

NORTHERN COMMAND OPERATIONAL REQUIREMENT (NCOR)

1. Nomenclature of eqpt/store/item. **FPV DRONE**

2. NCOR No **2024:25/NCOR/14/AC5FP coll dt 28 May 24.**

Part-I

3. **General.** FPV (First Person View) Drones have emerged as a Force Multiplier for troops due to their small size & weight, thus making them easy to carry & launch. There is a requirement of FPV drones to enhance op effectiveness of troops in various operations. The drones should be able to work in mountainous terrain with dense jungles as well as semi urban/ rural environment for various operational tasks.

Part-II

4. **Aim.** To lay down the Operational Requirement of FPV Drone.

Physical and Technical Parameters

Part-III

General

Ser No	Parameters	Specifications	Evaluation	
			OEM Cert	Physical

Physical

5.	Weight (Excl payload)	Maximum 2 kg.	-	Physical
6.	Size	Not to exceed 40 cm x 40 cm (blade to blade) Propeller Guard to be included in design.	-	Physical

Performance Endurance

7.	Endurance	Hover time minimum 30 Mins upto 3000m altitude	OEM Cert	Physical
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Navigation Mode

8.	Msn plg	Plan the mission using way points.	-	Physical
9.	Loiter Mode	Drone to be stable in x, y & z axis if put in loiter mode.	-	Physical
10.	Selection of Manual Mode/ Stabilize Mode	To be controlled by operator.	-	Physical

Range of Operation & Communication Link

11.	Range	Minimum 3 Km (one way).	OEM Cert	Physical
12.	Communication	2.4 GHz/5.8 GHz or any other permissible frequency.	OEM Cert	Physical

Display & Camera

13.	Twin Display	(a) Operator. FPV goggles (analog) with min 720p and 15 ms refresh rate/ latency. (b) Commander. Radio controller with display size of min seven inches based on ruggedized phone or tablet.	OEM Cert	Physical
14.	Camera	(a) Day Camera. FPV Camera with min HD live streaming capb and min 40 degree pan & tilt of camera to be available. (b) Night Camera. FPV IR Camera/ Thermal Camera.	OEM Cert	Physical
15.	Ruggedness	Drop Test from 15 feet.	OEM Cert	Physical

Ser No	Parameters	Specifications	Evaluation	
			OEM Cert	Physical
16.	Training	<p>Since training for correct utilization of FPV drone is very important to leverage its unique capability, the following is required :-</p> <p>(a) The OEM should provide minimum 2 (two) Master Trainers (certified by DGCA) for drone flying and they should be specialists on FPV drones.</p> <p>(b) The OEM should have previously trained defence personnel on FPV drones.</p> <p>(c) Training of three weeks will be provided to two operators per drone at a specified locations in Northern Command. Batch size will not exceed 10 personnels (5 trainees per trainer).</p>	OEM Cert	-
17.	Simulator	Simulator software for training on FPV Drones will be provided for each drone. The same FPV goggles should work with simulator software as well	OEM Cert	Physical
18.	Batteries	<p>(a) 03 x Smart Batteries/ Drone.</p> <p>(b) 01 x Smart Battery charger per drone with facility of simultaneous charging of all three batteries.</p> <p>(c) Charging time (for full charge) for battery not to exceed 45 mins.</p>	OEM Cert	Physical
19.	Warranty	A warranty of minimum 02 years be provided with the equipment.	OEM Cert	-
20.	Spares & Support	<p>(a) Spares. Two Spare Batteries should be provided with every Drone and one spare battery charger for every 05 drones.</p> <p>(b) Repair Sp. On site ex Udhampur.</p> <p>(c) Support. Undertaking to be provided by vendor that spares and repair support will be provided post warranty, for a period of minimum 05 years on payment basis.</p>	OEM Cert	-
21.	Kit to Incl (per drone)	<p>(a) 01 x Drone.</p> <p>(b) 01 x FPV Goggles.</p> <p>(c) Day & Night Camera (as specified)</p> <p>(d) 01 x Min 07 Inches Ruggedised Phone/ Tablet.</p> <p>(e) 03 x Smart Batteries.</p> <p>(f) 01 x Smart Battery Charger.</p> <p>(g) 01 x Carrying Case (as specified).</p>	-	Physical

Note :

AMC/CAMC.

The reqmt will be built into the RFP/Bid as per reqmt.

Signature of Chairman PC

Signature of MGGS (SD&WE)