

City of Baxter

Police Department Manual

UNMANNED AERIAL SYSTEM (DRONE)			
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PURPOSE

The purpose of this policy is to establish guidelines for the safe and lawful use of the Baxter Police Department's Unmanned Aerial System.

POLICY

The policy of this department is that officers or members authorized to perform duties of the Pilot in Command of the Unmanned Aerial System, or who operate the aircraft, will do so in compliance with this policy, Minnesota State Statutes and Federal Aviation Administration regulations. Because the Baxter Police Department is a law enforcement agency defined by MN State Statute 626.84(1), the policy is required for the agency to own and operate such equipment. The Baxter Police Department will operate the Unmanned Aerial Systems under the authority and withing the requirements of Federal Aviation Administration 14 CFR Part 107.

Baxter Remote Pilots may also be members of the Crow Wing County UAS Team which consists of multiple public safety disciplines and agencies. If a member of the Baxter Police Department is participating in a UAS operation as a part of the Crow Wing County Team, the operation and flight using Crow Wing County and/or Baxter UAS, will be reported as Crow Wing County procedures specify.

Those operations will be documented by the Crow Wing County Sheriff's Office for the purposes of BCA reporting.

DEFINITIONS

- A. Person Manipulating Controls (PMC): A person who is operating or controlling the UAS and who is under the direct supervision of the pilot in command and the remote pilot in command has the ability to immediately take direct control of the flight of the UAS. This person does not need to possess a Part 107 remote pilot license.
- B. Pilot in Command (PIC): The person in command of the UAS operation who is ultimately responsible for its operation and safety during use. The PIC must have a valid FAA Part 107 Remote Pilot License.
- C. Remote Pilot: A person that possesses a valid FAA Part 107 Remote Pilot Certificate and is authorized to use the agency UAS and may serve as a Pilot in Command, Person Manipulating Controls, or a Visual Observer
- D. Terrorist Attack: means a crime that furthers terrorism as defined in section 609.714, 2.10 subdivision 1.
- E. Unmanned Aerial System (UAS): An aircraft that is operated without the possibility of direct human intervention from within or on the UAS. The UAS will weigh less than 55 pounds on takeoff, including everything that is on board or otherwise attached to the UAS. A UAS is also commonly known as an Unmanned Aerial Vehicle (UAV), or drone.
- F. Visual Observer: a person who is designated by the remote pilot in command to assist the remote pilot in command and the person manipulating the flight controls of the small UAS to see and avoid other air traffic or objects aloft or on the ground.

APPROVED UAS

The Baxter Police Department will only use and utilize UAS owned by the city. Approved UAS will be determined by the program coordinator based on the following criteria:

- Demonstrated reliability and performance, including industry reputation
- Performance in cold, moisture and sub-optimal conditions
- Battery performance
- Reliable radio frequency controller system that allows the pilot to view camera/payload information, location, telemetry, and UAS status
- Photograph and video capability
- Additional payload capability

ROLES AND RESPONSIBILITIES

Program Coordinator/Chief Remote Pilot: The Chief of Police will serve, or designate, a person to serve as the Program Coordinator/Chief Remote Pilot. The Program Coordinator must possess a valid Part 107 Remote Pilot License and has the following responsibilities:

- Ensure department equipment is purchased, registered, and maintained within FAA and MNDOT regulations and inspect equipment and maintain and/or arrange repairs and service when needed.
- Ensure department remote pilots maintain current licensure, training, and proficiency with department equipment.
- Coordinating FAA Waivers and/or required certificate(s)
- Develop and conduct training and proficiency standards for department remote pilots and personal.
- Develop and conduct training and seminars for department staff, citizens, or other persons as needed.
- Review and audit department use of the UAS ensuring compliance with policy, proper documentation and safe use.
- Review data collected from the use of the UAS and ensure data is retained or destroyed per policy
- Recommend program enhancements, updates, or changes to the Chief of Police
- Communicate program status, use, or other pertinent information to the Chief of Police about the department UAS Program.
- Can perform all duties of the PIC, PMC, and VO listed below

Pilot in Command (PIC): The pilot in command is the sole person responsible for the safe use of the department UAS on an incident, request, or training event. The person serving as the PIC has the authority to reject a flight from anyone, regardless of rank in relation to the PIC, when the PIC has reason or concern that the flight can not be conducted safely or in compliance with policy, state or federal regulations. Requirements and responsibilities of the PIC are:

