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No. IV-17018/3/07-Prov-I **/639** भारत सरकार/Government of India गृह मंत्रालय/Ministry of Home Affairs पुलिस आधुनिकीकरण प्रभाग /Police Modernization Division संभरण-I डेस्क/Prov.I Desk

> 26, Man Singh Road, Jaisalmer House, New Delhi, the 24th August, 2015.

DsG : AR (through LOAR), BSF, CISF, CRPF, ITBP, SSB, NSG & BPR&D.

Subject : Revised QRs and Trial Directives for Mini Remotely Operated Vehicles.

The revised QRs and Trial Directives in respect of Mini Remotely Operated Vehicles as per the Annex-I and Annex-II respectively have been accepted by the Competent Authority in MHA.

2. Henceforth, all the CAPFs should procure the above item required by them strictly as per laid down Technical Specifications/QRs.

3. Concerned CAPF will be accountable for correctness of the QRs/Trial Directives.

Yours faithfully,

Under Secretary to the Govt. of India

Encl.: As above.

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To.

Copy to : SO(IT), MHA : with the request to host the revised QRs and Trial Directives of Mini Remotely Operated Vehicles on the website of MHA (under the page Organizational Set up-Police Modernization Division-Qualitative Requirements – BDDS Equipment), soft copy being sent through email.

Copy to : DDG(Procurement), MHA.

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Annexuse-1, to U.O. No. IV-17018/03/07-Kov-I d1.24-08-15

REVISED QRs : MINI ROV

1. The Mini ROV should be able to carry out EOD and Surveillance of the following structures/installations :-

(a) Inside aircraft and train.

(b) Bldg and Installations.

(c) Bus Station/Metro Station/ Rly Station

(d) Passenger Terminals.

(e) On Ferries and Ships

(f) Exterior and Interior of Veh.

2. The weight of the Mini ROV should not be more than 110 kgs incl the Mini ROV base station.

3. The Mini ROV should be able to climb up and down a stair case/slope of at least 45 degree along with weight of 8 kgs and should have minimum two speeds.

The Mini ROV should be able to operate in all types of weather conditions.

5. The Telescope Boom of Mini ROV should extend minimum 01 mtr and max 2.5 mtrs or more from the ground/floor level and should be modular in nature wherein it can be fixed/removed easily.

5 The Mini ROV should have the fwg video cameras -

- (a) Front and rear video cameras with IR capability and range of minimum 3 meters.
- (b) PTZ fusion (day & night) camera having PAN (-45 to +45 degrees) & Tilt (0-360 degrees) with capability to recognize human form factor at minimum 200 meters. The camera should posses minimum 10x Optical zoom capability.
- (c) Video Camera at claw with thermal capability with capability to recognize human form factor at minimum 200 meters.
- (d) Aiming Video camera for firing with IR capability and range of minimum 10 meters.

7. The Mini ROV should have the following attachments :-

(a) Modular mount for weapon systems. (SMG MP5 & Shot Gun)

- (b) Modular mount for De-Armr Disrupter
- (c) Modular mount for RTVS (should be capable to take X-Ray with RTVS).
- Mini ROV should be able to aim with the help of both the camera and the laser aiming pointer.

Mini ROV should have lifting capability of minimum 8 Kgs with telescopic boom fully extended.

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10. The Mini ROV should have spot lights/LED for both driving cameras and for aiming camera and should be compatible with video camera.

11. The Mini ROV should have a malfunction detection and display unit.

12. Use of COFDM technology in data, audio & video transfer between the ROV and the Base Station.

13. The Mini ROV should be able to give its optimum output in the under mentioned areas/ranges :-

- (a) Radio Control in Urban/Built up area upto 200m.
- (b) Radio control in open area- upto 500m.
- (c) Fibre Optic Control min- upto 200m with self retractable cable assembly.
- (d) Capability to take X-Ray with X-Ray mount assembly/Real Time Viewing System in all terrains.

14. The Mini ROV should be EMI/EMC compatible (certificate from national/international t_y accredited lab to be produced).

15. Mini ROV should have the following EOD options/resources with the claw :-

- (a) Pipe holding grip.
- (b) Spike Grip.
- (c) Beak Grip.
- (d) Box Cutter.
- (e) Glass breaker.
- (f) Tyre Deflator.
- (g) Line for towing veh

16. The Power Supply of the Mini ROV should have the following :-

(a) Rapid rechargeable lithium-ion battery

(b) The battery should be able to support all ops of the Mini ROV for a minimum duration of not less than 04 hrs.

