hold CPP System The weight	firm as per the user requirement of	The system provided must be as per the	
		of the GPR system should not	the user Weigh the GPR system	not be more than 4 kg including batteries	
		be more than 4 Kg including	with the weighing machine	and headphones.	
		batteries and headphones		and nonapriorito.	
12	Physical &	Hand Held GPR system			
	Technical	The detail physical & Technical			
	features	features of the hand held unit			
		are'-			

		(i) The system detection swath width should be 45 cms (minimum) and detection range 100 cms (minimum) underground (measure the detector swath width and check the detection range of an object dig underground). The swath width will be the length of the perimeter of search soil.	Measure the detector swath width and check the detection range of an object dig underground. Test target- Top of the objects having size 50x50 cm (maximum).	The system detection swath width must be 45 Cms (min) and detection range 100 Cms (min) underground.	
		<ul> <li>(ii) The sensor head should be attached to a ruggedized telescopic rod assembly suitable for a standing, kneeling &amp; prone person to scan the area.</li> </ul>	Check the system for having a ruggedized telescopic rod assembly. A standing person should be able to scan the area with the help of the system comfortably.	The sensor head must be supported by ruggedized telescopic rod assembly for scanning the area.	
		(iii) The sensor head should be attached to a ruggedized telescopic rod assembly suitable for a standing, kneeling & prone person to scan the area.	Check the system for having a ruggedized telescopic rod assembly. A standing person should be able to scan the area with the help of the system comfortably.	The system must have a ruggedized telescopic rod assembly suitable for a standing, kneeling & prone person to scan the area.	
		(iv) Control unit should have facility to control the sensitivity of detection and audio volume	Switch 'On' the system and check the detection of an object. Change the sensitivity of detection and observe its effect on detection. Check also the volume control for alarm audio	<ul> <li>The control unit must have sensitivity control for detection and volume control for alarm.</li> </ul>	
		(v) It should give accurate depth information with a tolerance of ± 10 cm.	Place a known target underground at a known depth and check its detection with in deviation of $\pm$ 10 cm.	The system must give threat position and depth information with in permissible deviation	
	2.8	(vi) It should have uniform and continuous detection throughout the sensor swath width.	Check the detection of a target at different locations under the swath width by keeping the position of detector swath fixed	The system must have uniform and continuous detection throughout the sensor swath width.	
		(vii) It should have modes i.e. metal detection mode, GPR mode and combined mode.	Switch 'ON' the system and put it in different modes as mentioned in the QRs Para and check the performance in each of the mode one by one.	The system must detect threats in different modes, as mentioned in QR.	

		(viii) It should have automatic soil compensation feature for use in mineral, sand and wet soil environment.	Check the system performance in different soil conditions like in sand, in available soil, in wet soil & salt mixed soil.	The system must have an automatic soil compensation feature to neutralise the mineral soil environment and perform effectively without affecting the sensitivity.	
		(ix) It must be capable to detect all type of mines/IEDs in all soil conditions.	Check the detection of the system for available mines/IEDs dug in different soil conditions as in Para (viii).	It must be capable to detect all type of mines/IEDs indifferent soil conditions	
		<ul> <li>(x) The audio alarm should be through inbuilt buzzer / speaker and head phone</li> </ul>	Check the detection alarm in system control unit and also through head phone.	The system must give audio alarm through inbuilt buzzer / speaker and head phone.	
		<ul> <li>(xi) The system should be operated on rechargeable battery. The battery should run the system for minimum 8 hours continuously operational mode on single charge.</li> </ul>	Physically check the system operation on rechargeable battery provided. Check the continuous run time of the system on fully charged rechargeable battery provided and note down the continuous run time.	The system must operate on rechargeable battery. The battery must run the system continuously for 8 hours on single charge.	
		(xii) A suitable battery charger should be provided to charge the battery/ batteries within 5 hrs (min).	Charge a fully discharged battery with the battery charger provided with the system and note down the time to get fully charge.	Battery charger provided must recharge a fully discharged battery within 5 hrs (min).	
		(xiii) The charger should have the provision to charge the battery from 100 V to 240 V AC mains supply and DC source from 12V/24V.	Check the battery charger operation on AC mains power supply by varying it from 100 to 240 volts. Also check the charger operation on DC source from 12 V/24 V	The battery charger provided must have the facility to charge the battery from 100 to 240 volt AC mains supply and from DC 12 V/24 V	
		<ul> <li>(xiv) The system should have data storage facility through external memory card of 16 GB or inbuilt memory system of minimum 4GB.</li> </ul>	Check the system for the facility of external memory card and inbuilt memory system for data storage.	The system must have data storage facility through either external memory card of 16 GB capacity or internal inbuilt memory system of minimum 4 GB.	
13.	Transportation	A ruggedized transportation box and water proof canvas carrying case should be provided which accommodates the system with all accessories comfortably. Should be complied with IP 65.	<ul> <li>Check the transportation box and canvas carrying case for accommodation of system with all accessories.</li> <li>Check the National/International accredited lab certificate/report in respect of ruggedness of transportation box.</li> </ul>	<ul> <li>The transportation box and canvas carrying case must accommodate the system with all accessories comfortably.</li> <li>The firm must provide the National/ International Accredited lab certificate/report in respect of the transportation box. In case of any</li> </ul>	

			<ul> <li>Check the canvas carrying case for water proofing.</li> </ul>	<ul> <li>doubt in the test report, the veracity of the same may be checked from the concerned lab.</li> <li>Canvas carrying case must be water proof</li> </ul>	
14.	EMI & EMC	The system must confirm to lay down EMI and EMC specifications.	Check the National/International accredited lab certificate/report in respect of the same.	The firm must provide the National/ International Accredited lab certificate/report in respect of EMI & EMC specifications. In case of any doubt in the test report, the veracity of the same may be checked from the concerned lab.	
15.	System Ruggedness	The system (GPR) must conform to MIL standard 810F or better. For system- IP67 For search head-IP67 Drop test- 3m within box	Check the National/International accredited lab certificate/report in respect of the same.	The firm must provide the National/ International Accredited lab certificate/report in respect of the same. In case of any doubt in the test report, the veracity of the same may be checked from the concerned lab.	
16.	02 additional Batteries (Optional)	To be decided by the user department at the time of indent.	Not to be evaluated at the time of physical evaluation.		
17.	User Manual and Operation Instructions	Detailed instructions technical literature with schematic diagram, maintenance manual and Inspection standards be provided with the equipment.	Not to be evaluated at the time of physical evaluation.		

तकनीकी विशेषज्ञों के उप समूह द्वारा यह निश्चित किया गया है कि उक्त गुणातमक आवश्यकता को अधिक बेहतर बनाने के लिए गृह मंत्रालय एवं सीमा सुरक्षा बल की वैबसाईट पर विकेताओं/फर्मों के सुझाव प्राप्त करने हेतु 15 दिनों के लिए अपलोड किया जाए।

नोट – सभी विकताओं / फर्मों से निवेदन है कि अपने सुझावों के साथ निम्नलिखित कागजात संल्गन कर ई–मेल पता comdtord@bsf.nic.in पर भेजने का श्रम करें:–

1. उत्पाद की वास्तविक विवरण पुस्तिका।

2. उत्पाद की साहित्यिक रचना का ब्यौरा।

3. गुणातमक आवश्यकताओं के उपर व्यापक टिप्पणीयाँ।

(दिगेन्द्र<sup>)</sup> सिंह पॅवार)

उप कमांडेण्दे (आधुनिकीकरण)