- Maintaining a valid Part 107 Remote Pilot License and abide by Part 107 regulations
- Being knowledgeable and in compliance with this policy, state and federal regulations
- Responsible for the safe operation of the UAS
- Reporting and communicating observations, data collected and/or other relevant information to the scene incident commander, supervisor or other personal as needed
- Documenting the use of the UAS on department report system and documents
- Be knowledgeable and aware of current locations, airspace, activity and obstructions relevant to the safe use of the UAS
- Be responsive to the requests or observations made by either the PMC or VO and take appropriate actions to ensure safe and lawful use of the UAS
- Can perform all duties of the PMC and VO listed below

- Person Manipulating the Controls (PMC):** The Person manipulating the controls of the department UAS must
- Be familiar with the basic controls of the UAS and pre-flight and post-flight procedures
 - Locate safe locations for landing zones, operational area, and members involved with the use of the UAS
 - Deploy and inspect the UAS prior to flight
 - Submit control to the PIC immediately at the order of the PIC
 - Safely take off and land the UAS
 - Able to operate the UAS safely and maintain operation and control of the UAS
 - Maintain line of sight of the UAS, review and process information from the control device and UAS payloads
 - Communicate observations or data collected to the PIC or relevant personnel as needed and appropriate
 - Accurately document UAS use in department reporting system and documents
 - Inspect the UAS post-flight, maintain and return the UAS to ready condition

PMC in Training and Part 107 licensing: It is preferred that the PMC possess a Part 107 Remote Pilot License prior to using the department UAS. However, officers or members of the department may serve as a PMC in training or emergency situations to the best of their ability. In these situations, they will report to the PIC and the PIC will assume the responsibility of the listed duties above where either the PMC cannot perform them, or it is reasonable to know the PMC is not qualified to perform them.

Visual Observer: The visual observer is a crucial role to safe UAS operations. The VO may be another remote pilot or qualified public safety member as directed by the PIC. The VO is responsible for assisting the PMC and PIC in scanning the airspace surrounding the UAS operation reporting any other aircraft, hazards, obstacles, changes in weather or other relevant information to the PMC/PIC. The VO may also assist with aviation or public safety radio communications and documentation.

FEDERAL AVIATION ADMINISTRATION PART 107 GENERAL REQUIREMENTS

- Unmanned aircraft must weigh less than 55 lbs. (25 kg).
- Visual line-of-sight (VLOS) only; the unmanned aircraft must remain within VLOS of the remote pilot in command and the person manipulating the flight controls of the small UAS. Alternatively, the unmanned aircraft must remain within VLOS of the visual observer.
- At all times the small unmanned aircraft must remain close enough to the remote pilot in command and the person manipulating the flight controls of the small UAS for those

people to be capable of seeing the aircraft with vision unaided by any device other than corrective lenses.

- Small unmanned aircraft may not operate over any persons not directly participating in the operation, not under a covered structure, and not inside a covered stationary vehicle.
- Daylight-only operations, or civil twilight (30 minutes before official sunrise to 30 minutes after official sunset, local time) with appropriate anti-collision lighting, or outside of daylight hours with a daylight waiver (107.29), anti-collision lighting and a visual observer.
- Must yield right of way to other aircraft.
- May use visual observer (VO) but not required.
- First-person view camera cannot satisfy “see-and-avoid” requirement but can be used as long as requirement is satisfied in other ways.
- Maximum groundspeed of 100 mph (87 knots).
- Maximum altitude of 400 feet above ground level (AGL) or, if higher than 400 feet AGL, remain within 400 feet of a structure.
- Minimum weather visibility of 3 miles from control station.
- Minimum distances from clouds: (1) 500 feet below, (2) 2,000 feet horizontally from clouds
- Operations in Class B, C, D and E airspace are allowed with the required ATC permission.
- Operations in Class G airspace are allowed without ATC permission.
- No person may act as a remote pilot in command or VO for more than one unmanned aircraft operation at one time.
- No operations from a moving aircraft.
- No operations from a moving vehicle unless the operation is over a sparsely populated area.
- No careless or reckless operations.
- No carriage of hazardous materials.
- Requires preflight inspection by the remote pilot in command.
- A person may not operate a small unmanned aircraft if he or she knows or has reason to know of any physical or mental condition that would interfere with the safe operation of a small UAS.

