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PROCUREMENT OF MINI UNMANNED AERIAL VEHICLE (UAV)

Reference:

A. Army Headquarters, General Staff Branch, Army Aviation Directorate letter number 23.01.901.064.01.099.01.18.10.23 dated 18 October 2023 (Not to all).

1. It is to inform you that Bangladesh Army is planning to procure **Mini Unmanned Aerial Vehicle (UAV)** for Financial Year 2023-2024. Therefore, interested suppliers are requested to provide necessary offers, brochures/catalogues, manuals, budgetary price etcetera (each in duplicate). The document has to be sent directly to **The President Board of Officer- Evaluation of Mini Unmanned Aerial Vehicle (UAV) for Bangladesh Army, C/O: Army Headquarters, General Staff Branch, Army Aviation Directorate by 09 November 2023** with an intimation to this Directorate General please. Offered models should be compatible with technical specification attached as Annex A to this letter. Lack of any information will disqualify the offer. Please provide enlistment certificate of DGDP along with the technical offer.

2. **For Board of Officer, C/O: Army Headquarters, General Staff Branch, Army Aviation Directorate Only:** Price can be disclosed during the tender process only.

3. Your co-operation will be highly appreciated.


RAIMAN RAHMAN
Major
For Director General

Enclosure:

1. Technical Specification of Mini Unmanned Aerial Vehicle (UAV)-06 (Six) Pages Only.

Distribution:

External:

Action:

(All Concerned Firm/Supplier)

Information:

Army Headquarters, General Staff Branch, Weapon, Equipment and Statistics Directorate

Army Headquarters, General Staff Branch, Army Aviation Directorate

Army Headquarters, Master General of Ordnance Branch, Ordnance Directorate

Army Headquarter, Master General of Ordnance Branch, Electrical and Mechanical Engineering Directorate

Army Headquarters, Master General of Ordnance Branch, Inspection and Technical Development Directorate

Inspectorate of Vehicle & Engineering Equipment, Dhaka Cantonment

Internal:

Action:

IT Section - (For immediate flashing on DGDP web site only).

Notice Board

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ANX A TO
 AHQ, GS BR (ARMY AVN DTE) LTR NO
 23.01.901.064.01.099.01.18.10.23
 DT: 18 OCT 2023

TECHNICAL SPECIFICATION OF TACTICAL MINI UNMANNED AERIAL VEHICLE (UAV)

Ser	Fact/Parameters	Tech Spec	To be filled by Principal/Manufacturer
<u>PART - 1 GENERAL SPECIFICATION</u>			
1	General		
	a. Nomenclature	Mini Unmanned Aerial Vehicle (UAV) Tactical for ISR	
	b. Brand Name	To be mentioned	
	c. Model / Type	To be mentioned	
	d. Country of Origin	Group A	
	e. Country of Assembly/Manufacture	Group A	
	f. Year of Manufacture	Not before the calendar year of contract	
	g. Name of Manufacturer with complete address	To be mentioned	
	h. Name of Principal with complete address	To be mentioned	
	j. Name of Local Agent with complete address	To be mentioned	
	k. Validity of the model	Min 10 year	
	l. How long the proposed model will remain in production	Min 10 year	
	m. Duration of after sales svc support	Min 5 year	
	n. Type of mission	ISR	
	p. Planning Considerations. The UAV is to be designed to support and assist in following specified mission specific tasks. Optional items (if available) are to be offered with details for clear understanding: (1) All weather Intelligence, Surveillance and Reconnaissance (ISR) capability for both day and night up to 10 km radius of operation including the option for pre-designated route. (2) Surveillance and Target Acquisition (SATA) for both Day and Night (3) Fire Correction (4) Target Engagement (optional) (5) Target Tracking (both mobile and static) (6) Damage Assessment (7) Electronic Warfare (EW) and Signal Intelligence (Optional) (8) Mapping (9) Route surveillance and monitoring	To be confirmed. All required catalogue/ brochure/ datasheets are to be given with the offer including the schematic diagram of the total system	
<u>PART - 2 TECHNICAL SPECIFICATION</u>			
2.	Operational Specification		
	a. Operational Range of UAV (ISR) (km of radius)	10 km	
	b. Operational Range of UAV (with load) (km of radius)	05 km	

