

Minutes of the Pre-bid meeting for 'Procurement of two (2) sets of drones and related payloads and other items for Wildlife Surveillance, Tracking and Monitoring of the stray animals.'

Date: 30.08.2024

Time: 3:00 PM

Venue: Wildlife Conference Hall, Aranya Bhawan

IFB No. APFBC/PMU/Phase-II/PD/2023/326/Part-IV/5, dated 14th August 2024.

The following APFBCS officials and prospective vendor representatives were present at the pre-bid meeting:

Officials of the APFBCS:

1. Shri Sandeep Kumar, IFS : PCCF (Wildlife) & CWLW, Assam and Project Director (PD), APFBCS
2. Shri Prashant Dhanda, IFS : Activity Director (IT & GIS), O/o the PCCF & HoFF, Assam
3. Smt. Rehena Sultana : Procurement Executive, PMU, APFBCS

Representative of the Firm (Physically Present):

1. Shri Ramanjeet Singh : M/s ideaForge Technology Ltd.

Representative of the Firm (Virtually Present):

1. Shri Sabharinath Sadasivam : M/s Akash Aerospace

Attendance sheet of the meeting is enclosed at Annex-1.

1. The Project Director welcomed all participants to the pre-bid meeting and briefly outlined the purpose of inviting vendors to participate in the procurement process for drones and related items.
2. During the meeting, APFBCS officials addressed queries from the representatives of the attending firms. Responses to the questions raised during the meeting, as well as those received via email, have been included in the minutes, which are enclosed as **Annex-2**.

Minutes approved

Sd/-

Project Director, PMU, APFBCS

Memo No: APFBC/PMU/Phase-II/PD/2023/326/Part-IV/62

Dated Guwahati the 23rd September, 2024

Copy to:

1. All concerned officials of the APFBCS joined the meeting.
2. Email to the Bidders: (1) M/s ideaForge Technology Ltd., Email: tenders@ideaforgetech.com; ramanjeet.singh@ideaforgetech.com; clarence.beecham@ideaforgetech.com; richa.chaudhary@ideaforgetech.com; sushma.nanaware@ideaforgetech.com; mukul.tiwari@ideaforgetech.com; nitin.sharma@ideaforgetech.com, (2) M/s Pan India Consultants Pvt. Ltd.; Email: navpreetkaur@panindiagroup.com; vivekbansal@panindiagroup.com; vibhorgoel@panindiagroup.com; kailashsingh@panindiagroup.com; ambrishupadhyay@panindiagroup.com, (3) M/s Asteria Aerospace Limited; Email: sonam.saroha@asteria.co.in; vivek.sharma@asteria.co.in, (4) M/s Aakash Aerospace; Email: sabharinath@akashaerospace.com; saravanan@akashaerospace.com; akshaya@akashaerospace.com, (5) M/s Indo Wings Private Limited; Email: tenders@indowings.com.

Annexure-1

Attendance Sheet for the Pre-Bid Meeting on 'Procurement of two (2) sets of drones and related payloads and other items for Wildlife Surveillance, Tracking and Monitoring of the stray animals'.

Date: 30th August 2024

Time: 3.00 PM

Venue: Wildlife Conference Hall, Aranya Bhawan

Sl.	Name of the Attendant	Designation & Organization	Email ID & Contact no.	Signature
1.	Sandeep Kumar, IFS	Project Director, APFBC Society	pd@apfbc.in	
2.	Prashant Dhanda, IFS	Activity Director (IT & GIS) O/o PPCF & HoFF, Assam	prashant.dhanda@gmail.com	
3.	Ramajeet Singh	AGM/Ideaforge tech technology	ramajeet.singh@ideaforgetech.com	
4.	Sabharinath S	Akash Aerospace	sabharinath@akashaaerospace.com	Joined Online
5.	Rehena Sultana	PE, APFBC Society	-	 30/08/24
6.				
7.				
8.				
9.				
10.				
11.				
12.				

