

Unmanned Aerial System (UAS) Operations

606.1 PURPOSE AND SCOPE

The purpose of this policy is to establish guidelines for the use of an unmanned aerial system (UAS) and for the storage, retrieval, and dissemination of images and data captured by the UAS (Minn. Stat. § 626.19).

606.1.1 DEFINITIONS

Definitions related to this policy include:

Unmanned Aerial System (UAS) - An unmanned aircraft of any type that is capable of sustaining directed flight, whether preprogrammed or remotely controlled without the possibility of direct human intervention from within or on the aircraft (commonly referred to as an unmanned aerial vehicle (UAV)), and all of the supporting or attached systems designed for gathering information through imaging, recording, or any other means (Minn. Stat. § 626.19).

606.2 POLICY

Unmanned aerial systems may be utilized to enhance the office's mission of protecting lives and property when other means and resources are not available or are less effective. Any use of a UAS will be in strict accordance with constitutional and privacy rights and Federal Aviation Administration (FAA) regulations.

[See attachment: WCSO Procedure Manual.pdf](#)

606.3 PRIVACY

The use of the UAS potentially involves privacy considerations. Absent a warrant or exigent circumstances, operators and observers shall adhere to FAA altitude regulations and shall not intentionally record or transmit images of any location where a person would have a reasonable expectation of privacy (e.g., residence, yard, enclosure). Operators and observers shall take reasonable precautions to avoid inadvertently recording or transmitting images of areas where there is a reasonable expectation of privacy. Reasonable precautions can include, for example, deactivating or turning imaging devices away from such areas or persons during UAS operations.

606.4 PROGRAM COORDINATOR

The Sheriff will appoint a program coordinator who will be responsible for the management of the UAS program. The program coordinator will ensure that policies and procedures conform to current laws, regulations, and best practices and will have the following additional responsibilities:

- Coordinating the FAA Certificate of Waiver or Authorization (COA) application process and ensuring that the COA is current.
- Ensuring that all authorized operators and required observers have completed all required FAA and office-approved training in the operation, applicable laws, policies, and procedures regarding use of the UAS.

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- Developing uniform protocol for submission and evaluation of requests to deploy a UAS, including urgent requests made during ongoing or emerging incidents. Deployment of a UAS shall require written authorization of the Sheriff or the authorized designee, depending on the type of mission.
- Developing protocol for conducting criminal investigations involving a UAS, including documentation of time spent monitoring a subject.
- Implementing a system for public notification of UAS deployment.
- Developing an operational protocol governing the deployment and operation of a UAS, including but not limited to safety oversight, use of visual observers, establishment of lost link procedures, and secure communication with air traffic control facilities.
- Developing a protocol for fully documenting all missions.
- Developing a UAS inspection, maintenance, and record-keeping protocol to ensure continuing airworthiness of a UAS, up to and including its overhaul or life limits.
- Developing protocols to ensure that all data intended to be used as evidence are accessed, maintained, stored, and retrieved in a manner that ensures its integrity as evidence, including strict adherence to chain of custody requirements. Electronic trails, including encryption, authenticity certificates, and date and time stamping, shall be used as appropriate to preserve individual rights and to ensure the authenticity and maintenance of a secure evidentiary chain of custody.
- Developing protocols that ensure retention and purge periods are maintained in accordance with established records retention schedules.
- Facilitating law enforcement access to images and data captured by the UAS.
- Recommending program enhancements, particularly regarding safety and information security.
- Ensuring that established protocols are followed by monitoring and providing periodic reports on the program to the Sheriff.
- Developing protocols for reviewing and approving requests for use of the office UAS by government entities (Minn. Stat. § 626.19).
- Preparing and submitting the required annual report to the Commissioner of Public Safety (Minn. Stat. § 626.19).
- Posting the office policies and procedures regarding the use of UAV on the office website, as applicable (Minn. Stat. § 626.19).
- Reviewing the program and UAS use for compliance with Minn. Stat. § 626.19.

