मुख्यालय राष्ट्रीय सुरक्षा गारद
गृह मंत्रालय (भारत सरकार)
सम्भरण शाखा (आयुद्व अनुभाग)
मेहरम नगर, पालम, नई दिल्ली-37

संख्या-/604/25/389/ई0155789/संभरण(ऑर्डनेंस)/मु0रा0सु0गा0/1843 दि0 17 नवम्बर 2026

विषयः <u>मिनी रिमोटली ऑपरेटेड व्हीकल (Mini Remotely Operated Vehicle) के परिशोधित गुणात्मक आवश्यकता (क्यू.आर.) और परीक्षण निर्देशों (टी.डी.) का प्रेषण ।</u>

तकनीकी विशेषज्ञों के उप समूह द्वारा किए गये सूत्रीकरण एवम महनिदेशक, राष्ट्रीय सुरक्षा गारद द्वारा अनुमोदित **<u>मिनी रिमोटली ऑपरेटेड व्हीकल (Mini Remotely Operated Vehicle)</u>** के परिशोधित गुणात्मक आवश्यकता (क्यू.आर.) और परीक्षण निर्देशों (टी.डी.) को अग्रिम कार्यबाही हेतु प्रेषित किया जाता है ।

संलग्न- उपरोक्तानुसार

17/11/26

(राजेश रंजन)
ग्रुप कमांडर (क्रय)
फोन- 011-25663100
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<u>वितरण</u> :

1.	संयुक्त सचिव (पुलिस आधुनिकीकरण), गृह मंत्रालय, जेसलमेर हाउस, नई दिल्ली । ई0मेल: us-prov2@mha.gov.in	सूचनार्थ हेतु ।
2.	वरिष्ठ तकनिकी निदेशक, एन0आई0सी0, गृह मंत्रालय, नार्थ ब्लाक, नई दिल्ली । ई0मेल: soit@nic.in mpsugandhi@nic.in	आपसे अनुरोध है कि उपरोक्त क्यू0आर0/टी0डी0 को गृह मंत्रालय के वेबसाईट पर पुलिस आधुनिकीकरण डिविजन-क्यू0आर0- कैटगरी – BDDS Equipment में दर्शाये जा रहे क्यू0आर0/टी0डी0 को मिटाते हुए संलग्न परिशोधित क्यू0आर0/टी0डी0 को गृह मंत्रालय के वेबसाईट पर ऑपलोड करने का कष्ट करें ।
3.	महानिरीक्षक/निदेशक (आर0एण्ड डी) ,बी0पी0आर0एण्ड डी0, महिपालपुर, नई दिल्ली । ई0मेल- igmod@bprd.nic.in/dd-mod@bprd.nic.in	
4.	अतिरिक्त महानिदेशक, पी0पी0 एण्ड टी0, रूम संख्या- 37, एच ब्लाक, डी0जी0क्यू0ए0, भारत सरकार, रक्षा मंत्रालय, रक्षा उत्पादन विभाग, गुणवत्ता आश्वासन निदेशालय, नई दिल्ली । ई0मेल: saarmt-dgqa@gov.in	
5.	उप महानिरीक्षक (सम्भरण), के0रि0पु0बल, केन्द्रीय कार्यालय परिसर, लोदी रोड, नई दिल्ली । ई0मेल: digprov@crpf.gov.in/ dcord@crpf.gov.in	
6.	उप महानिरीक्षक (सम्भरण), सी0सु0बल, केन्द्रीय कार्यालय परिसर, लोदी रोड, नई दिल्ली । ई0मेल : digprovfhq@bsf.gov.in / comdtord@bsf.nic.in	
7.	उप महानिरीक्षक (सम्भरण), के0औ0सु0बल, केन्द्रीय कार्यालय परिसर, लोदी रोड, नई दिल्ली । ई0मेल : digprov@cisf.gov.in, aigtech@cisf.gov.in	
8.	उप महानिरीक्षक (सम्भरण), भा0ति0सी0पु0, केन्द्रीय कार्यालय परिसर, लोदी रोड, नई दिल्ली । ई0मेल : digprov@itbp.gov.in/digcommn@itbp.gov.in	
9.	उप महानिरीक्षक (सम्भरण), एस0एस0बी0, आर0के0पुरम0, नई दिल्ली । ई0मेल: digprov@ssbdel.in/ cr.ssbdel@nic.in	

