




**Government of India
Ministry of Home Affairs
Directorate General National Security Guard
(Provisioning Branch/Ord Section)
Mehram Nagar, Palam, New Delhi-110034
Fax No. 011-25663258/25671639**

P/604/20/389/HH RTVS/Prov/Ord/NSG/

Dated : 16 November 2021

**FORWARD OF FINAL QUALITATIVE REQUIREMENT (QRs) AND TRIAL DIRECTIVES
(TDs) OF HANDHELD/WIRELESS REAL TIME VIEWING SYSTEM (RTVS)**

1. Final QRs and TDs in respect of Handheld/Wireless Real Time Viewing System (RTVS) is forward herewith duly signed by the competent authority.
2. It is requested to upload the same on MHA Website at the earliest please.

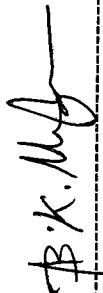
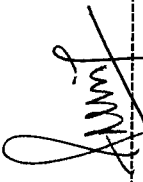





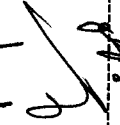



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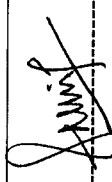

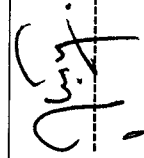
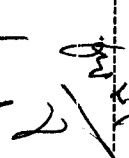
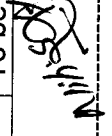


Technical Director, NIC, North Block, New Delhi

QR/TDs OF HAND HELD/ WIRELESS REAL TIME VIEWING SYSTEM:29 SEP 2021

<u>S No</u>	<u>QR</u>	<u>Trial Directives</u>
1.	Handheld Real Time Viewing System is a compact portable X-Ray machine that can be carried in a backpack by a single individual and is designed to take digital 16 bit X-Ray image on the spot to locate power source, mechanism, detonator, explosive materials etc in any concealed suspicious boxes/enclosure items. The Hand Held Real Time Viewing System should have a compact Imager, X-Ray Source, Hand held tablet and Accessories as per below mentioned specifications	1. The BOO to take X-Rays of various IED Models to include : (a) Plastic Briefcase (b) stainless steel/tool Steel Pipe Bomb (c) School Bag (d) Stainless steel Tiffin Box 2. The system should be able to generate good quality X-Rays wherein various components which includes power source, mechanism, detonator, explosive materials in any concealed suspicious boxes/enclosure items
2.	<p>IMAGER</p> (i) Imaging Area should be minimum 30 cm X 35 cm. (ii) Maximum width of imager size should not exceed 2.5 cm. (iii) Bipod imager holder to be provided to hold the imager (iv) Imager should be flat panel detectors of solid-state x-ray digital radiography using amorphous silicon or Linear detector array or better. (v) Image Area Position: 8 mm or less from ground level. (vi) Imager weight: Less than 5 Kg ±15% with rechargeable battery.	To be physically checked by BOO To be physically checked by BOO To be physically checked by BOO Firm to furnish OEM Certificate. To be physically checked by BOO To be physically checked by BOO To be physically checked by BOO

<u>S No</u>	<u>QR</u>	<u>Trial Directives</u>
2.	(vii) Dynamic Range / Bit Depth of the Imager should be True 16 bit or better. (viii) Image quality should of high quality with high 16 bit resolution or better. (ix) Imager should have inbuilt wireless data transfer. (x) Seamless wireless connection from Imager to control/ display unit. (xi) Continuous working time of the Imager not less than 4 hrs. (xii) The Imager and X-Ray generator to be IP 53 rated or better. (xiii) User friendly to use. (xiv) The system should facilitate ROV and Tripod mounting facility.	Firm to furnish OEM certificate. Firm to furnish OEM certificate. To be physically checked by BOO To be physically checked by BOO To be physically checked by BOO Firm to furnish National/international accredited lab certificate. To be physically checked by BOO To be physically checked by BOO
3.	<p><u>X-Ray Source</u></p> (i) The X-Ray source should be Pulsed or constant potential X-Ray Source. (ii) The X-Ray source should not have any radioactive material. (iii) Penetration: Should be able to penetrate minimum 25 mm of stainless steel/tool steel.	Firm to furnish National/international accredited lab certificate. To be physically checked by BOO. Firm to furnish AERB "TYPE APPROVAL" To be physically checked by BOO Detonators No 27 or 33 or all commercially available detonators or dummy detonators wherein various components which includes power source, mechanism, explosive materials in any concealed suspicious boxes/enclosure items should be clearly identified To be physically checked by BOO

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<u>S No</u>	<u>QR</u>	<u>Trial Directives</u>
3.	<p>(iv) The X-Ray source should be of 100 KVP or more energy.</p> <p>(v) The weight of X-Ray source with battery should be less than 6.5 Kgs.</p> <p>(vi) Less X-Ray dose safe for use as certified by AERB.</p> <p>(vii) The X-Ray source to be remotely operable through wireless option with only small connector from X-Ray Source to the ruggedized MIL STD 810 G/ Lemo connector of the wireless module.</p> <p>(viii) The X-Ray Source to be operated with standard commercial available rechargeable batteries in open market.</p> <p>OEM should give undertaking for the same.</p> <p>(ix) The system should facilitate ROV and Tripod mounting facility.</p> <p>(x) The X Ray source must enable Dual energy mode</p>	<p>Firm to furnish National/international accredited lab/AERB certificate.</p> <p>To be physically check the authenticity of the certificate by BOO To be physically checked by BOO</p> <p>Firm to furnish AERB "TYPE APPROVAL" to be physically checked by BOO</p> <p>To be physically checked by BOO</p> <p>To be physically checked by BOO</p> <p>Compatibility with type of ROV to be decided at the time of indenter agency To be physically checked by BOO To be physically checked by BOO</p>