606.5 USE OF UAS

Only authorized operators who have completed the required training shall be permitted to operate the UAS.

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Use of vision enhancement technology (e.g., thermal and other imaging equipment not generally available to the public) is permissible in viewing areas only where there is no protectable privacy interest or when in compliance with a search warrant or court order. In all other instances, legal counsel should be consulted.

UAS operations should only be conducted during daylight hours, and a UAS should not be flown over populated areas without FAA approval.

Members shall not use a UAS without a search warrant, except (Minn. Stat. § 626.19):

- (a) During or in the aftermath of an emergency situation or disaster that involves the risk of death or bodily harm to a person.
- (b) Over a public event where there is a heightened risk to the safety of participants or bystanders.
- (c) To counter the risk of a terrorist attack by a specific individual or organization if the agency determines that credible intelligence indicates a risk.
- (d) To prevent the loss of life or property in natural or man-made disasters and to facilitate operation planning, rescue, and recovery operations.
- (e) To conduct a threat assessment in anticipation of a specific event.
- (f) To collect information from a public area if there is reasonable suspicion of criminal activity.
- (g) To collect information for crash reconstruction purposes after a serious or deadly collision occurring on a public road.
- (h) Over a public area for deputy training or public relations purposes.
- (i) For purposes unrelated to law enforcement at the request of a government entity, provided the request is in writing and specifies the reason for the request and a proposed period of use.

606.5.1 DOCUMENTATION REQUIRED

Each use of a UAS should be properly documented by providing the following (Minn. Stat. § 626.19):

- (a) A unique case number
- (b) A factual basis for the use of a UAS
- (c) The applicable exception, unless a warrant was obtained

606.6 PROHIBITED USE

The UAS video surveillance equipment shall not be used:

- To conduct random surveillance activities.
- To target a person based solely on actual or perceived characteristics such as race, ethnicity, national origin, religion, sex, sexual orientation, gender identity or expression, economic status, age, cultural group, or disability.

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- To harass, intimidate, or discriminate against any individual or group.
- To conduct personal business of any type.

The UAS shall not be weaponized (Minn. Stat. § 626.19).

606.6.1 ADDITIONAL PROHIBITIONS

Unless authorized by a warrant, a UAS shall not be deployed with facial recognition or biometric-matching technology (Minn. Stat. § 626.19).

Unless authorized by a warrant or for purposes of a permitted use outlined in this policy, a UAS shall not be used to collect data on public protests or demonstrations (Minn. Stat. § 626.19).

606.7 RETENTION OF UAS DATA

The Records supervisor shall ensure that data collected by the UAS is disclosed or deleted as required by Minn. Stat. § 626.19, including the deletion of collected data as soon as possible, and in no event later than seven days after collection, unless the data is part of an active criminal investigation (Minn. Stat. § 626.19).

UAS data handling will follow the guidelines set forth in the Agency's Records Retention Schedule.

Attachments

WCSO Procedure Manual.pdf



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Wadena County Sheriff's Office

Unmanned Aircraft Systems (UAS)

Procedure Manual

UNMANNED AIRCRAFT SYSTEMS OPERATIONS MANUAL

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PREFACE

The following procedures are intended to promote the safe and efficient operation of the Office's unmanned aircraft. Safety, above all else, is the primary concern in each and every operation, regardless of the nature of the mission.

MISSION STATEMENT

We, the men and women of the Wadena County Sheriff's Office, are dedicated to providing excellent service through partnerships that build trust, reduce crime, create a safe environment, and enhance the quality of life in our County. We are committed to these principles:

Integrity: We understand that it is our responsibility to adhere to the highest moral and ethical standards. We must be honest and sincere in dealing with each other, and the communities and citizens we serve.

Respect: We recognize the rights, liberties, and freedoms of all as granted by the constitution and laws of the United States and the State of Minnesota and strive to protect those rights of our citizens.

