

**OFFICE OF THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS AND HEAD OF
FOREST FORCE, ASSAM
PANJABARI, GUWAHATI**

Dated: 15/03/2018

**TENDER DOCUMENT FOR
'DRONE BASED AERIAL SURVEILLANCE SYSTEM WITH DAY AND NIGHT IMAGING
CAPACITY'
FOR
KAZIRANGA TIGER RESERVE, ASSAM.
YEAR: 2017-18**



COST OF THE TENDER DOCUMENT: Rupees two thousand only non-refundable and non-transferable

CHAPTER-I: Tender Form
(Judicial Stamp paper of Rs.100 to be affixed)

1. Name ofTenderer:
2. Firms Name andAddress:
3. TelephoneNumbers
 - i. Firm:
 - ii. Residence:
 - iii. Mobile:
4. DetailsofAttachedBankDraft:

Draft No.

Date:

NameofBank:

Amount:
5. PANCardNumber: (Copy to beUploaded)
6. GST Number: (Copy to be Uploaded)
7. Tender Specification of the “**DRONE BASED AERIAL SURVEILLANCE SYSTEM WITH DAY AND NIGHT IMAGING CAPACITY**”:
8. Annual Maintenancecharge:

Supply of“**DRONE BASED AERIAL SURVEILLANCE SYSTEM WITH DAY AND NIGHT IMAGING CAPACITY**” for Kaziranga Tiger Reserve for both day and night surveillance. The drones should have basic capacity of taking high quality HD imageries which can be used for aerial mapping as well as for monitoring movement of wildlife within and outside Kaziranga Tiger Reserve. The Drones should have the capability of long distance aerial surveillance and should be rugged enough to operate in forest conditions. It is proposed to procure both multi rotor and fixed wing type drones with specifications as stated in the Tender Document. The drones should have in built LIDAR SENSOR and necessary mechanism for taking both day and night pictures.

CHAPTER II: UNDERTAKING OF THE TENDERER

I/ We have read carefully and examined the notice inviting tender, schedule, General Rule sand terms and conditions of the contract, special conditions, Schedule of Rates and other documents and Rules referred to in the tender document.

I/ We hereby tender my rates for the execution of the work as specified within the time stipulated in the schedule in accordance with all aspects with the specifications, designs drawings and instructions with such conditions so far as applicable.

A sum of Rs.1,60,000/- (Rupees One lakh sixty thousand only) of the quoted value is here by forwarded as earnest money in the form of crossed demand draft/ Bank Guarantee. If I/ We, fail to commence or complete the work ordered in specified time I/ We agree that the Office of the Principal Chief Conservator of Forest and Head of Forest Force, Assam shall, without prejudice to any other right or remedy, be at liberty to forfeit the said Earnest Money absolutely.

The said Earnest Money shall be retained by Office of the Principal Chief Conservator of Forest and Head of Forest Force, Assam towards security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to the rein and to carry out such deviations as may be required by Office of the Principal Chief Conservator of Forest and Head of Forest Force, Assam.

I/ We hereby declare that I/ We shall treat the tender documents, specifications and other records connected with the work as secret/ confidential and shall not communicate information derived there-from to any person other than a person to whom I/We have authorized to communicate the same or use the information in any manner prejudicial to the safety of Office of the Principal Chief Conservator of Forest and Head of Forest Force, Assam.

I/ We shall abide to all the laws and shall be responsible for making payments of all the taxes duties, levies and other Govt. dues etc. to the appropriate Govt. departments.

Our GST Registration no.is _____.

The PAN No is_____. I/We shall be responsible for the payment of the respective taxes to the appropriate authorities and should I/ we fail to do so, I/ we here by authorize Office of the Principal Chief Conservator of Forest and Head of Forest Force, Assam to recover the taxes due from us and deposit the same with the appropriate authorities on their demand.