Annexure

Queries and Responses on the APFBC/PMU/Phase-II/PD/2023/326/Part-IV/5, Dated Guwahati the 14th August 2024 for

‘Procurement of two (2) sets of drones and related payloads and other items for Wildlife Surveillance, Tracking and Monitoring of the stray animals’.

#	Reference	Existing Clause	Queries	PMU's Responses
1.	Section VII – Schedule of Requirements; Technical Specifications and Product Demonstration; 3. General Specifications of Drone; Page no. 54	2: Endurance- Minimum 60 minutes or more with either Day/Thermal/Mapping payload (up to 1000 m (3280 ft.) AMSL Take-off)	It is requested to kindly consider Endurance for a Minimum of 40 minutes.	No change.
2.	Section VII – Schedule of Requirements; Technical Specifications and Product Demonstration; 3. General Specifications of Drone; Page no. 54	3: Range of live transmission (LOS) (un-obstructed & interference free)-10 km (6.2 miles) or more up to 1000m AMSL up to 800m AGL	It is requested to kindly consider the Range of Live Transmission up to 5 km	The range of live transmission is up to the radial distance of 5kms and not 10 kms.
3.	Section VII – Schedule of Requirements; Technical Specifications and Product Demonstration; 3. General Specifications of Drone; Page no. 54	5: IP Rating-IP54 rating or better	It is requested to kindly consider the IP Rating as IP53.	Accepted.
4.	Section VII – Schedule of Requirements; Technical Specifications and Product Demonstration; 3. General Specifications of Drone; Page no. 54	2: Endurance- Minimum 60 minutes or more with either Day/Thermal/Mapping payload (up to 1000 m (3280 ft.) AMSL Take-off)	AAL request you to amend this requirement to 40 Kms.	No change.
5.	Section VII – Schedule of Requirements; Technical Specifications and Product Demonstration; 3.	3: Range of live transmission (LOS) (un-obstructed & interference free)-10 km (6.2 miles) or more up to 1000m AMSL up to 800m AGL	AAL request you to amend this requirement to 5 Kms.	The range of live transmission is up to the radial distance of 5kms and not 10 kms.

#	Reference	Existing Clause	Queries	PMU's Responses												
	General Specifications of Drone; Page no. 54															
6.	Section VII – Schedule of Requirements; Technical Specifications and Product Demonstration; 3. General Specifications of Drone; Page no. 54	5: IP Rating-IP54 rating or better	AAL drones and packaging are certified for IP53 which protect them from dust and drizzle. Your requirement can suffice with IP53. We request you to amend the IP rating requirement for both specifications to IP53	Accepted.												
7.	Section VII – Schedule of Requirements; Technical Specifications and Product Demonstration; 3. General Specifications of Drone; Page no. 55	16: Packaging and Storage: Waterproof Backpacks to carry all mission critical components with IP66 or better rating for dust and drizzle protection		No change.												
8.	Section VII – Schedule of Requirements; Technical Specifications and Product Demonstration; 3. General Specifications of Drone; Page no. 55	23: 3D Maps Switchable between 2D/3D map views, capability to tilt/rotate 3D maps as per user input-Yes	Please keep 3D maps availability as Desirable requirements.	No change.												
9.	Section VII – Schedule of Requirements; Technical Specifications and Product Demonstration; 3. General Specifications of Drone; Page no. 56	62: Auto Tracking Comm Box-Auto tracking directional antenna	Please remove this requirement	No change.												
10.	Section VII – Schedule of Requirements; Technical Specifications and Product Demonstration; 4. Payload Specifications; Page no. 58	Target DRI Ranges: For Thermal payload- <table><tr><td></td><td>Human Size target(Group of 3-4 ppl)</td><td>B vehicle (4mx2m)</td><td>A Vehicle (7mx3.5m)</td></tr><tr><td>Detection</td><td>700m</td><td>1250m</td><td>1500m</td></tr><tr><td>Recognition</td><td>500m</td><td>700m</td><td>800m</td></tr></table>		Human Size target(Group of 3-4 ppl)	B vehicle (4mx2m)	A Vehicle (7mx3.5m)	Detection	700m	1250m	1500m	Recognition	500m	700m	800m	AAL request the department to please amend this requirement and give in the detailed manner as mentioned below- EO Sensor: Vehicle D/R/I:>2000/>2000/ 2000 meters Human D/R/I: 1500/1300/1000 meters IR Sensor: Vehicle D/R/I: 1000/500/300 meters in best	No change.
	Human Size target(Group of 3-4 ppl)	B vehicle (4mx2m)	A Vehicle (7mx3.5m)													
Detection	700m	1250m	1500m													
Recognition	500m	700m	800m													