Fairness: Objective and impartial, decisions and policies are the foundation of our office. We understand the importance of being consistent in the treatment of all persons, and base our actions with reason and equality.

Excellence: We understand the importance in both personal and professional excellence, dedication to duty, and service to the public. We recognize the importance of each employee as an individual and team member.

ADMINISTRATIVE

The procedures contained in this manual are issued by the authority of the Sheriff. As such it is an official document of the Wadena County Sheriff's Office.

The manual is not intended to be all-inclusive, but as a supplement to other Office guidelines and policies.

The manual has been written to address unmanned aircraft operations as they existed when the manual was drafted. Equipment, personnel, environment (internal and external), etc., change over time. The management of change involves a systematic approach to monitoring organizational change and is a critical part of the risk management process. Given this fact, it is essential that this manual be periodically updated as necessary. The entire manual will be reviewed annually to assure it is up to date. Any changes to the manual will be communicated expeditiously to all affected personnel.

A copy of this manual (electronic or paper) will be issued to every member having unmanned aircraft responsibilities. In addition, a copy of the manual will be present during all UAS operations.

Organization

The Unmanned Aircraft Operations Unit shall be comprised of those personnel assigned by the Sheriff or his/her designee and may include, pilots, visual observers and others deemed necessary.

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 UAS Program Coordinator.

UAS Program Coordinator- Sheriff's Office Emergency Manager - is responsible for overall management and supervision of the operation, which includes budget preparation and control.

UAS Program Coordinator will follow Chain of Command.

Pilots

To be considered for selection as a pilot, applicants must be in good standing with the Office, meet all FAA requirements and meet 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.

Visual Observers (VO)

The visual observer is responsible for assisting the pilot in scanning the airspace surrounding UAS operations. A visual observer is required for every UAS mission.

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 practicable and never take unnecessary risks. Any safety hazard, whether procedural, operational, or maintenance related should be reported as soon as identified and possible. Any suggestions in the interest of safety should be made to the UAS Program Coordinator without reservation.

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

Safety Training

All new UAS members shall receive training in the following prior to serving in an operational capacity:

1. Agency commitment to safety.
2. Agency policy/SOP.
3. The member's role in safety.
4. Process for reporting hazards and occurrences.
5. Applicable emergency procedures.

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

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.

Ground Safety

1. The pilot and VO must be constantly aware of dangers to ground personnel and moving propeller or rotor blades.
2. 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.
3. 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.

TRAINING

1. UAS pilots will have ongoing training days annually. A formal training plan will be completed and approved by the UAS Supervisor prior to the training session.
2. New Member Training-The focus of this training will be familiarization with the equipment and operational procedures along with an emphasis on safe operations.
3. Existing Member Training-Objectives should challenge the member to increase their competency in the knowledge and skills necessary to perform safe UAS operations.
4. 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 systems.

STANDARD OPERATING PROCEDURES

Approved UAS Missions

UAS missions may be limited to incidents involving public and officer safety concerns. Approved public safety flights will also be approved on a case by case basis. The following are examples of approved missions but are not limited to:

1. Search and Rescue (Innocent victims and suspects)
2. Tactical calls for scene over watch.
3. Disaster assessment
4. Situational Awareness
5. Professional/Investigative (i.e. crime scene, other approved county purpose.

Minimum Flight Crew Requirements

The minimum crew on all flights 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)

Flight Crew Responsibilities

Pilot

- Directly responsible for the operation of the unmanned aircraft.
- Have direct authority to reject a flight based on weather, aircraft limitations, physical condition, etc. No member of any law enforcement agency, regardless of rank, can order a pilot to make a flight when, in the opinion of the pilot, it cannot be done safely.
- Pilots are responsible for compliance with this manual, Office 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.

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 in a timely manner.

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.

Preflight Actions

Thorough preflight planning and inspections are critical to safe operations.

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.

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.

Airspace/Obstructions

1. Identify and verbalize obstructions and potential obstructions to include:
 - a. Water towers, power lines, buildings, Cell Towers etc.
2. Ensure of operation in approved airspace.