AUTHORIZED USE BY MINNESOTA STATE STATUTE

The Baxter Police Department authorizes the use of a UAS either with a search warrant or for the following authorized uses. If the UAS is being deployed for the sole purpose of collecting evidence or targeted surveillance of a specific person or property a search warrant is required. See UAS Warrant Use later in this policy.

Authorized Uses without a Search Warrant (Current BCA Reporting Codes):

1. during or in the aftermath of an emergency situation that involves the risk of death or bodily harm to a person;
2. over a public event where there is a heightened risk to the safety of participants or bystanders;

3. to counter a risk of a terrorist attack by a specific individual or organization if the agency determines that credible intelligence indicates this risk;
4. to prevent the loss of life and property in natural or man-made disasters and to facilitate the operational planning, rescue, and recovery operations in the aftermath of these disasters;
5. to conduct a threat assessment in anticipation of a specific event;
6. to collect information from a public area if there is reasonable suspicion of criminal activity;
7. to collect information for crash reconstruction purposes after a serious or deadly collision occurring on a public road;
8. over a public area for officer training or public relations purposes;
9. for a non-law-enforcement purpose 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. If the UAS is requested for this purpose the PIC will verify the written request and include the request in the ICR with flight report.

LIMITATIONS ON USE, REGULATIONS, REGISTRATION

- A. General:** By Statute, a law enforcement agency using a UAS must comply with all Federal Aviation Administration requirements and guidelines, the Baxter Police Department follows FAA Part 107. Additionally
1. The governing body overseeing the law enforcement agency must approve the agency's acquisition of a UAV
 2. A law enforcement agency must not deploy a UAV with facial recognition or other biometric-matching technology unless expressly authorized by a warrant.
 3. A law enforcement agency must not equip a UAV with weapons
 4. A law enforcement agency must not use a UAV to collect data on public protests demonstrations unless expressly authorized by a warrant or an exception applies as authorized in the above section.
 5. The agency is required to establish and enforce and written policy regarding the use of UAS and the policy must be posted on the agency website.
- B. Registration:** The department UAS will be registered both with the FAA as a Small UAS, and with the MN Department of Transportation per MN Statute 360.511-360.67.
- C. Insurance:** The agency will maintain insurance of the UAS per statute requirements.

DOCUMENTATION AND DATA RETENTION

A. General:

1. Each use of the UAS must be documented and connect each use to a unique ICR number in the department report system
2. A factual basis for the use of the UAS will be documented in the ICR
3. The applicable statutory authorization exempting a search warrant will be documented if a search warrant was not obtained.

B. Reporting Requirements

1. ICR - If the UAS is used stemming from an incident or call, the PIC will document the use and required information in the incident ICR. For other uses such as training or requests, a new ICR will be generated for the UAS use.
2. Use Report – The PIC will complete the department UAS Use Report form and attach the document to the ICR
3. Annual Reporting – The agency is required to report to the commissioner of public safety by January 15th of each the department's UAS use. The Program Coordinator will review ICRs/Use Reports and complete the annual reporting requirements and submit them to the Chief of Police
4. Pilot Log – The individual remote pilot is encouraged to document and maintain an individual flight log to show training, mission or personal flights to document experience

C. Data Retention – Data collected by UAS is private data on individuals or non-public data, subject to the following:

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. UAS data may be disclosed as necessary in an emergency situation
3. UAS data may be disclosed to the government entity making the request for the UAS
4. UAS data that are criminal investigative data are governed by section 13.82(7)
5. UAS data that are not public data under other provisions of chapter 13 retain that classification

D. Data Deletion – Unless authorized to retain above, data collected by a UAS must be deleted as soon as possible, and in no event later than seven days unless:

1. The data is part of an active criminal investigation
2. The data was collected with a search warrant
3. The data was collected and transferred to the requesting government entity