(c) Firm to provide spare battery for both Mini ROV and base station with charger.

17. Mini ROV should have a sensitive microphone to pickup acoustic signature within a radius of 15 feet of Mini ROV.

- 18. Base Station of the Mini ROV should have the following features :-
 - (a) Compact and light weight.
 - (b) Portable control panel.

(c) 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.

- (d) Capable of being powered on mains and bty both.
- (e) Should have joystick control.
- (f) Should have inbuilt safety features.
- (g) Should have essential operational controls.
- (h) Should have capability to listen and record voice signature being picked up by the microphone on board the ROV.
- (j) Should have a S-Video/ BNC video out port for transmission of surveillance feed being received from mini ROV to Command & Control center.

19. The operating temperature of the Mini ROV should be (-) 10 degree C to (+) 55 degree C (OEM/firm to provide certificate from national/internationally accredited lab).

20. Suitable pelican cases for safety of Mini ROV and associated accessories.

21. <u>Miscellaneous</u>. The firm will provide the following documents/ literature (in English language) along with the equipment :-

- (a) Technical Manual with full description of all the items.
- (b) User's Hand Book.

(c) Literature on care and preservation technique/methods.

(d) Specifications for packing handling/transportation/storage.
 (e) Details regarding periodical checks to be carried out by the user for

serviceability of the equipment. A.L Pel Kaba AURISHNA SILT MANSH RAJ. z BD unit D , prw) fra.) use

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Approved/Not approved

(Subhash Joshi)

Director General, NSG

TRIAL DIRECTIVES OF MINI ROV

<u>No</u>		<u>QR of Mini ROV</u>	Trial Directives	Remarks
1.	carr	Mini ROV should be able to yout EOD and Surveillance of wg structures/ installations :-	o f	
	(a)	Inside aircraft and train.	To be physical checked by BOO.	ly
	(b)	Bldg and Installations.	To be physical checked by BOO.	ly -
-	(C)	Bus Station/Metro Station/ Rly Station	To be physical checked by BOO.	ly
	(d)	Passenger Terminals.	To be physical checked by BOO.	y .
	(e)	On Ferries and Ships		y In case feasible.
5	(f)	Exterior and Interior of Veh.	To be physicall checked by BOO.	y
	incl th	d not be more than 110 kgs ne Mini ROV base station.		of Mini ROV, base station and incl all accessories required to make Mini ROV fully operational. Wr of carrying case, user manual and cleaning kit not to be included in the total wt.
c a s	limb ase/s		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.	
_ 0		lini ROV should be able to e in all types of weather ons.	OEM certificate for compliance will be acceptance criteria.	1
a	hould nd m	elescope Boom of Mini ROV extend minimum 01 mtr ax 2.5 mtrs or more from bund/floor level and should	To be checked by the BOO.	-1 ⁴ 4 17. N ²⁴

