

Crow Wing County Unmanned Aircraft Systems (CWCUAS)

301.1 ORGANIZATION

The CWCUAS Team will fall under the Crow Wing County Sheriff's Office, Emergency Management Division and report to an advisory committee comprised of:

- Crow Wing County Sheriff's Office Captain
- Crow Wing County Sheriff's Office Operational Lieutenant
- Crow Wing County Emergency Management Director
- Brainerd Fire Chief
- Crosslake Fire Chief
- Baxter Police Chief
- Brainerd Police Chief
- Brainerd Lakes Regional Airport Director

CWCUAS Team members shall be comprised of personnel assigned by the Sheriff or his/her designee and may include, pilots, visual observers and others deemed necessary. All pilots shall complete and pass the FAA part 107 requirements.

Unmanned aircraft operations are under the command of the Sheriff or his/her designee. Control and supervision of flight operations are hereby delegated to the trained pilots.

301.2 PERSONNEL

The Crow Wing County Emergency Management Director along with CWCUAS Advisory Committee is responsible for overall management and supervision of the operation, which includes budget preparation and control.

301.3 PILOTS

To be considered for selection as a pilot, applicants must be in good standing within Crow Wing County's public safety community and meet all FAA requirements and the requirements imposed by the Sheriff.

A pilot's primary duty is the safe and effective operation of the agency's UAS in accordance with the manufacturer's approved flight manual, policies and procedures.

301.4 SAFETY

It is the duty of every agency member to contribute to the goal of continued safe operations. Members will always operate in the safest manner practical and never take unnecessary risks. Any safety hazard, whether procedural, operational, or maintenance related should be reported

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as soon as identified and possible. Any suggestions in the interest of safety should be made to the UAS advisory committee without reservation.

If any member observes, or has knowledge of, an unsafe or dangerous act committed by another member, a member of the advisory committee shall be notified immediately so that corrective action may be taken.

301.5 SAFETY TRAINING

All new UAS members shall receive training in the following topics before serving in an operational capacity:

- Agency commitment to safety
- Agency policy/SOP
- The member's role in safety
- Process for reporting hazards and occurrences
- Applicable emergency procedures.

All safety training shall be documented and stored in a UAS electronic file.

301.6 SAFETY STAND DOWN

A safety "stand down" will be conducted annually. During a stand down, all members with unmanned aviation responsibilities assemble to review the agency safety program. It is also an opportunity to solicit changes to this manual, identify potential hazards, conduct safety training, etc.

301.7 GROUND SAFETY

- (a) The pilot and Visual Observer (VO) must be constantly aware of dangers to ground personnel and moving propeller or rotor blades.
- (b) The pilot will not under any circumstances leave any unauthorized person in charge of the unmanned aircraft controls while the engine is running. If it is necessary for the pilot to leave the unmanned aircraft the engine will be shut down and the controls deactivated.
- (c) When operating over populated areas, the pilot will ensure that a "defined incident perimeter" exists which limits the potential of persons being present beneath the UAS flight path.

301.8 TRAINING

- (a) UAS pilots will have training days monthly. A formal training plan will be completed and approved by the CWUAS advisory committee prior to the training session.
- (b) Each member will document and log a minimum of 1 hour of flight time per month.

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1. Documentation needs to include: number of hours, type of aircraft, weather and wind conditions and/or any special notes for training.
2. Flight hours can be on the CWCUAS systems or other approved UAS systems.
 - (a) Every other month at least 1 of those hours must be on the CWCUAS equipment, specifically the Matrice 210's
 - (b) Other systems must be same or similar to the teams existing equipment and approved by the Crow Wing County Emergency Manager.
- (c) Each member will receive a log book to document training and missions along with a master log book for each team.
- (d) New Member Training-The focus of this training will be familiarization with the equipment and operational procedures along with an emphasis on safe operations.
- (e) Existing Member Training-Objectives should challenge the member to increase their competency in the knowledge and skills necessary to perform safe UAS operations.
- (f) Annual Proficiency Standards will be required for each individual operator. Proficiency is defined as being able to consistently demonstrate a level of skill in operating unmanned aerial systems.