Dated

Signature

Place:(Name of Tenderer with seal)

Witness

Signature:

Name:

Postal Address:

CHAPTER-III: INSTRUCTIONS FOR TENDERER

Tender Notice No.FD/WL/D/DRONE/2018 dated 14.03.2018

Project Name: “DRONE BASED AERIAL SURVEILLANCE SYSTEM WITH DAY AND NIGHT IMAGING CAPACITY”

Project Cost: Rs.80.00 LAKH

1. Office of the Principal Chief Conservator of Forest and Head of Forest Force, Assam invites Electronic Tender for the “**DRONE BASED AERIAL SURVEILLANCE SYSTEM WITH DAY AND NIGHT IMAGING CAPACITY**” at Kaziranga Tiger Reserve, Assam.
2. The Electronic Tender should only be submitted through website i.e. <https://assamtenders.gov.in>, on or before 21/03/2018 **till 5.00 PM**. Tenders received after the time and dates shall not be considered. Covers should invariably be super-scribed “**DRONE BASED AERIAL SURVEILLANCE SYSTEM WITH DAY AND NIGHT IMAGING CAPACITY**” at Kaziranga Tiger Reserve, Assam & also name of the tenderer in block letters.
3. **Eligibility and qualification criteria:**
 - A. The bidder shall satisfy the following requirements:
 - The bidder should have adequate experience in required technology applications
 - The bidder should have experience of working with State or Central Government
 - The bidder should implement at least three orders of supply of similar equipment in the current or previous financial years.
 - The Bidder should have achieved, in at least two financial years, a minimum annual turnover (in implementation of orders of supply of similar equipment) of at least Rs. 2 Crores.
 - Bidder shall furnish GST No.
 - Firms black listed by Government of India or any of the state department are barred from participating in this tender
 - The should furnish details of country office and local office.
 - B. The documentary evidence for satisfying the eligibility criteria must mandatorily be submitted along with offer.

Technical Bid: The Technical bid shall contain the technical specifications of all the instruments/ equipment/ software/ structures which will be used for **DRONE BASED AERIAL SURVEILLANCE SYSTEM WITH DAY AND NIGHT IMAGING CAPACITY**. Documentary evidences for meeting the eligibility criteria and qualification with filled tender forms and the EMD/ DD should be uploaded into the website <https://assamtenders.gov.in>.

Financial Bid: The Financial bid shall contain only the rates offered by the bidders for **DRONE BASED AERIAL SURVEILLANCE SYSTEM WITH DAY AND NIGHT IMAGING CAPACITY**.

The Technical Bid will be opened and eligible bidders meeting all the requirements will be shortlisted. The bidders may be required to give presentation of their solution before the **technical committee** constituted for this purpose. Thereafter, Financial Bid of only short-listed bidders will be opened. All bidders are requested to mention their Email-ID and mobile contact number with Bid documents. Successful Bidder will be required to sign

Memorandum of Understanding (MoU) in connection with implementation/ Installation of the project. The MOU will include availability of Service Centre and Service Engineer, Standard of Performance, Use of Contract Documents performance contract etc.

- (i) Bidders are required to quote rates including all the taxes and duties. Rates should be quoted (in words as well as figure) for door delivery basis at the desired site of Kaziranga Tiger Reserve, Assam including installation and testing. The rate should be written only in prescribed form enclosed with the tender document. No price preference shall be given to the bidder for this tender.
- (ii) The selected bidder should deploy **DRONE BASED AERIAL SURVEILLANCE SYSTEM WITH DAY AND NIGHT IMAGING CAPACITY**” within 30th March 2018 from the date of issue of work order. If the bidder fails to deliver and install system to perform the services within the period specified in terms and conditions of the tender document the purchaser shall without prejudice to its other remedies shall deduct 1% per day and maximum deduction shall be 10% of the order value, as liquidated damages, or the delivery price of the delayed goods or unperformed services for each day of the delay until actual delivery or performance. Once the maximum is reached the purchaser may consider termination of the contract. The decision on delay and circumstances shall be taken by the Principal Chief Conservator of Forests and Head of Forest Force, Assam or any other competent authority.
- (iii) Account Payee Demand Draft, Fixed Deposit Receipt or Bank Guarantee of Rs.1,60,000/- (Rupees One lakh sixty thousand only) in favour of Principal Chief Conservator of Forest and Head of Forest Force, Assam payable at Aranya Bhawan, Panjabri, Ghy-37 from any Nationalised Bank is to be submitted along with the tender as Earnest Money Deposit (EMD). Unsuccessful bidder EMD shall be released after finalization of tender and for the successful bidder EMD shall be released after receiving the Performance Security Deposit.
- (iv) Successful Bidder shall be required to submit Account Payee Demand Draft, Fixed Deposit Receipt or Bank Guarantee on any scheduled bank @10% of the total price quoted for the project as a Performance Security Deposit.
- (v) The bid should be uploaded within the specified timeframe.
- (vi) The bid shall be submitted as per the terms and conditions as laid down in the tender document. If any bid found faulty shall liable to be summarily rejected.
- (vii) Liquidated damages may be imposed for defaults/ inordinate delays on the part of the supplier.
- (viii) No representation shall be accepted after opening of the tender.
- (ix) The Principal Chief Conservator of Forest and Head of Forest Force, Assam also reserves the right to accept, reject or cancel the tender without assigning any reason.
- (x) All the payment shall be made after deducting all taxes, surcharges etc. which are payable to government as Tax Deduction at Source (TDS). Any Tax exemption shall not be given or entertained in this office.