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6	Ser *io	QR	of Mini ROV	Trial Directives	Remarks
	6.	1	Mini ROV should have the wing video cameras :-	and the second sec	en. Series and a series of the
(M)	2	(a)	Front and rear video cameras with IR capability and range of minimum 3 meters.		
	175 15 15 15 15	(b)	PTZ fusion (day & night) camera having PAN (-45 to +45 degrees) & Tilt (0-360 degrees) with capability to recognize human form factor	from the OEM the parameter to be physically checked by the	
			at minimum 200 meters. The camera should posses minimum 10x Optical zoom capability.		4. -
ά.		(c)	Video Camera at claw with thermal capability with capability to recognize human form factor at minimum 200 meters.	In addition to Certificate from the OEM the parameter to be physically checked by the BOO.	
in ann a seo a an a' an a' agus		(d)	Aiming Video camera for firing with IR capability and range of minimum 10 meters.	To be physically checked by the BOO. Firing of De Armr Disrupter to be carried out.	De-Armr Disrupter to be provided by the user.
	7.		Mini ROV should have the ving attachments :-		
	~	(a)	Modular mount for wpn systems.(SMG MP5 & Shot Gun)		SMG MP5 & Shot Gun wpn to be fired. The weapon & ammunition will be provided by the indentor.
		(b)	Modular mount for De-Armr Disrupter	To be physically checked by the BOO.	De-Armr Disrupter to be mounted & fired.
	~	(c)	Modular mount for RTVS (should be capable to take X- Ray with RTVS).	To be physically checked by the BOO.	RTVS should be mounted and X- ray to be taken. RTVS to be provided by the indentor.
		aim	the second second the second	To be physically checked by the BOO.	A
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9.	ca tel	e Mini ROV should have liftin pability of minimum 08 kgs wit escopic boom fully extended.	h by the BOO.	
10.	lig an be	e Mini ROV should have spo hts/LED for both driving camera d for aiming camera and should compatible with video camera.	s from the OEM the d parameter to be physically checked by the BOO.	
11.	ma uni		/ by the BOO.	е на 111-1
12.	auc RO	e of COFDM technology in data lio & video transfer between the V and the Station Base.	compliance will be the acceptance criteria.	
13.	give me	e Mini ROV should be able to e its optimum output in the under ntioned areas/ranges :-	·	
	(a) (b)	Radio Control in Urban/Built up area – upto 200m. Radio control in open area-	by the BOO.	
	(c)	upto 500m. Fibre Optic Control min upto 200m with self retractable cable assembly.	by the BOO. To be physically checked by the BOO.	
	(d)	Capability to take X-Ray with X-Ray mount assembly/Real Time Viewing System in all terrains.	by the BOO.	X-ray to be taker of the suspected device.
14	com natio	Mini ROV should be EMI/EMC patible (certificate from onal/internationally accredited o be produced)	compliance will be the	
5.	Mini optic	ROV should have the fwg EOD n/resources with the claw :-		
L	(a) (b)	Pipe holding grip. Spike Grip.	To be physically checked by the BOO. To be physically checked	
_	(C)	Beak Grip.	by the BOO. To be physically checked	
	(d)	Box Cutter	by the BOO. To be physically checked by the BOO.	
	(e) (f)	Glass breaker Tyre Deflator	To be physically checked by the BOO.	
		Line for towing veh	To be physically checked by the BOO.	

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16.		Power Supply of the Mini ROV		
		Id have the following :- Rapid rechargeable lithium-	To be physically checked	
1	(a)	ion battery	by the BOO.	
	(b)	The bty should be able to sp	Mini ROV to be physically	
		all ops of the Mini ROV for a	operated on bty for more	
		minimum duration of not less	than 04 hrs.	
		than 04 hrs.		
	(C)	The Firm to provide spare bty	To be physically checked	23 - R
	1.18	for both Mini ROV and base	and tested by BOO.	1 ¹⁹ 1
		stn with charger.		
- 2		ROV should have a sensitive	To be physically checked	
17		ophone to pickup acoustic	and tested by BOO.	
100		ature within a radius of 15 feet ini ROV.		
18.		e Station of the Mini ROV		
10.	1	Id have the fwg features :-		
		Compact and light weight	To be physically checked	
	(-)	j se	by the BOO.	
	(b)	Portable control Panel	To be physically checked	(D)
			by the BOO.	
	(C)	The display unit at base stn	To be physically checked	
		should have LCD screen of	and operated by BOO.	
		min 15" with capability of		
		simultaneously displaying atleast 04 on bd cameras in	ing, in	
		one screen and each camera		
		output separately on the		
		screen.	and the second sec	
	(d)	Capable of being powered	To be physically checked	
		on mains and bty both.	and operated by BOO.	
	(e)	Should have joystick control.	To be physically checked	
			and operated by BOO.	
	(f)	Should have inbuilt safety	To be physically checked	
		features	by BOO.	
	(g)	Should have essential	To be physically checked	
	(h)	operational controls. Should have capability to	by BOO. To be physically checked	
	(11)	listen and record voice	by BOO.	
		signature being picked up by	by 000.	
		the microphone on board the		4
1	/:>	ROV.	To be physically sheeked	- dan ta
	(j)	Should have a S-Video/ BNC		
		video out port for	by BOO.	6
		transmission of surveillance	N. Andrew	
		feed being received from mini		
		ROV to Command & Control		8
		center.		1

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19.	The operating temperature of the Mini ROV should be (-) 10 degree C to (+) 55 degree C (OEM/firm to provide certificate from National/ Internationally accredited lab).	for compliance.		3
20	Suitable pelican cases for safety of Mini ROV and associated accessories.	by BOO.		
21	 Miscellaneous. The firm will provide the following documents/ literature (in English language) along with the equipment :- (a) Technical Manual with full description of all the items. (b) User's Hand Book. (c) Literature on care and preservation technique/ methods. (d) Specifications for packing, handling/ transportation/ storage. 	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		
	(e) Details regarding periodical checks to be carried out by the user for serviceability of the equipment.		10- 13 ja - 1	

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(Subhash Joshi) Director General, NSG