301.9 APPROVED UAS MISSIONS

UAS missions will be limited to incidents involving public and officer safety concerns. Approved public safety flights will also be approved on a case-by-case basis and must adhere to [§626.19](#). The following are examples of approved missions but are not limited to:

- Search and Rescue (Innocent victims and suspects)
- Tactical calls for the scene overwatch that involve the risk of death or bodily harm to a person.
- Crash scene reconstruction/investigation or major crime scene
- Disaster Assessments
- Situational Awareness
- Training purposes

301.10 MINIMUM FLIGHT CREW REQUIREMENTS

The minimum crew on all CWCUAS operations will be a pilot and visual observer. Under no circumstances will a pilot attempt to complete a flight without the assistance of a visual observer. (VO)

301.11 FLIGHT CREW RESPONSIBILITIES - PILOT IN COMMAND (PIC)

- Directly responsible for the operation of the unmanned aircraft
- Have direct authority to reject a flight based on weather, aircraft limitations, physical condition, risk to public safety personnel or civilians. No member of any law

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enforcement agency, regardless of rank, can order a pilot to make a flight when, in the opinion of the pilot, it cannot be done within FAA regulations.

- Pilots are responsible for compliance with this manual, policies and FAA Guidelines
- Pilots shall be knowledgeable about their surroundings to include obstructions and airspace activity
- Pilots shall be responsive to the request of the visual observer in order to accomplish the mission.

301.12 PERSON MANIPULATING THE CONTROLS (PMC)

- Person controlling the UAS system under the direction of the PIC.
- PMC's must be Part 107 certified

301.13 VISUAL OBSERVER (VO)

- The VO will assist the pilot in maintaining visual awareness of the airspace and advise the pilot of any imminent hazards, including but not limited to other aircraft, terrain, and adverse weather conditions.
- The VO shall work with the pilot to ensure communications are made promptly
- The VO may be another pilot or trained public safety personnel on the scene.
- The VO is responsible for assisting the pilot in scanning the airspace surrounding UAS operations. A VO is required for all UAS operations.
- The VO may also be responsible for radio communication during the operation.

301.14 CREW COORDINATION

- The pilot and VO will work together to form the crew which will ultimately accomplish mission objectives.
- In the interest of safety, both the pilot and VO must be comfortable with any decision made while working as a crew. This begins when deciding whether to accept the mission and continues throughout the mission. If there is a genuine concern on the part of either the pilot or VO, the mission should not be accepted or should be terminated.
- Concern on the part of either crew member should be immediately expressed to the other member. Effective communication is the key. Many times, reservations about something can be addressed with a different explanation.
- CWCUAS pilots will follow the FAA part 107 regulations
 - Max altitude of 400 ft AGL or within 400 feet of a structure, 400 ft above the structure
 - Minimum visibility of 3 statute miles and remain 500 feet below cloud(s) and 2,000 feet away horizontally from cloud(s)

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- Operation in G airspace which is unrestricted is allowed, operation in all other airspace requires approval.
- Operation must remain in visual line of sight
- May not operate over persons not directly participating in the operation or not under a covered structure
- Must yield right of way to other aircraft
- Night flights within accordance of waiver, otherwise flight restricted to civil twilight
- Medical Condition, this could be used for sleep issues etc:No person may manipulate the flight controls of a small unmanned aircraft system or act as a remote pilot in command, visual observer, or direct participant in the operation of the small unmanned aircraft if he or she knows or has reason to know that he or she has a physical or mental condition that would interfere with the safe operation of the small unmanned aircraft system.
- Prior to operation check for any Notice to Airman (NOTAM) or Temp Flight Restrictions (TFR)
- PMC, PIC, VO shall not be under influence of alcohol or narcotics

301.15 PREFLIGHT ACTIONS

(a) Inspections

1. At the beginning of each mission, the pilot shall conduct a thorough preflight inspection of the UAS in accordance with the instructions contained in the unmanned aircraft flight checklist.
2. All mission equipment will be tested prior to the flight by the pilot.

(b) Weather

1. Prior to initiating a flight, the pilot shall check current and forecast weather conditions in the mission area.
2. The frequency of additional weather checks will be determined by the severity of existing or forecasted weather.

(c) Airspace/Obstructions

1. Identify and verbalize obstructions and potential obstructions to include:
 - (a) Water towers
 - (b) Power lines
 - (c) Buildings
 - (d) Cell towers
 - (e) Airports

1. Airport Director – Notify Airport Directors if within 5 miles

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2. Ensure of operation in approved airspace.

301.16 DOCUMENTATION

- (a) Notification will be made to the appropriate dispatch centers of missions to include location, time and team members. All flights will be noted in the aircraft logbook and saved monthly to the electronic UAS file
- (b) A flight report will be created for each mission and included with the case file.
- (c) Each use of the UAV must be documented with a unique case number, provide a factual basis for the use of a UAV, and identify the applicable exception under [§626.19 subd. 3](#) unless a search warrant was obtained.

