

# Cherokee Nation

[www.cherokee.org](http://www.cherokee.org)

## REQUEST FOR BIDS

**TWO (2) DRONES WITH DOCKING STATION PACKAGE  
FOR CHEROKEE NATION MARSHAL SERVICE**



**Bid Due Date: June 17, 2024**

**CHEROKEE NATION**

P.O. Box 948  
Tahlequah, OK 74465  
(918) 453-5000

## **CHEROKEE NATION BID REQUEST**

### **Two (2) Drones with Docking Station Package**

The Cherokee Nation is accepting bids from interested parties for two (2) drones with docking station package for the Cherokee Nation Marshal Service. Interested parties are to provide a bid to furnish product equal to or better than the specifications provided. Interested bidders must follow all directions outlined in this bid packet including the utilization of mandatory bid response sheet to be considered fully responsive.

The lowest most responsive, responsible bid will be the determining factor in awarding this bid taking Indian Preference in accordance with Cherokee Nation Acquisition Management Policy and Procedures. The successful bidder will be issued a purchase order incorporating the bid response.

**Bids are due June 17, 2024 by 5:00 p.m.**

**MANDATORY SUBMITTAL INFORMATION:** Bid submittal requirements must be followed. Each bid must be submitted on the prescribed, required form with all areas completed. Bids may be faxed to the attention of **Pam Jumper** at (918) 458-4493 or (918) 458-7695 or e-mailed to [pam-jumper@cherokee.org](mailto:pam-jumper@cherokee.org). It is the bidder's responsibility to ensure delivery of bid by **June 17, 2024 by 5:00 p.m.** Any bids received after the designated date and time will be ineligible for award.

**Bid Acceptance:** Bids will be accepted from Indian and Non-Indian bidders. Cherokee Nation reserves the right to reject any and all bids. Cherokee Nation reserves the right to determine if a bid meets stated requirements, and to award a purchase order for the bid that is in the best interest of the Cherokee Nation including but not limited to the total cost and capability of the bidder. Bidders are responsible for any and all costs associated with the preparation and submission of bids. To be considered, bids must be received by the specified date and time; any bid received after stipulated date and time will be returned unopened. No bidder may withdraw their bid within 30 days after proposal due date.

**TERO Certification:** Indian preference will be given only to bidders who provide proof of current certification from the Cherokee Nation Tribal Employments Office (TERO) located in Tahlequah, Oklahoma, telephone number (918) 453-5000. Proof of TERO certification must accompany and be included in bid submittal.

**Conflict of Interest and Restrictions:** If any contractor, contractor's employee, subcontractor, or any individual working on the proposed contract may have a possible conflict of interest that may affect the objectivity, analysis, and/or performance of the contract, it shall be declared in writing and submitted to Cherokee Acquisition Management (Attn: Pam Jumper) no later than on or before **June 17, 2024 by 5:00 p.m.** The NATION will determine in writing if the conflict is significant and material and if so, may eliminate the contractor from submitting a proposal.

**Verbal Instructions:** Interested parties shall not initiate or execute any negotiation, decision, or action arising from any verbal discussion with any Cherokee Nation employee. Only written communications from the designated Contact Person at Cherokee Nation may be considered a duly authorized expression on behalf of the NATION regarding this RFP. Additionally, only written communications from interested parties are recognized as duly authorized expressions on behalf of the vendor. The same instructions shall apply to any subsequent award and agreement communications.

**Qualifications of Bidder:** The NATION may make such investigations as deemed necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the NATION all such information and data for this purpose as the NATION may request. The NATION reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the NATION such bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein. Conditional bids will not be accepted.

**Method of Award – Lowest Bid That Contains Lowest Most Responsive/Reasonable Offer From Qualified Bidder:** After consideration of price and other factors, the purchase order will be awarded to the bidder whose bid is determined to be the lowest most responsive/reasonable offer taking Indian Preference into consideration and in the best interest of the Nation to accept. Award shall be to the lowest, most responsive/reasonable bid in accordance with Cherokee Nation Acquisition Management Policy and Procedures. Indian/TERO Preference will be given only to bidders who provide proof of current TERO certification from the Cherokee Nation Tribal Employments Office (TERO) in accordance with current Cherokee Nation Policy. Proof of TERO certification must accompany and be included in bid submittal.