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Ser	Fact/Parameters	Tech Spec	To be filled by Principal/Manufacturer
	c. Endurance (ISR) (Hour)	45 min	
	d. Endurance (Operational) (Hour)	30 min	
	e. Cruise Speed (m/s)	Min 20m/s	
	f. Stall Speed (m/s)	Min 7m/s	
	g. Maximum Speed (m/s)	Min 30m/s	
	h. Takeoff Weight	10-15 kg	
	j. Max takeoff Weight	Min 25 kg	
	k. Total Weight	25 kg	
	l. Altitude (M)	1200 m	
	m. Live Steaming both day and night (Clear video transmission to GCS from max Allowable distance Real time location transmission)	Up to 10 Km	
	n. Location accuracy	± 1 m	
	p. Method of Take off	VTOL	
	q. Method of landing	VTOL	
	r. Payload options (Specify separately)	Capable to take IR/EO Camera. Interchangeable bracket for ISR and payloads	
	s. Requirement of crew for operation	To be mentioned	
	t. 3D Mapping System	Yes	
	u. Time required for 10 km x10 km mapping	To be mentioned (max 1 hour at min 1280x1080 resolution)	
	v. GIS based mapping system	Compatible	
	w. Name & Version of GIS Software (Software key need to be provided)	To be mentioned	
	x. Types of info available in mapping software	Basic topographic features of the mapping area	
	y. Number of Target can track simultaneously	To be mentioned	
	z. Linking up with satellite for data transmission.	Details to be mentioned	
3.	Payloads		
	a. EO Camera Module		
	(1) Name/ Brand/ Manufacture	To be mentioned	
	(2) Make/ Model/ Type	To be mentioned	
	(3) Country of Origin	Group A	
	(4) Year of Manufacture	Not before the year of contract	
	(5) Validity of the model	Min 10 year	
	(6) After-sales service	Min 10 year	
	(7) Low light capability	Yes	
	(8) Full HD video output at min 30 fps	Yes	
	(9) Day and night capability at 0 lux	Yes	
	b. IR Camera Module	To be mentioned	
	(1) Name/ Brand/ Manufacture	To be mentioned	

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Ser	Fact/Parameters	Tech Spec	To be filled by Principal/Manufacturer
	(2) Make/ Model/ Type	To be mentioned	
	(3) Country of Origin	Group A	
	(4) Year of Manufacture	Not before the year of contract	
	(5) Validity of the model	Min 10 year	
	(6) After-sales service	Min 10 year	
	(7) Low light capability	Yes	
	(8) Detection range	5000 m	
	(9) Identification range	1500 m	
	(10) Image size	1280 x 1024 pixel	
	c. <u>Multisensor imaging/lasering payload</u>	Optional	
	(1) HD thermal, HD daylight and HD low-light cameras	To be mentioned	
	(2) Continuous wide-angle zoom	To be mentioned	
	(3) High magnification step zoom spotter	To be mentioned	
	(4) High sensitivity color low light imaging	To be mentioned	
	(5) Compact, efficient, reliable laser target designator	To be mentioned	
	d. <u>Armament Capability</u>	Machine Gun, 2x mortar shell/ 6x grenades preferable	
	e. <u>Any other payload option</u>	To be mentioned	
4.	<u>Maintenance and Structural Factors</u>		
	a. <u>Airframe Geometry</u> . The UAV is to be of such structure and design with essential features which will withstand its maximum speed. The airframe should be stable in nature. It would also be of such design that it can fly with longer endurance with minimal fuel cost.	To be confirmed	
	b. <u>Environmental condition (Essential)</u> . Due to hot and humid environment in Bangladesh, all the equipment including payloads and compartment should preferably be weather proof/sealed.	To be mentioned	
	(1) Shock	6 drops (810G method 516.6)	
	(2) Operation Temperature	-10 to +55 °C for 30 minutes	
	(3) Humidity	95% and above	
	(4) Rain	To be sustained for 30 minutes at normal temperature and pressure (810G method 506.5)	
	(5) Vibration	5 minutes at 250 RPM	
	(6) Must be capable for sustained high temperature and humid for coastal/maritime operation	To be confirmed	

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Ser	Fact/Parameters	Tech Spec	To be filled by Principal/Manufacturer
c.	Structural Strength and Life. The UAV is to meet the following requirements:		
	(1) The airframe should have sufficient strength to withstand stress of take-off, landing and required in flight maneuverability with maximum payload	To be confirmed	
	(2) The ops life	Min 10 year	
	(3) Calendar life of the UAV	To be mentioned	
	(4) Time before overhaul (TBO)	Min 1 year	
d.	Aerial Platform	Details to be mentioned	
e.	Ground Control Station (GCS)	Details to be mentioned	
	(1) Name/ Brand	To be mentioned	
	(2) Make/ Model/ Type	To be mentioned	
	(3) Country of Origin	Group A	
	(4) Year of manufacture	Not before year of contract	
	(5) Validity of the model	10 year	
	(6) After-sales service	10 year	
	(7) Type of GCS	Mobile/ Vehicle mounted/ Any other type	
	(8) Launch, Flight Control and Recovery	Yes	
	(9) Real-time telemetry	Yes	
	(10) Should be able to receive, display and exploit data from all payloads	Yes	
	(11) Emergency action plan in case of failure of any system	Emergency handling procedures if RF communication failed and other emergencies to be mentioned	
	(12) Recording capability	Capable to store data in HDD of GCS for at least 30 minutes	
	(13) Warning system for any type of unsafe op or parameter set or failure	Yes	
g.	Communication System	RF communication	
	(1) Name/ Brand	To be mentioned	
	(2) Make/Model/ Type	To be mentioned	
	(3) Country of Origin	Group A	
	(4) Year of manufacture	Not before year of contract	
	(5) Validity of the model	10 year	
	(6) After-sales service	10 year	
h.	Training Simulator (Optional)	Details to be mentioned	