- (xi) Successful bidder shall be there to provide operational and training support for the **DRONE BASED AERIAL SURVEILLANCE SYSTEM WITH NIGHT IMAGING CAPACITY** system for 1 month after Completion of the installation. Bidder shall also provide monthly/ yearly cost bid of extending this support period.
- (xii) Bidder shall provide detailed warranty conditions for all equipment used.
- (xiii) In the event of any dispute, the Principal Chief Conservator of Forest and Head of Forest Force, Assam is appellate authority and his decision shall be binding on both the parties and no further appeal shall be entertained.
- (xiv) All the disputes are subjected to the jurisdiction of Guwahati court.

**Principal Chief Conservator of Forest and
Head of Forest Force, Assam**

Declaration

I/ We have downloaded the tender document from <https://assamtenders.gov.in> and I/ We have not tampered/ modified the tender forms in any manner. In case the document is found to be tampered/ modified, I/ We understand that my/ our tender is liable to be rejected and full earnest money deposit will be forfeited and I/ we am/ are liable to be banned from doing business with Principal Chief Conservator of Forests and Chief Wildlife Warden, Assam and/or prosecuted.

Signature of Tenderer

Firm's seal

Date

Chapter IV (Technical Bid)

Tender specifications for supply and post delivery support of 8 nos of UAVs (6 Quadrotors and 2 Fixed Wing) to Kaziranga Tiger Reserve at a total cost of Rs. 80 lakhs only.

The material should comprise of 8 UAVs (6 Quadrotors and 2 Fixed Wing) with the following specifications:

1. Minimum flight time with camera payload included: 40 minutes for Quadrotor and 90 minutes in case of Fixed Wing UAV.
2. Quadrotor must be capable of attaining a height of at least 200 feet.
3. Both Quadrotor and Fixed Wing UAVs should have full autonomy (autopilot mode), GPS tracking and be capable of doing autonomous missions also.
4. UAVs should be capable of recording GPS co-ordinates and mapping using LIDAR Sensors.
5. Quadrotor should be capable of a top speed of at least 90 km/hr while maintaining excellent stability.
6. Fixed wing UAV must have the following capabilities:
 - (i) A wide range of operating speeds.
 - (ii) A slow stall speed and gentle stall behaviour.
 - (iii) Long endurance.
 - (iv) A large and stable payload capacity.
 - (v) Unobstructed field of view for sensors.
 - (vi) Multiple launch modes (hand, catapult and smooth/rough strips).
 - (vii) Belly landing capability including payload protection.
 - (viii) Easy assembly and break down.
 - (ix) Vertical takeoff and landing capability.
7. Surveillance System should be operable in winds as high as 10m/s.
8. Failsafe options for 'out of range' or 'battery low' like conditions are mandatory. System should provide RTL (return to launch) or land options in such case.
9. Night Vision Thermal camera requirements:
 - i. Minimum camera resolution: 640x512.
 - ii. Thermal Imager Uncooled VOx Microbolometer.
 - iii. Camera pitch should be controllable from ground.
 - iv. Camera should provide live view down to ground station.
 - v. Camera should support digital video output.
10. Day Vision camera requirements:
 - i. Min camera resolution: 1080p.
 - ii. Min optical zoom for camera: 20x (digital zoom should not be counted in this).
 - iii. Camera zoom should be controllable from Ground station application or radio controller.
 - iv. Camera pitch should be controllable from ground.
 - v. Camera should provide live view down to ground station.
 - vi. Camera should support digital video output.
11. Day Vision camera backed up with thermal requirements:
 - i. Minimum camera resolution: 1080p.
 - ii. Should be backed up with thermal camera for vision enhancement.
 - iii. Camera should provide live view down to ground station.
 - iv. Camera should support digital video output.