**Debarment, Suspension, Proposed Debarment, and Other Responsibility Matters:** The responding party certifies to the best of its knowledge and belief that the person, the firm, or any of its principals are not presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency or Indian tribe. The bidder will also certify they have not, within a three-year period preceding this Request for Proposal, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, Local or Tribal) contract or subcontract; violation of Federal or State antitrust statutes relating to the submission of offers; or commissions of embezzlement, theft, forgery, bribery, falsifications or destruction of records, making false statements, and are not presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in this provision. The responding party certifies they have not, within a three-year period preceding this Request for Proposal, had one or more contracts terminated for default by a Federal, State, Local or Tribal agency. The responding party shall provide immediate written notice to the Cherokee Nation if, at any time prior to contract award, the person learns its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

**General Information:** Cherokee Nation reserves the right to waive any informalities or to reject any and all bids. Award of purchase order will be to the lowest most responsible responsive bidder and will be subject to availability of funds. All sums due to any suppliers utilized by successful bidders must be paid or will be paid within ten (10) days of receipt of any money received from the Cherokee Nation under any purchase order. Indian preference will be given to Contractors certified as an Indian-Owned firm by the Cherokee Nation Tribal Employment Rights Office (T.E.R.O.). Proof of certification must accompany all bids. No bidder may withdraw their bid within thirty (30) days after bid opening date.

A prospective contractor seeking to receive Indian Preference under this contract must be certified as an Indian-owned firm by the Cherokee Nation Tribal Employment Rights Office (TERO) and submit proof of that certification with their bid.

**MANDATORY BID RESPONSE SHEET**  
**Two (2) Drones with Docking Station Package**

<u>Product Description</u>	<u>QTY</u>	<u>UNIT COST</u>	<u>TOTAL</u>
Drone with Docking Station Package	<u>02</u>	_____	_____
SHIPPING COST		\$ _____	
GRAND TOTAL BID		\$ _____	

LEAD TIME ARO: \_\_\_\_\_

ALL SPECIFICATIONS ARE FULLY MET: \_\_\_\_\_ YES \_\_\_\_\_ NO

**PRODUCT SPECIFICATIONS INCLUDED: \_\_\_\_\_ YES \_\_\_\_\_ NO**

\*\*Cherokee Nation will consider bids for product equal to or better. If not bidding exact product, complete details and specifications for product must be submitted with bid.\*\*

NOTE TO BIDDERS REGARDING INDIAN PREFERENCE:

TERO Certified Contractor: \_\_\_\_\_ Yes \_\_\_\_\_ No  
 (Proof of certification must accompany all bids)

SUBMITTED:

_____	Company Name
_____	Company Address
_____	Authorized Signature
_____	Print Name & Title
_____	Phone/Fax Number

Product Specifications and Requirements  
Provided by: Cherokee Nation Marshal Service

The Cherokee Nation Marshal Service is seeking bids for two (2) drones with docking station packages. The desired information follows, including a make/model; the Nation will accept **EQUAL TO OR BETTER THAN SPEC'S PROVIDED.**

# Drone Station and Drone Pkg.

## Specs

### General

- Total Weight
- 34 kg (without aircraft)

### Dimensions

- Cover Opened: 1228×583×412 mm (L×W×H)  
Cover Closed: 570×583×465 mm (L×W×H)

### Input Voltage

- 100-240 V (AC), 50/60 Hz
- Input Power
- Max 1000 W

### Operating Temperature

- -25° to 45° C (-13° to 113° F)

### Ingress Protection Rating

- IP55

### Number of Drones Accommodated

- 1

### Max Allowable Landing Wind Speed

- 8 m/s

### Max Operating Altitude

- 4000 m

### **Receiving Frequency of RTK Base Station Satellite**

- Simultaneously receive:  
GPS: L1 C/A, L2  
BeiDou2: B11, B21, B31  
BeiDou3: B11, B31  
GLONASS: L1, L2  
Galileo: E1, E5B

### **Positioning Accuracy of RTK Base Station**

- Horizontal: 1 cm + 1 ppm (RMS)  
Vertical: 2 cm + 1 ppm (RMS)

### **Charging Performance**

- Output Voltage
- 28 V DC
- Charging Time
- 32 minutes

### **Video Transmission**

- Video Transmission System
- O3 Enterprise

### **Operating Frequency**

- 2.4000-2.4835 GHz  
5.725-5.850 GHz

### **Antenna**

- Built-in 4 antennas, 2T4R, supports intelligent switching.
- Transmitter Power (EIRP)
- 2.4 GHz: < 33 dBm (FCC); < 20 dBm (CE/SRRC/MIC)  
5.8 GHz: < 33 dBm (FCC); < 14 dBm (CE); < 23 dBm (SRRC)

### **Air Conditioning System**

- Operating Voltage
- 28 V DC
- Air Conditioning Type
- TEC Air Conditioning

### **Backup Battery**

#### **Battery Capacity**

- 12 Ah

#### **Output Voltage**

- 12 V

#### **Battery Type**

- Lead-acid battery.