10.	उप महानिरीक्षक (सम्भरण), असम राईफल, (एल0ओं0ए0आर0 द्वारा) ई0मेल : loar-mha@nic.in
11.	ग्रुप कमांडर, ऑप्स (डब्लू0ई0), मु0रा0सु0 गारद - सूचनार्थ एवं आवश्यक कार्यवाही हेतु ।
12.	मुख्यालय, सी0टी0एफ0 /बी0डी0 यूनिट, रा0सु0 गारद - सूचनार्थ एवं आवश्यक कार्यवाही हेतु ।
13.	Nodal Officer (GeM) - सूचनार्थ एवं आवश्यक कार्यवाही हेतु । ई0मेल: advisor-di@gem.gov.in
14.	हिन्दी सेल, मु0 रा0सु0गा0 को इस आशय के साथ है कि उक्त क्यू0आर0/टी0डी0 का हिन्दी रूपान्तरण कर 03 दिन के अन्दर प्रस्तुत करने हेतु ।

REVISED QRs & TDs OF MINI REMOTELY OPERATED VEHICLE (MROV)

S No	Parameters	QRs/ Specification	Trial directives
1.	EOD surveillance	The Mini ROV should be able to carry out EOD and surveillance of the following structures/ installation:-	To be physically checked by the BOO.
		(a) Inside aircraft and train.	
		(b) Building and installation.	
		(c) Bus station/Metro station/ Rly stn.	
		(d) Passenger Terminals.	
		(e) On ferries and ships.	
		(f) Exterior and interior of all types of vehicles.	
2.	Weight of Mini ROV	The operational unladen weight of Mini ROV including control unit, battery and modular/ fixed arm should not be more than 110 kg.	To be physically checked by the BOO.
3.	Climbing of Mini ROV	(a) Mini ROV should be able to climb up and down stair case of standard dimension and slope of at least 45 degree along with minimum weight of 8 Kg. (b) MROV should have provision of varying speeds with and without load. The ROV should not topple while negotiating the stairs/ slope.	Mini ROV to be operated to climb up and down a stair case/ slope of at least 45 degree along with weight of 8 kgs.
4.	Boom extension	The unextended length of mini ROV should not be less than 1 metre and it should be extendable upto 2.5 m or more from ground level vertically.	To be physically checked by the BOO.

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S No	Parameters	QRs/ Specification	Trial directives
5.	**Cameras**	The Mini ROV should have the following video cameras:-	In addition to certificates from the OEM the parameters to be physically checked by the BOO.
	(a) Front and rear video cameras	Front and rear video cameras with IR capabilities and range of minimum of 3 meters. (i) Resolution : Minimum Full HD (ii) Field of View : ≥120° wide-angle	
	(b) **PTZ Camera (Day & Night)** The camera should be programmed for target tracking (Optional Feature for PTZ Camera) **PTZ Fusion Camera (Optional)** If user needs a fusion PTZ camera with day & night capability instead of only PTZ camera, the same will be supplied by the vendor at the option of the bidder. **Specs to be specified by user**	PTZ (day & night) camera having Tilt (-90 to +90 degrees) and PAN (0-360 degrees) with capabilities to recognize human form factor at minimum 200 meters (Day) & 10 meters (Night). (i) Resolution : Full HD (1920×1080) or higher (ii) Optical Zoom: **10x to 30x** (iii) PAN: Continuous 360° rotation (iv) Tilt : –90° to +90° (v) Low Light Performance : Starlight CMOS or equivalent (vi) Image Stabilisation: Electronic Image Stabilisation (EIS) (vii) Autofocus & Auto Exposure for dynamic scenes.	
	(c) Video camera at claw	Video camera at claw with thermal capability should be able to recognize human form factor at minimum 200 meters. (i) Thermal imaging capability (integrated or auxiliary) (ii) Detection range - Human form factor at min 200 mtrs. (iii) The claw of MROV should have facility to fix thermal camera as well as day camera. (iv) **Optional**. Laser pointer or digital scale overlay for depth perception to be displayed at Base station (to be Mentioned in Bid document if opted/ required by user)	