Documentation

1. 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 log and saved monthly to the electronic UAS file.
2. UAS Use Report will be created for each mission and included with the case file.

Requests for Unmanned Aircraft Services

1. Requests received during duty hours will be handled by the on duty supervisor. If the request is appropriate, contact will be attempted with the UAS Program Coordinator. Staffing will be adjusted to allow flights if needed.
2. Requests during non-duty hours that are not of an immediate nature will be referred to the UAS Program Coordinator, who in turn will contact a supervisor.

Flights leaving the County

1. Planned or emergent UAS operations leaving the jurisdictional boundaries of Wadena County need the specific approval of the on duty supervisor. Notifications by phone will be attempted with the UAS Program Coordinator. Specific FAA authorization based upon airspace requirements shall be verified.

Pre-Flight Planning

1. The pilot and VO shall familiarize themselves with all available information concerning the flight. This includes obstructions, airspace, perimeter and suspect direction of travel.

Ground Handling

1. 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.

2. 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.

Post Flight Responsibilities

1. 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.
2. If necessary, the aircraft will be serviced so that it is immediately available for the next flight.
3. 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.
4. If applicable notify airport tower that we are clear of airspace.

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.

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 or specific training value will be safeguarded and retained. All evidentiary data will be handed over and signed off by the primary agency. Sheriff’s Office retention periods apply to this exception.

Activity Reporting Procedures

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

CONSTITUTIONAL ASPECTS OF AERIAL SEARCHES

1. 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.
2. 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).
3. 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 area 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.
4. 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."
5. 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.

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, flora and fauna on the ground.

Following a UAS accident involving personal injury and/or significant property damage, the unit crew members shall do the following:

1. Immediately notify dispatch and request assistance. Provide as much information as possible about the extent of injuries, or damage.
2. Render first aid to the injured.
3. Request notification to the UAS Program Coordinator, Program Coordinator's direct supervisor and the Sheriff, who if available will respond to the scene and coordinate accident investigation efforts.
4. UAS Coordinator or designee will request the FAA and NTSB be notified.
5. Survey the damage to the aircraft and or other property.
6. 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.
7. Provide any additional assistance or information requested by the FAA and NTSB.
8. Submit a detailed written report.

Ground Emergencies

For ground emergencies, personnel shall:

1. Evaluate the need for response by fire or EMS.
2. Provide first aid, contain the incident.
3. Notify a supervisor.

ADDITIONAL OPERATIONAL GUIDELINES

1. Personal use of Sheriff's Office UAS is prohibited.
2. Unmanned aircraft will be operated in accordance with this manual, Sheriff's Office Policies, and in accordance with UAS manufacturers manual and recommendations.
3. Flights into severe weather is prohibited.
4. The minimum altitude of the aircraft is one at which operations can be conducted without undue risk to persons or property on the surface.
5. 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 a supervisor.

Arming of UAS

1. Deployment of any type of projectile, chemical agent, or electronic current weapon from Wadena County Sheriff's Office UAS is **PROHIBITED**.

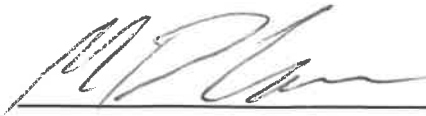
MAINTENANCE

1. 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 Wadena County Sheriff's Office unmanned aircraft.

DEFINITIONS

1. **Aircraft Flight Log**-Flight record book kept in the UAS storage case and scanned monthly to the electronic UAS file.
2. **Preventive Maintenance**-Periodic maintenance on aircraft at known intervals.
3. **Unscheduled Maintenance**-Repairs to aircraft in response to mechanical deficiencies.

Approved:



Sheriff Michael D. Carr

01-27-20

Date



Chief Deputy Joe Schoon

1/27/20

Date



Deputy/Emergency Manager Tyler Wheeler
UAS Program Coordinator

1/27/2020

Date