**Battery Life**

- > 5 hours

**Network Access**

- Ethernet Access
- 10/100/1000Mbps adaptive Ethernet port

**Sensor**

- Wind Speed Sensor
- Supported
- Rainfall Sensor
- Supported
- Ambient Temperature Sensor
- Supported
- Water Immersion Sensor
- Supported
- In-Cabin Temperature Sensor
- Supported
- In-Cabin Humidity Sensor
- Supported

**Security Camera (External)**

- Resolution
- 1920×1080
- Field of View (FOV)
- 151°
- Auxiliary Light
- Auxiliary White Light

**Security Camera (Internal)**

- Resolution
- 1920×1080
- Field of View (FOV)
- 151°
- Auxiliary Light
- Auxiliary White Light

**Lightning Protection**



- AC Power Port
- 20 kA (rated value), meets EN 61643-11 Type 2 and IEC 61643-1 Class II protection level requirements.
- Ethernet Port
- 10 kA ( $I_{total}$ ), meets EN/IEC 61643-21 Category C protection level requirements

#### **Supported Software**

- Applications either OS or Android based.

#### **Expansion Capability**

- Open Protocol
- Edge Computing
- Supports data communication with external switches.

## **Drone Specs:**

### **Aircraft - General**

- **Weight**
- 1410 g

This value includes the weight of the battery, propellers, and a microSD card, but does not include third-party payloads. The actual product weight may vary due to differences in batch materials and external factors.

- **Max Takeoff Weight**
- 1610 g
- **Dimensions**
- 335×398×153 mm (L×W×H, without propellers)
- **Wheelbase**
- **Diagonal Wheelbase: 463.2 mm**
- **Left-Right Wheelbase: 359.9 mm**
- **Front-Rear Wheelbase: 291.4 mm**

- Max Ascent Speed
- 6 m/s (Normal Mode)  
8 m/s (Sport Mode)
- Max Descent Speed
- 6 m/s (Normal Mode)  
6 m/s (Sport Mode)
- Max Horizontal Speed (at sea level, no wind)
- Normal Mode, With Obstacle Sensing Enabled: 15 m/s flying forward, 12 m/s flying backward, 10 m/s flying sideways  
Sport Mode: 21 m/s flying forward, 18 m/s flying backward, 16 m/s flying sideways
- Max Wind Speed Resistance
- During Operation: 12 m/s  
During Takeoff/Landing: 8 m/s
- Max Takeoff Altitude
- 4000 m
- Max Flight Time
- 50 minutes

Max Hovering Time

- 40 minutes

Max Operating Radius

- 10 km

#### Max Flight Distance

- 43 km

#### Max Pitch Angle

- 25° (Normal Mode)  
25° (Sport Mode)

- Max Angular Velocity

- 250°/s

- Global Navigation Satellite System

- GPS + Galileo + BeiDou + GLONASS (GLONASS is supported only when the RTK module is enabled.)

- Hovering Accuracy Range (windless or breezy)

- Vertical:

±0.1 m (with vision positioning)

±0.5 m (with GNSS positioning)

±0.1 m (with RTK positioning)

#### Horizontal:

±0.3 m (with vision positioning)

±0.5 m (with GNSS positioning)

±0.1 m (with RTK positioning)

- Operating Temperature

- -20° to 45° C (-4° to 113° F)

- Ingress Protection Rating
- IP54
- Motor Model
- 2607
- Propeller Model
- 1149, foldable, non-quick release
- RTK Module
- Integrated on the aircraft
- Beacon
- Integrated on the aircraft

#### Aircraft - Wide-Angle Camera

- Image Sensor
  - 4/3 CMOS, Effective Pixels: 20 MP
  - 1/1.32-inch CMOS, Effective Pixels: 48 MP
- Lens

FOV: 82°

Format Equivalent: 24 mm

Aperture: f/1.7

Focus: 1 m to  $\infty$

- Lens Defogging

The wide-angle camera supports lens defogging.