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S No	Parameters	QRs/ Specification	Trial directives
	(d) Aiming video camera	Aiming video camera for firing with IR capability and range of minimum 10 meters. (i) Resolution : Minimum Full HD. (ii) IR capability for night operations. (iii) Shock isolated mounting. (iv) Bore sight/ alignment Calibration capability. Method for bore sighting of weapon (electronic alignment of camera's optical reticle with exact center of the Gun barrel) with aiming video camera to be incorporated in design. **OPTIONAL** Requirement of type of mount for water disruptor to be specified by user during bidding.	To be physically checked by the BOO. Firing of De Armr disrupter to be carried out.
6.	**Attachments**	The Mini ROV should have the following attachments:-	
	(a) Weapon mounting system	Modular mount for SMG/AK-47 or similar weapons system as specified by the user to be provided. The type of weapon intended to be used should also be provided by the user. Amn will be provided by the user/ indentor. The weapon will be mounted on ROV in fixed firing mode for testing accuracy.	To be physically checked by the BOO by firing five rounds of Amn each from SMG/AK-47 or similar weapons system.
	(b) De-Armr Disrupter mounting	(i) Modular mount for De-Armr Disrupter to be provided. (ii) During STEC, firms may use their custom made disruptor mount for field trials , however at the time of delivery of stores, firm shall provide custom made disruptor mount as per user requirement. All participating firms must submit undertaking that they will provide disruptor mount as per user requirement.	To be physically checked by the BOO.
	(c) RTVS mounting	Modular mount for RTVS to be provided (Should be capable to take X-Ray with RTVS). Type/model of RTVS should be defined by user.	To be physically checked by the BOO.
7.	Laser aiming	Mini ROV should be able to aim with the help of both the camera and the laser aiming pointer.	To be physically checked by the BOO.
8.	Lifting capability	Mini ROV should have a lifting capability of minimum 8 kgs with telescopic boom fully extended (Horizontally).	To be physically checked by the BOO.

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S No	Parameters	QRs/ Specification	Trial directives
9.	Spot lights/ LED	The Mini ROV should have spot lights/ LED for both driving cameras and for aiming camera should be compatible with video camera.	In addition to certificates from the OEM the parameters to be physically checked by the BOO.
10.	Malfunction detection	The Mini ROV should have a malfunction detection and display unit.	To be physically checked by the BOO.
11.	Use of COFDM technology	Use of COFDM technology in data, audio & video transfer between the ROV and the base station.	OEM certificate for compliance will be the acceptance criteria.
12.	**Optimum Output**	The Mini ROV should be able to give its optimum output in the under mentioned areas/ ranges:-	
	(a) Urban/ Built up area	Radio control in urban/ built up area up to 200 m.	To be physically checked by the BOO.
	(b) Open area	Radio control in open area up to 500m.	To be physically checked by the BOO.
	(c) Fiber optic control	Fiber optic control min-upto 200m with self-retractable cable assembly.	To be physically checked by the BOO.
	(d) Taking X-Ray	Capability to take X-Ray with X-Ray mount assembly/ Real Time Viewing System in all terrains.	To be physically checked by the BOO.
13.	EMI/EMC compatibility	The Mini ROV should be EMI/EMC compatible.	OEM to furnish certificate from any national/ international accredited lab.
14.	EOD options/ resources	Mini ROV should have the following EOD options/ resources with the claw:-	
		Pipe holding grip.	To be physically checked by the BOO.
		Spike grip.	To be physically checked by the BOO.
		Beak grip.	To be physically checked by the BOO.
		Box cutter.	To be physically checked by the BOO.
		Glass breaker.	To be physically checked by the BOO.
		Tyre Deflator.	To be physically checked by the BOO.
		Line for towing veh.	To be physically checked by the BOO.
		Optional Feature. Wire Cutter (to be specified by user during bidding).	To be physically checked by the BOO.