#	Reference	Existing Clause	Queries	PMU's Responses
			condition (early morning) and 500/300/200 meters in worst case(night) Human D/R/I: 500/300/200 meters in best condition (early morning) and 400/200/100 meters in worst case (night)	
11.	Section VII – Schedule of Requirements; Technical Specifications and Product Demonstration; 4. Payload Specifications; Page no. 57	Payload Control (in flight) Pan: 360° continuous (along with UAV in flight) Tilt: 90° (Only with surveillance payload)	Please remove the 360 continues for payload. Along with UAV it can do 360 Pan, Payload alone should have only 360 but not continuous.	Accepted.
12.	Section VII – Schedule of Requirements; 2. Technical Specifications and product demonstration: 3. General Specifications of Drone, Page no. 56	35. Free Hand Annotation: Capability to annotate a desired location on the map screen	Minimum or maximum distance to be covered by the drone when operated by Free Hand Annotation mode	Free hand annotation is a feature in GCS software to mark (geotag) locations on map. This feature can be used to divert drone to marked location and/or marked as a reference which can be referred latter for study especially in surveillance use case. The free had annotation is not a flight mode, the minimum distance can be any distance defined by the drone operator and maximum distance would be governed by the endurance of the drone.
13.	Section VII – Schedule of Requirements; 2. Technical Specifications and product demonstration: 3. General Specifications of Drone, Page no. 54	2. Endurance: Minimum 60 minutes or more with either Day/Thermal/Mapping payload (up to 1000 m (3280 ft.) AMSL Take-off)	Minimum Endurance requirement of 60 minutes is to be tested in operational altitude or maximum Altitude (120meter) and in normal wind speed or at adverse or maximum wind resistance (10 m/s). Is there any relaxation for endurance when operating with maximum payload, maximum Altitude.	No change.
14.	Section VII – Schedule of Requirements; 1. List of Goods and Delivery Schedule, Page no. 53	Add-ons: - Identification of human for surveillance is provided as option for poaching.	In wildlife monitoring and surveillance, real time object detection and tracking is required, or real time object identification is required.	Real time object identification, detection and tracking is required.