- ISO Range

100-25600

- Shutter Speed

- Electronic Shutter: 8-1/8000 s
- Max Image Size
- DJI Matrice 3TD: 8064×6048
- Still Photography Modes

Single: 12 MP, 48 MP

Timed: 12 MP, 48 MP, 0.7/1/2/3/5/7/10/15/20/30/60 s\*

Smart Low-Light: 12 MP

Panorama: 12 MP (raw image); 100 MP (stitched image)

Video Resolution

- H.264
- 4K: 3840×2160@30fps
- FHD: 1920×1080@30fps

- Video Bitrate

4K: 85 Mbps

FHD: 30 Mbps

- Supported File System
- exFAT
- Photo Format
- JPEG
- Video Format
- MP4 (MPEG-4 AVC/H.264)

## Aircraft - Tele Camera

- Image Sensor
- 1/2-inch CMOS, Effective Pixels: 12 MP
- Lens
- FOV: 15°  
Format Equivalent: 162 mm  
Aperture: f/4.4  
Focus: 3 m to  $\infty$
- Lens Defogging  
The tele camera supports lens defogging.
- ISO Range
- 100-25600
- Shutter Speed
- Electronic Shutter: 8-1/8000 s
- Max Image Size
- 4000×3000
- Photo Format
- JPEG
- Video Format
- MP4 (MPEG-4 AVC/H.264)
- Still Photography Modes

Single: 12 MP

- Timed: 12 MP, 0.7/1/2/3/5/7/10/15/20/30/60 s  
Smart Low-Light: 12 MP
- Video Resolution
    - H.264
    - 4K: 3840×2160@30fps
    - FHD: 1920×1080@30fps
  - Video Bitrate
    - 4K: 85 Mbps
    - FHD: 30 Mbps
  - Digital Zoom
    - 8x (56x hybrid zoom)

#### Aircraft - Infrared Camera

- Thermal Imager
- Uncooled VOx Microbolometer
- Pixel Pitch
  - 12  $\mu\text{m}$
- Frame Rate
  - 30 Hz
- Lens
  - FOV: 61°
  - Format Equivalent: 40 mm
  - Aperture: f/1.0
  - Focus: 5 m to  $\infty$

- Sensitivity
- $\leq 50 \text{ mK@F1.0}$
- Temperature Measurement Method
- Spot Measurement, Area Measurement
- Temperature Measurement Range
- $-20^{\circ}$  to  $150^{\circ}$  C ( $-4^{\circ}$  to  $302^{\circ}$  F, High Gain Mode)  
 $0^{\circ}$  to  $500^{\circ}$  C ( $32^{\circ}$  to  $932^{\circ}$  F, Low Gain Mode)
- Palette
- White Hot/Black Hot/Tint/Iron Red/Hot  
 Iron/Arctic/Medical/Fulgurite/Rainbow 1/Rainbow 2
- Photo Format
- JPEG (8-bit)  
 R-JPEG (16-bit)
- Video Resolution
- Normal Mode:  $640 \times 512 @ 30\text{fps}$   
 UHR Infrared Image Mode:  $1280 \times 1024 @ 30\text{fps}$  (With  
 the UHR Infrared Image function enabled, the aircraft  
 can automatically enable or disable UHR Infrared  
 Image mode according to the ambient light  
 brightness.)
- Video Bitrate
- 6 Mbps



- Video Format
- MP4 (MPEG-4 AVC/H.264)
- Still Photography Modes
- Single
  - Normal Mode: 640×512
  - UHR Infrared Image Mode: 1280×1024

#### Timed

Normal Mode: 640×512, 0.7/1/2/3/5/7/10/15/20/30/60 s

UHR Infrared Image Mode: 1280×1024, 0.7/1/2/3/5/7/10/15/20/30/60 s

- Digital Zoom
- 28x
- Infrared Wavelength
- 8-14  $\mu\text{m}$
- Infrared Temperature Measurement Accuracy
- $\pm 2^\circ \text{C}$  or  $\pm 2\%$  (using the larger value)

#### Aircraft - Gimbal

- Stabilization
- 3-axis mechanical gimbal (tilt, roll, pan)
- Mechanical Range

- Tilt:  $-135^{\circ}$  to  $+45^{\circ}$   
Roll:  $-45^{\circ}$  to  $+45^{\circ}$   
Pan:  $-27^{\circ}$  to  $+27^{\circ}$
- Controllable Range
- Tilt:  $-90^{\circ}$  to  $+35^{\circ}$   
Pan: Not controllable
- Max Control Speed (tilt)
- $100^{\circ}/s$
- Angular Vibration Range
- $\pm 0.005^{\circ}$

#### Aircraft - Sensing

- Sensing Type
- The aircraft supports six-directional obstacle sensing.