By January 15 of each year, each law enforcement agency that maintains or uses a UAV shall report to the commissioner of public safety the following information for the preceding calendar year:

- (1) the number of times a UAV was deployed without a search warrant issued under this chapter, identifying the date of deployment and the authorized use of the UAV under subdivision 3; and
- (2) the total cost of the agency's UAV program.

301.17 REQUESTS FOR UNMANNED AIRCRAFT SERVICES

Requests received will be handled by the Crow Wing County Emergency Management Director and/or the Brainerd Fire Chief. If they are unavailable, contact the Operations Lt. for Crow Wing County Sheriff's Office or the Brainerd Police Chief, Baxter Police Chief or Crosslake Fire Chief. If the request is approved, the CWCUAS team will be contacted for the mission.

For purposes unrelated to law enforcement at the request of a government entity provided that the government entity makes the request in writing to the law enforcement agency and specifies the reason for the request and proposed period of use.

301.18 FLIGHTS LEAVING THE COUNTY

Planned or emergent UAS operations leaving the jurisdictional boundaries of Crow Wing County need the specific approval of the Emergency Management Director and/or Brainerd Fire Chief. If they are unavailable contact the Operations Lt. for the Crow Wing County Sheriff's Office. If the request is approved, the CWCUAS team will be contacted for the mission. After a 6-hour operational period the operation/mission will be evaluated to determine if potential billing for reimbursement is necessary. Which may include: time, lodging, and travel expenses.

301.19 PRE-FLIGHT PLANNING

- (a) The pilot and VO shall familiarize themselves with all available information concerning the flight. This includes obstructions, airspace, perimeter and suspect direction of travel.
- (b) If applicable notify airport manager/tower of our mission.

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301.20 GROUND HANDLING

- (a) The pilot is responsible for operation of the UAS in the air and on the ground. Pilots will ensure that no unauthorized items are attached to the aircraft prior to movement. During movement, adequate clearance will be maintained.
- (b) Upon "repack" of the unmanned aircraft the Pilot will ensure that all the items are returned to their proper place. Verification of the inventory checklist should be completed.

301.21 INFLIGHT RESPONSIBILITIES

Pilots shall follow the FAA part 107 requirements.

301.22 POST FLIGHT RESPONSIBILITIES

- (a) A thorough inspection will be conducted of the UAS immediately after the completion of the mission to ascertain if any damage was sustained during operation.
- (b) If necessary, the aircraft will be serviced so that it is immediately available for the next flight.
- (c) Necessary entries will be made into the aircraft flight log and appropriate reports will be completed. Times will be logged to include, dispatch, arrival, launch, land and clear times. Nature of the call and location of the call. Location of launch.
- (d) If applicable notify airport manager/tower that we are clear of airspace.

301.23 DATA COLLECTION MINIMIZATION

In order to safeguard the privacy of citizens we serve, collection of data to include, but not limited to, digital photographs, digital video, infrared images and sound recordings will be limited to the extent absolutely necessary to accomplish the current mission.

301.23.1 DATA Storage

All data collected during UAS missions will be destroyed through electronic deletion after the mission. Only data which has evidentiary value of a specific crime or flight data which documents flight concerns with the aircraft will be safeguarded and retained. Sheriff's Office retention periods apply to this exception. Some data maybe retained for training purposes and stored in the UAS electronic file. All data that's stored will be stored in the Crow Wing County RMS system. The investigating agencies will have to submit a data request to the Crow Wing County Sheriff's Office to obtain the data.

301.23.2 Activity Reporting Procedures

Flight activities will be documented in the aircraft logbook and within the UAS electronic file.

301.23.3 Data Classification

Data collected by a UAV are private data on individuals or nonpublic data, subject to the following:

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- 1) if the individual requests a copy of the recording, data on other individuals who do not consent to its release must be redacted from the copy;
- (2) UAV data may be disclosed as necessary in an emergency situation under subdivision 3, clause (1);
- (3) UAV data may be disclosed to the government entity making a request for UAV use under subdivision 3, clause (9);
- (4) UAV data that are criminal investigative data are governed by section [13.82, subdivision 7](#); and
- (5) UAV data that are not public data under other provisions of chapter 13 retain that classification.

(b) Section [13.04, subdivision 2](#), does not apply to data collected by a UAV.

(c) Notwithstanding section [138.17](#), a law enforcement agency must delete data collected by a UAV as soon as possible, and in no event later than seven days after collection unless the data is part of an active criminal investigation.