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S No	Parameters	QRs/ Specification	Trial directives
15.	**Power supply**	The power supply of the Mini ROV should have the following:-	
	(a) Rapid recharge	Rapid rechargeable lithium-ion or better battery.	To be physically checked by the BOO.
	(b) Battery compatibility	The battery should be able to support all ops of the Mini ROV for a continuous duration of not less than 04 hours.	Mini ROV to be physically operated on battery for more than 04 Hrs.
	(c) Spare battery	Firm to provide spare battery for both Mini ROV and base station with charger.	To be physically checked and tested by the BOO.
16.	Microphone	Mini ROV should have a sensitive microphone to pick up acoustic signature within a radius of 15 feet of Mini ROV.	To be physically checked and tested by the BOO.
17.	**Base station**	Base station of the Mini ROV should have the following features:-	
	(a) Weight	Compact and light weight.	To be physically checked by the BOO.
	(b) Control panel	Portable Hybrid (Wired and wireless both) control panel to be provided.	To be physically checked by the BOO.
	(c) Display unit	The display unit at base station should have LCD screen of min 15" with capability of simultaneously displaying at least 04 on board cameras in one screen and each camera output separately on the screen.	To be physically checked by the BOO.
	(d) Power	Capable of being powered on mains and bty both.	To be physically checked by the BOO.
	(e) Joystick control	Should have joystick control.	To be physically checked by the BOO.
	(f) Safety features	Should have inbuilt safety features like POST, BITE etc.	To be physically checked by the BOO.
	(g) Operational controls	Should have essential operational controls.	To be physically checked by the BOO.
	(h) Listen and record the voice	Should have capability to listen and record voice signature being pickup by the microphone on board the ROV with at least 1TB of hard disk provided for recording on board.	To be physically checked by the BOO.
	(j) Transmission of video	Should have a USB/HDMI port for transmission of surveillance feed being received from Mini ROV to command and control center.	To be physically checked by the BOO.

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S No	Parameters	QRs/ Specification	Trial directives
18.	Operating temperature	The operating temperature of the Mini ROV should be (-) 10 degree C to (+) 55 degree C	OEM to provide National / international accredited lab certificate.
19.	Environmental conditions	IP 65 or better for complete system	OEM to provide National / international accredited lab certificate. BoO will check the certificate.
20.	Carrying cases	Suitable non metallic (except Wooden) wheeled hard cases for safety of Mini ROV and associated accessories to be provided.	To be physically checked by the BOO.
21.	Miscellaneous	Miscellaneous. The firm will provide the following documents/ literature (in English language) alongwith the equipment:-	(a) For technical literature, undertaking by the OEM/firm, to provide the technical literature along with the delivery of the equipment will be obtained. (b) Remaining items to be physically checked by the BOO.
		(a) Technical manual with full description of all the item.	
		(b) User handbook	
		(c) Literature on care and preservation technique/ methods.	
		(d) Specifications for packing handling/ transportation/storage.	
		(e) Details regarding periodical check to be carried out by the user for serviceability of the equipment.	
22.	Recording, Storage & Forensic Support	(a)Time and date stamping. (b)Exportable media suitable	To be physically checked by the BOO.

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23.	System Integration & Modularity	(a)Camera modules shall be modular and replaceable. (b) Compatible with future sensor upgrades. (c)Minimal latency during live feed transmission.	To be physically checked by the BOO.
24.	Turning Radius	Zero Mtr (The ROV should be able to swivel around its vertical axis.	To be physically checked by the BOO.
25.	Negotiability	The MROV should be able to negotiate water logged surface having upto 150mm depth of water.	To be physically checked by the BOO.
26.	Ramp	Suitable Ramp will be provided by the vendor.	To be physically checked by the BOO.

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