#### Forward

- Measurement Range: 0.5-21 m  
Detection Range: 0.5-200 m  
Effective Sensing Speed: Flight Speed  $\leq 15$  m/s  
FOV: Horizontal  $90^{\circ}$ , Vertical  $90^{\circ}$

#### Backward

- Measurement Range: 0.5-23 m  
Effective Sensing Speed: Flight Speed  $\leq 12$  m/s  
FOV: Horizontal  $90^{\circ}$ , Vertical  $90^{\circ}$

#### Lateral

- Measurement Range: 0.5-15 m  
Effective Sensing Speed: Flight Speed  $\leq$  10 m/s  
FOV: Horizontal 104°, Vertical 90°

Upward

- Measurement Range: 0.5-21 m  
Effective Sensing Speed: Flight Speed  $\leq$  6 m/s  
FOV: Front and Back 90°, Left and Right 90°

Downward

- Measurement Range: 0.5-14 m  
Effective Sensing Speed: Flight Speed  $\leq$  6 m/s  
FOV: Front and Back 95°, Left and Right 110°

Operating Environment

- Forward, Backward, Left, Right, and Upward:  
Surfaces with discernible patterns and adequate lighting (lux > 15)  
Downward: Diffuse reflective surface with diffuse reflectivity > 20% (e.g. walls, trees, people) and adequate lighting (lux > 15)

#### Aircraft - Video Transmission

- Video Transmission System
- Live View Quality
- 720p/30fps, 1080p/30fps  
540p/30fps, 720p/30fps, 1080p/30fps Operating Frequency
- 2.4000-2.4835 GHz  
5.150-5.250 GHz (CE: 5.170-5.250 GHz)

## 5.725-5.850 GHz

Max Transmission Distance (unobstructed, free of interference)

- FCC: 15 km  
CE: 8 km  
SRRC: 8 km  
MIC: 8 km
- Max Transmission Distance (unobstructed, with interference)
- Strong Interference (dense buildings, residential areas, etc.): 1.5-3 km (FCC/CE/SRRC/MIC)  
Medium Interference (suburban areas, city parks, etc.): 3-9 km (FCC), 3-6 km (CE/SRRC/MIC)  
Low Interference (open spaces, remote areas, etc.): 9-15 km (FCC), 6-8 km (CE/SRRC/MIC)
- Max Download Speed
- 5 MB/s
- 15 MB/s
- Lowest Latency
- The video transmission latency from the aircraft to the dock is approximately 110 to 150 milliseconds

(affected by the actual environmental conditions).  
Antenna.

- 4 antennas, 2T4R
- Transmitter Power (EIRP)
- 2.4 GHz: < 33 dBm (FCC), < 20 dBm (CE/SRRC/MIC)
- 5.1 GHz: < 23 dBm (CE)
- 5.8 GHz: < 33 dBm (FCC/SRRC), < 14 dBm (CE)

#### Aircraft - Storage

- Supported Memory Cards

#### Aircraft - Battery

- Capacity
- 7811 mAh
- Voltage
- 14.76 V
- Max Charging Voltage
- 17.0 V
- Type
- Li-ion 4S
- Chemical System
- LiNiMnCoO<sub>2</sub>
- Energy
- 115.2 Wh

- Weight
- 544 g
- Cycle Count
- 400
- Charging Temperature
- 5° to 45° C (41° to 113° F)

#### Aircraft - Power Adapter

- Input
- 100-240 V (AC), 50/60 Hz, 2.5 A
- Output Power
- 100 W
- Output
- Max output power of 100 W (total)

- Aircraft - Charging Base
- Input
- USB-C: 5-20 V, 5.0 A
- Output
- Battery Port: 12-17 V, 8.0 A
- Rated Power
- 100 W

- Charging Type
- One battery charged at a time
- Charging Temperature
- 5° to 40° C (41° to 104° F)

#### Others

- Guaranteed software updates until
- 2025/12/31