301.24 CONSTITUTIONAL ASPECTS OF ARIAL SEARCHES

- (a) Aerial searches to inspect, or gather evidence on activity on the ground, may, under some circumstances, intrude upon a person's reasonable expectation of privacy and therefore come under the protection of the Fourth Amendment to the U.S. Constitution.
- (b) The courts will determine whether the law enforcement aircraft is in the public airways at an altitude at which members of the public regularly travel. Other conditions include; the type of property (open fields versus curtilage); frequency of other aircraft flights over the area; steps taken to conceal property and activity from aerial observation and location of the observer (altitude).
- (c) As a result of pertinent U.S. Supreme Court decisions, aerial searches of areas that can be reasonably interpreted to give rise to the reasonable expectation of privacy will be conducted no lower than 400' AGL. This section is not intended to prohibit searches of areas that do not give rise to reasonable expectation of privacy or searches pursuant to a search warrant to operate at altitude below 400' AGL. Additionally, in some circumstances, exigent circumstances would also justify searches of "reasonable expectation of privacy" areas at an altitude below 400' AGL.
- (d) Use of thermal imagers is passive and non-intrusive. In most circumstances, use of this device is not considered a search and does not require a search warrant. However, a 2001 U.S. Supreme Court decision (U.S. v. Kyllo), held that using sense-enhancing technology to obtain any information regarding the interior of a home that could not otherwise have been obtained without physical intrusion into a Constitutionally protected area, constitutes a search. Thus, police may not use thermal images to scan a private residence for heat characteristics (a tactic used to identify indoor marijuana grow operations) without first obtaining a search warrant. It does not prohibit their use on structures, or other areas that would not give rise to a "reasonable expectation of privacy."

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- (e) It is essential to note that case law in the area of UAS searches has not yet matured to the point that clear guidelines have evolved. In all cases of UAS deployment, reasonableness and respect for the privacy of individuals should guide the actions of the Pilot and VO.

301.25 EMERGENCY RESPONSE PLAN

During UAS operations, emergency situations may develop at any time. The primary concern in such incidents is the prevention of injury to persons on the ground and/or other users of the National Airspace System. Secondary concerns include protection of property, vegetation and wildlife on the ground.

301.26 UAS ACCIDENT INVOLVING INJURY OR PROPERTY DAMAGE

- (a) Immediately notify dispatch and request assistance. Provide as much information as possible about the extent of injuries, or damage.
- (b) Render first aid to the injured.
- (c) Request notification to the Emergency Management Director and UAS advisory committee, who if available will respond to the scene and coordinate accident investigation efforts.
- (d) The Emergency Management Director or member of UAS advisory committee or designee will request the FAA and NTSB be notified.
- (e) Survey the damage to the aircraft and or other property.
- (f) Prior to the arrival of the FAA and NTSB, ensure the aircraft and its contents are moved only to the extent necessary to remove persons injured, protect the public from injury and/or protect wreckage from further damage.
- (g) Provide any additional assistance or information requested by the FAA and NTSB.
- (h) Submit a detailed written report.

Ground Emergencies

For ground emergencies, personnel shall:

- (a) Evaluate the need for response by fire or EMS.
- (b) Provide first aid, contain the incident.
- (c) Notify the Emergency Management Director and UAS Advisory Committee

301.27 ADDITIONAL OPERATIONAL GUIDELINES

- (a) Personal use of CWCUAS is prohibited.
- (b) Unmanned aircraft will be operated in accordance with this manual, policies, and in accordance the FAA regulations and with UAS manufacturers manual and recommendations.
- (c) Flights into severe weather is prohibited.

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- (d) The minimum altitude of the aircraft is one at which operations can be conducted without undue risk to persons or property on the surface.
- (e) Any occurrences where the UAS aircraft comes into contact with an object, building, or person (other than take offs or landings) will be immediately reported to the Emergency Management Director.

301.28 MAINTENANCE

- (a) Properly maintained UAS are essential to safe operations. Compliance with the manufacturer's scheduled maintenance, preflight inspections and immediate repair of mechanical problems ensure the availability and safety of the CWCUAS.
- (b) Allow updates received by the manufacturer will be vetted through the CWCUAS consultant before installation.

301.29 DEFINITIONS

- (a) Aircraft Flight Log-Flight record book kept in the UAS storage case and scanned monthly to the electronic UAS file.
- (b) Preventive Maintenance-Periodic maintenance on aircraft at known intervals.
- (c) Unscheduled Maintenance-Repairs to aircraft in response to mechanical deficiencies.