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Ser	Fact/Parameters	Tech Spec	To be filled by Principal/Manufacturer
	(1) Name/ Brand	To be mentioned	
	(2) Make/Model/ Type	To be mentioned	
	(3) Country of Origin	Group A	
	(4) Year of manufacture	Not before year of contract	
	(5) Validity of the model	10 year	
	(6) After-sales service	10 year	
	(7) Real time simulation	Yes	
	(8) Gimble operator console simulation	Yes	
	(9) Computer base training facilities	Yes	
	(10) Complete resemblance to the GCS and UAV operation	Yes	
	(11) Schematic layout diagram of the simulator system	Yes	
5.	Spare Parts Support		
	a. Warranty Period for the complete system and its associated equipment/ systems	Min 2 year or 2000 hours	
	b. Software Support (any up-gradation/modification of the software for the entire service life to be provided free of cost)	Details to be confirmed	
	c. Time Requirement to deliver the product after agreement (Lead Time)	Max 9 month	
6.	Maintenance / Logistic Support		
	a. Repair / Overhaul Facility	To be mentioned	
	b. Supply of Spares (Fast Moving, Slow moving and other spares of maintenance) for entire service life	To be confirmed	
	c. Software Operability	To be confirmed and details to be mentioned	
	d. Service Support During Warranty	To be mentioned	
	e. After Sales Service Support	5 year	
	f. Scope for Technology Transfer	To be mentioned	
	g. Transportability of the UAV	Vehicle portable	
	h. List of Standard Items / Accessories (For full range of operation)	Complete list to be mentioned	
	j. List of Optional Items / Accessories	Details to be mentioned	
7.	Stand by GCS	To be mentioned	
8.	On Site Project Development (OSPD) Team. (Applicable for locally manufactured item only)	To be mentioned	
	a. Major component production	To be mentioned	
	b. Assembling	To be mentioned	
	c. System integration	To be mentioned	
	d. Functional check and calibration	To be mentioned	
9.	Books and Publications		
	a. Owners /Operators manual in English (Book type)	1x hard copy with soft copy	

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Ser	Fact/Parameters	Tech Spec	To be filled by Principal/Manufacturer
	b. Workshop/Repair and Maintenance manual in English (Book type)	1x hard copy with soft copy	
	c. 100% updated masters spare parts catalogue in English (book type)	1x hard copy with soft copy	
	d. Troubleshooting Manual: Fault Isolation Manual.	1x hard copy with soft copy	
	e. Manuals: all components / parts of the system	1x hard copy with soft copy	

PART – 3 TRAINING REQUIREMENT

Ser	Description	Technical Specification	Remarks
1.	Operational Training	As per requirement of user Directorate	
2.	Repair and maintenance training	As per requirement of EME Directorate	
3.	Inventory control management training	As per requirement of Ordnance Directorate	

PART – 4 REPAIRS AND MAINTENANCE REQUIREMENT LESS LIST OF SPARES

Ser	Description	Technical Specification	Remarks
1.	Analyzer, measuring & testing set, fault finding equipment and diagnostic set	List to be provided (As per requirement of EME Directorate)	
2.	Special Service Tools (SST)	List to be provided (As per requirement of EME Directorate)	
3.	Special Service Material (SSM)	To be provided (As per requirement of EME Directorate)	
4.	Maintenance tools requirement for 3 rd line maintenance	Details to be mentioned	
5.	Special offer related to the local assembly of different electronics, body, etc (Optional)	Details to be mentioned	
6.	Repair and maintenance: Supply of spares cost to cost basis till the life time of the system	Details to be confirmed	

PART – 5 LISTS OF SPARES

Ser	Description	Technical Specification	Remarks
1.	Spare parts list (Fast and Slow Moving Spares)	To be provided	
2.	List of consumable items	To be provided	

PART – 6 TOOLS LIST FOR DIFFERENT LEVEL OF MAINTENANCE

Ser	Description	Technical Specification	Remarks
1.	Analyzer, Measuring & Testing set, Fault Finding equipment, Diagnostic Set, SST and SSM	To be provided as per the list of Part 4	

PART – 7 FINANCIAL ASPECTS

Ser	Description	Technical Specification	Remarks
1.	Financial Implication/Specifications	To be provided	