#	Reference	Existing Clause	Queries	PMU's Responses
15.	Section VII – Schedule of Requirements; 2. Technical Specifications and product demonstration: 1. Key Considerations for Drones, Page no. 53	5. Payload Capacity Adequate payload capacity for carrying additional sensors or equipment like loudspeaker, laser devices.	Can the sensors and payloads be interchangeable and selected based on the mission requirements or to be integrated permanently?	The payload should be Interchangeable.
16.	Section III –Evaluation and Qualification Criteria; Pre-Qualification Criteria, Page no. 26 & 27	3.2 Minimum Annual Turnover from supply of goods & 4.1 Similar Experience	Is there any relaxation for a startup regarding prior experience of handling drone projects and 3 years annual turnovers	No change.
17.	Section VII – Schedule of Requirements; 2. Technical Specifications and product demonstration: 6. Product demonstration and evaluation checklist, Page no. 59	2. DGCA type certification	Is Type Certificate mandatory for the drone or any exemption for a startup or when Type Certificate Application is in process?	No change.
18.	Section VII – Schedule of Requirements; 2. Technical Specifications and product demonstration, Page no. 53	1. Key Considerations for Drones: Battery Life and Swappability • Lithium-polymer (LiPo) batteries with sufficient capacity for extended flights.	As the batteries composition from Li-Po to Li-ion vary OEM to OEM based on their design and research, we request to give option to offer either Li-Po or Li-ion based battery as OEM standards.	Both are acceptable. Bidders are expected to meet the performance standards set forth in the tender.
19.	Section VII – Schedule of Requirements; Technical Specifications and Product Demonstration; 4. Payload Specifications; Page no. 57	Daylight Payload: Resolution: 1280 X 720 Zoom: >20X Optical, 10x digital	In accordance with the relevant industry standards, resolution of 1280x720p having Optical zoom 10x and digital zoom 4x meets the overall criterion and thus will results in wider participation from all reputable OEMs providing the authority to explore more no. of options. Optical zoom is a design specs which might vary OEM wise. Also, it is also understood that the primary goal is to attain accurate target detection and recognition within the specified slant ranges, so it is advisable to grant design flexibility of payload /camera to Original Equipment Manufacturers (OEMs) in terms of zoom,	No Change

#	Reference	Existing Clause	Queries	PMU's Responses
			<p>foV etc.,& the flexibility to employ varied combinations that best meet the stipulated requirements WRT detection ranges.</p> <p>Hence, it is recommended that optical and digital zoom of Daylight payload, ideally to be kept open or being sought as per prevalent market trend and to be changed to "10x optical with 4x digital zoom", instead of 20x optical zoom and 10x digital respectively, to enable selection of one, that fulfils the actual requirement. Please confirm?</p>	
20.	Section VII – Schedule of Requirements; 2. Technical Specifications and product demonstration: 6. Product demonstration and evaluation checklist, Page no. 59	<p>4. Meeting desired time to setup base stations/landing points and possesses the capability of dynamic starting /ending points.</p> <p>5. Communicating satisfactory with the base station</p> <p>8. Should be able to carry out 2D and 3D surveys</p> <p>10. Possesses compatibility with two standard photogrammetry software for processing of drone imagery</p> <p>11. The desired outputs have been shared within 24 – 48 hours.</p> <p>*(video (mp4) / photo (JPEG/PNG) / orthomosaic (geotiff) / 3D point cloud (LAS) / Digital Terrain Model (geotiff) / Digital Surface Model (geotiff)</p>	<p>Given that the requirement here is for surveillance using both day and night cameras, these clauses are not applicable. These clauses pertain specifically to mapping and survey applications, which differ from the needs of comprehensive surveillance. Therefore, it is recommended to exclude these clauses from the current tender.</p>	<p>Point 4 and 5 are required. Base station means Ground Control Station. Point 8 and 10 are not required. The desired outputs should be in the form of videos (mp4) and photo (JPEG/PNG etc.).</p>
21.	Generic	-	<p>It is suggested to include the following offering (given below) as a part of this tender as in this feature the live video can be streamed over secure data medium to telecast the Drone footage to the Command Operation Room/control room allowing control of RPA and payload from a secure remote location. This feature would allow forest In charge officers to have better Situational Awareness of the area to help them make an informed decision. Few of such scenarios are enlisted like receiving a holistic view of all drone feeds at forest operational control room should immensely</p>	<p>Live video streaming is required and should form part of over-all bid price.</p> <p>The price itemization should be under CMC for 3 years accordingly as a separate line item in the CMC pricing schedule.</p>