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<p>4.</p>	<p>Display Unit</p> <p>(i) The display unit should be ruggedized tablet of MIL Std 810 G with minimum 10" screen size with HD daylight-readable with intel core i5 or latest processor, 8 GB RAM, 256 GB SSD Hard Disk, latest Operating System and USB connectors</p> <p>(ii) The display unit should be completely touch screen for easy operation.</p> <p>(iii) The display unit weight with battery to be less than 1.5 Kgs.</p> <p>(iv) The display unit should be working on normal windows operating system.</p> <p>(v) The display unit should be IP53 or better.</p>	<p>Firm to furnish OEM certificate.</p> <p>To be physically checked by BOO.</p> <p>To be checked by BOOs</p> <p>Firm to furnish OEM Certificate/ Data Sheet</p> <p>A certificate be provided by Firm from Govt recognized LAB</p>
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<u>S No</u>	<u>QR</u>	<u>Trial Directives</u>
5.	<u>System Accessories</u>	
	(i) Communication: Efficient Wireless data transfer. The wireless range should be minimum 200 meters (line of sight) without repeaters between imager and display unit and wireless data transfer between imager and x ray source.	To be checked by the BOO by operating the system from a distance of 200m. LOS distance between the imager and the Control Unit to be 200m
	(ii) Continuous working stand by time not less than 4 hours.	To be physically checked by BOO
	(iii) 110- 220V AC Battery Charger for the Display Unit (Tablet), X-Ray Source and imager along with spare battery to be provided with each equipment.	To be physically checked by BOO
	(iv) Provision of separate charging facility of Imager, X Ray Generator and Control/ display Unit simultaneously.	To be physically checked by BOO
	(v) The operating manual should be provided with each equipment.	To be physically checked by BOO
	(vi) The system should also operate on wired facility, 30 meter wire to be provided by the firm with option to extend the length with suitable Mil Grade connectors, in case of requirement. The weight of wire is excluded from total weight of the system	To be physically checked by BOO

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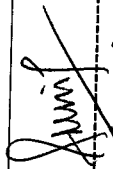
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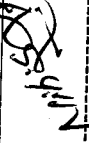
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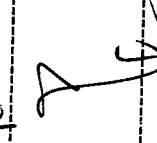
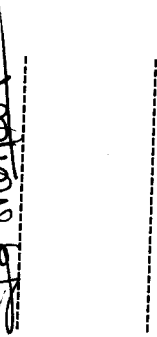
<u>S.No</u>	<u>QR</u>	<u>Trial Directives</u>
5.	<p>(vii) The display unit should come with the software having the following features :-</p> <p>(a) Software which allows for taking just one image and enhancing both the easy to penetrate and difficult to penetrate objects on the same image showing everything with just one touch and highlighting all the threats.</p> <p>(b) Image enhancement, 800% Zoom, Visual Data Base including picture name, time, Date & description and annotations.</p> <p>(c) Split screen capabilities, Audible and Visual warning during X-Ray activation.</p> <p>(d) Window Leveling, sharpening of images, Tilting/Rotation of an image and on screen measurement facility, etc.</p> <p>(e) <u>Software up gradation</u> Feature for Software Up gradation should be available.</p> <p>(f) The software should provide image stitching facility.</p> <p>(g) <u>Operational weight</u></p> <p>Overall operational weight of equipment including back pack, spare batteries and charger should not exceed 25 kgs.</p>	<p>To be physically checked by BOO</p> <p>To be physically checked by BOO</p> <p>To be physically checked by BOO</p> <p>To be physically checked by BOO</p> <p>To be physically checked by BOO</p> <p>To be physically checked by BOO</p> <p>To be physically checked by BOO</p> <p>To be physically checked by the BOO</p>
6	<p><u>Misc</u></p> <p>(a) OEM to provide Manufacturer Recommended List of Spares along with self-declaration certificate.</p> <p>(b) OEM to provide technical literature and maintenance manual.</p> <p>(c) OEM to provide all Complete Equipment Schedule (CES) items.</p>	<p>OEM to furnish self-declaration certificate. To be checked physical by the BOO.</p> <p>OEM to furnish self-declaration certificate. To be checked physical by the BOO</p> <p>OEM to furnish self-declaration certificate. To be checked physical by the BOO.</p>

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	<p>Training.</p> <p>a) OEM authorised firm to provide operator level training for operation.</p>	<p>OEM authorized firm to furnish self-declaration certificate.</p> <p>To be checked physical by the BOO.</p>
	<p>(b) OEM authorized firm to provide operator level training for repair and maintenance of the equipment.</p>	<p>OEM authorized firm to furnish self-declaration certificate.</p> <p>To be checked physical by the BOO.</p>
	<p>Packaging Ruggedized carrying case as per Mil std 810 G to be provided for storage and transportation</p>	<p>To be physically checked by BOO.</p>

B.K. Mf
 MAJ KIRUTHI MURUGAN
 (BD UNIT, NSG)

Amif
 MAJ ANKIT DUHOON
 (TCWE, HQ NSG)

Finj
 MAJ NARUL KAUSHIK
 (SC, R&R SON (y))

Nishidh
 NK TOMAR DC
 C/ISF

Ja Shankar
 DAYA SHANKAR
 INSPECTOR / EXC
 C/ISF, 13D

Junjo
 C. RAJAN, AC (Cano)
 SSB

NTG
 INSPIRM
 MANISH RAJ
 S/IO, BSE

Subhadur
 SUBHADUR
 CHAND
 (COAR)

Empire
 EMPRE
 S/IO

B
 APPROVED / NOT APPROVED

M. Ganapathy

DATE: 08 OCTOBER 2021

(MA Ganapathy, IPS)
 DG, NSG