12. Video transmission: Video should be transmitted on encrypted channel. Industry standard encryption of at least 256bit or more should be used.
13. Remote Controller requirements:
 - i. All UAVs should use common autopilot and communication technology.
 - ii. The controller should have a standalone range of minimum 3 km.
 - iii. All equipment should come in hard case for easy transportation from one place to another.
 - iv. The communication technology should have EIRP 10dBm@900m, 13dBm@5.8G, 20dBm@2.4G.
14. Post delivery support requirement: Minimum one month of onsite support has to be provided for operation and training purpose. At least one person should be deployed onsite at Kaziranga Tiger Reserve for this purpose, if required. This period is in addition to the installation period required. Support system commences from the day all systems are operational.
15. All equipment should be accurately rated in terms of its flight time life / operational life and warranty in the bid.

Item wise Technical detail should be given in the following format.

S.No.	Items	Technical Specifications	Remark

All the Items, technical specifications documentary proof must be annexed.

Signature

Name & Seal of the tenderer.

CHAPTER-V : Financial Bid (Quoting in Indian National Rupees (INR)

(Format for quoting price bid in INR. Separate print may be used & attached with tender document.
The tenderer)

Details of Item(s)	Cost Per Unit in Rs.	Discount in Rs.	Taxes, if any	Total cost* in figure in words
			<u>GST:</u>	

* Total cost inclusive of system establishment and operational.

It is certified that I/We am/are authorized to sign the bid for and on behalf of

M/S

.....

.....

Witness :1).....

2).....

Address

Signature

Name & Seal of the tenderer.

CHAPTER-VI:Agreement

I/We, the M/S-----agree to accept the Terms and Conditions governing this Tender document and process thereafter in letter and spirit. It is Certified that I/ We am/ are authorized to sign this Agreement for and on behalf of M/S.....

Name & Seal of the tenderer

CHAPTER-VII

Format of Bank Guarantee

To

The Principal Chief Conservator of Forests and
Head of Forest Force, Assam

Your Office Order No. _____ for the supply and delivery of _____ has
been accepted by M/s _____.

In accordance with the terms of payment of said order, we have agreed to pay the balance of
% of the contract price of the supplier/ service provider/ bidder, furnishing you with and
acceptance Performance Bank Guarantee for 2% of the total contract value, i.e.
Rs. _____

_____ for the due performance by supplier fall its contractual obligations and to be valid
for a period of 12 months for the date of supplier/ service provider/ bidder of all its
contractual obligations and to be valid for a period of 12 months for the date of bank
guarantee for this purpose you have agreed to accept our guarantee.

In consideration thereof, we hereby guarantee payment of and undertake to pay Rs.
_____ and remit to you on demand and without demur the sum of Rs.
_____ being 2% of the total value of the contract on receipt of your
information that the supplier/ service provider/ bidder has committed a breach of contract in
any of its contractual obligations.

This guarantee shall be valid for a period of 12 months from the date of Installation of
equipment in satisfactory condition and in any event shall expire on _____,
you shall have the right to file/ make your claim on us under the guarantee for a period of
sixty days from the said date of expiry.

This guarantee shall not be revoked without your express consent and shall not be affected by
your granting time or any other indulgence to the supplied or for any other reason
whatsoever.

Notwithstanding anything, contained herein above our liability under this guarantee is
restricted to Rs. _____ and this guarantee will remain in force up to and
inclusive of _____ unless an action to enforce a claim under the guarantee is
filed against us within sixty days from the date of expiry i.e. on or before
_____, all rights under the guarantee shall be forfeited and
we shall be relieved and discharged from all liabilities there under.

Signatory Bank with Seal

******END OF TENDER DOCUMENT******

Annexure-I

Items and Technical Specifications of "DRONE BASED AERIAL SURVEILLANCE SYSTEM WITH DAY AND NIGHT IMAGING CAPACITY"(Tentative***) Control Room Tentative Items

S.No.	Item	Technical Specification
1	Quadcopter/ Octocopter with visual zoom camera	Less Than 4 Kg including propellers and battery.
2	Quadcopter/ Octocopter with thermal Camera	Less Than 5 Kg including Thermal camera should be integrated with the system.
4	Software and APP	iOS 8.0 or later, Android 4.1.2 or late
5	Remote Controller	Operating Frequency 2.400-2.483 GHz, Operating Temperature 14° to 104° F (-10° to 40° C), Dual User Capability Host-and-Slave connection

*All the above said items qualifying, technical Specifications details must be annexed.

**The number of items depends on the solution designed by the bidder. The above annexure is suggestive the bidder can add items and specify in the Bill of Material or the financial bid.