#	Reference	Existing Clause	Queries	PMU's Responses
			<p>help wrt the use cases related to surveillance as stated as well as search and rescue operations.</p> <p>The clauses to be included are as follows,</p> <p>"Remote Video Streaming and remote payload control GCS Software should have a built-in provision for allowing video streaming & payload control to remote users over the cloud / intranet / private cloud.</p> <ul style="list-style-type: none"> - The remote user should be able to view the stream and control the payload on a Windows, iOS or Android device. - The GCS should also have the provision to password protect the video stream and payload control separately to allow only authenticated remote users to view the stream and control the payload respectively. - The streaming feature should be compatible with the ONVIF standard to allow integration with command & control centers. - The remote user should be able to see the current bandwidth utilised for streaming and the number of connected users to the stream to check if only the authorised number of remote users are viewing the stream. - To ensure Real time video streaming in constrained network environment GCS must support bandwidth aggregation from multiple mobile, Wi-Fi and LAN network. <p>Compatibility with ONVIF ONVIF Protocol Compliant - ONVIF is the industry standard protocol for integration of the data feeds from various sensors and is recommended to be included in the technical specifications. To seamlessly integrate the drone feed into any Video Management Software operating at command/control centre level."</p>	

#	Reference	Existing Clause	Queries	PMU's Responses				
22.	Generic	-	It is suggested to include People detection as a part of the offering as it allows the user to clearly see highlighted human targets on the video feed on Thermal footage. This feature is completely autonomous and does not need the targets on the thermal feed to move to be detected, as it is completely AI based and runs locally. The clause to be incorporated shall say like "People Detection: The system will autonomously create visual cues around a person detected in thermal camera video scene. This feature will run on local GCS HW and helps in reducing the operator fatigue autonomously detect people at slant range of 150m."	<p>This is already addressed and required. (Ref: 1. List of Goods and Delivery Schedule)</p> <p>Bidders should include as part of the lump-sum cost being quoted in the relevant pricing schedule.(Ref: Pricing Schedule for Goods)</p>				
23.	Invitation for Bid (IFB), sl. 3, Page no. 3	A complete set of Bidding Document may be purchased by interested Bidders on submission of a written application to the above and upon payment of a non-refundable fee of INR 3,540/- (Fee INR 3,000/- plus GST INR 540/-) only in the form of Demand Draft in favour of the "Assam Project on Forest and Biodiversity Conservation- Phase II" payable at Guwahati, Assam. Bidding Document may also be downloaded free of cost from the website of APFBCS viz. www.apfbcs.nic.in. In case the Bidding Document is downloaded from website, the non-refundable fee is not required.	As per government MSME or NSIC registered company can be exempt for purchase of document. Request you to please confirm?	No Change				
24.	Invitation for Bid (IFB), Sl. 5, Page no. 3	<p>Bid must be delivered to the above office on or before 14:00 Hours IST on 16th September 2024 and must be accompanied by Bid Security of the sum as under:</p> <table><tr><th>Sl.</th><th>Bid Security Amount in Indian Rupees</th></tr><tr><td>1.</td><td>INR 0.13 Million</td></tr></table>	Sl.	Bid Security Amount in Indian Rupees	1.	INR 0.13 Million	As per government MSME or NSIC registered company can be exempt for a bid security. Request you to please confirm?	As per AFD, Feb 2024 Procurement Guidelines (3.2.8 Bid securities), states, "It is recommended to request a bid security for the procurement of works, plants, equipment or goods. It is not recommended in the case of Contracts for consulting services. Instead of a bid security, the Contracting Authority may require Bidders to sign a declaration
Sl.	Bid Security Amount in Indian Rupees							
1.	INR 0.13 Million							

#	Reference	Existing Clause	Queries	PMU's Responses
				acknowledging that if they (i) withdraw or modify their Bids during the validity period, or (ii) if awarded the Contract, fail to sign it, or fail to submit the performance security in a timely manner, then the Bidder shall be considered ineligible to bid for any Contract with the Contracting Authority for the period specified in the Procurement Documents." This is also corroborated by Rule 170 of GFR.

Sd/-
Project Director, PMU, APFBC