UAS PRACTICES

A. General Procedures

1. The UAS will be kept in good working order, ready to deploy when needed or requested

2. The PIC with an assigned UAS can respond and deploy the UAS in the city during emergency situations where there is a risk of that involves the risk of death or bodily harm to a person or to prevent the loss of life and property in natural or man-made disasters and to facilitate the operational planning, rescue, and recovery operations in the aftermath of these disasters.
3. In similar circumstances listed in item 2, but outside of the city, the PIC should be requested by the appropriate agency and with the approval of the on-duty supervisor when applicable. In emergency situations the PIC may advise the appropriate agency of the UAS resources available
4. For non-emergency situations such as public events, assessments or reasonable criminal suspicion in or outside of the city, the PIC should seek the guidance of the supervisor if available. The following criteria will be evaluated by the PIC or supervisor when considering the use of the UAS in a non-life or property threatening emergency:
 - a. Does the situation allow a lawful use of the UAS or is a warrant required?
 - b. Can the UAS offer an advantage to emergency personal?
 - c. Is the targeted data only visible or available to the UAS for a limited time?
 - d. Does the use of the UAS interfere with expected privacy of the community?
 - e. Does the use of the UAS pose any hazards or safety risks?
 - f. Is there other UAS/resources available that may be more appropriate to use?
5. For Training, Public Relations, and government entity requests:
 - a. The PIC or PMC may train and practice in a public area where it is safe to do so without approval
 - b. Public Relation events and Entity Requests should be coordinated by the Program Coordinator when possible, for short notice situations the supervisor on-duty should be consulted. If no supervisor is available the PIC should exercise sound judgement and evaluate safety and urgency factors and make the decision to fly or not.
6. Privacy Concerns
 - a. Generally the use of the UAS is to preserve life and property, increase emergency personnel effectiveness and improve community services
 - b. The PIC should always be aware of the privacy expectations of the community of both persons and property. Some consider UAS use to controversial or even invasive and any use that could amplify these concerns should be justified given the circumstances presented.

B. Pre-Flight Procedures

- a. The PIC will conduct or supervise a pre-flight inspection of the UAS, the UAS must pass inspection for flight to proceed
- b. A landing zone will be established and secured
- c. Weather, visibility, restrictions and hazards will be evaluated, factors must be within regulations and policy to proceed. If appropriate an emergency waiver may be applied for

- d. Flights outside of G Airspace, PIC will utilize LAANC for approval or FAA Emergency Waiver if needed
- e. Flights within proximity of airports, air traffic or other events, the PIC should consider filing a NOTAM when practical

C. In-Flight Procedures

- a. The PIC/PMC/VO will communicate collectively as needed with the goal of safe operations always being priority.
- b. The PMC will maintain visual observation and control of the UAS
- c. The PIC may assume control and authority of the flight at any time
- d. The crew will communicate observations, data or other relevant information to incident command or personnel as needed
- e. If the UAS operation encounters manned aircraft, the UAS is to yield. Operations occurring in conjunction with manned aircraft will require strict and clear communication from manned aircraft. Manned aircraft will have command of operation and can limit AGL altitude, flight area, and require landing/termination of UAS.

D. Post-Flight Procedures

- a. Upon safe landing the PIC will inspect the UAS and conduct a post-flight inspection.
- b. The PIC will maintain as needed, transfer data, charge batteries and other preparations as needed to return the UAS to a ready condition in a timely manner as practical.
- c. The UAS Use report, logs, and reports should be completed in a timely manner. Search warrant notices/receipts and filing will be completed and coordinated with affiant as applicable.

E. Data Transfer

- a. Data collected is regulated by statute, see Data Retention/Deletion section
- b. Data is to be entered into department system as allowed or transferred to entity
- c. No data shall be posted, shared, or distributed outside of the manners listed in this policy without the authorization of the Chief of Police

F. Emergency Situations

1. During an emergency the PIC may seek an emergency authorization from the FAA. The PIC will contact the FAA EO and obtain approval prior to flight, the emergency waiver will be documented on the use report.
2. Loss of Control
 - a. If the PMC/PIC loses control of the UAS, the PIC shall announce the situation and coordinate the situation
 - b. Attempts to regain controls, even if limited, should be conducted
 - c. Alternate landing locations should be assessed
 - d. Using “Return to Home” function may be utilized if feature is working properly
 - e. If needed the PIC may force terminate motor function if available to avoid a crash endangering any person or property
 - f. The priority in any situation is safety of people, actions taken to preserve safety is also preferable to preserving property or the UAS

3. UAS Crash
 - a. If a crash occurs immediately assess for injuries and damage
 - b. The PIC will then request appropriate resources and begin to render aid
 - c. The PIC will contact the Chief of Police and advise them of the situation
 - d. The PIC will document the factors and events occurring and leading up to the crash in a department report
 - e. If the crash caused serious injury to any person or damage to property (excluding the UAS) requiring repairs with a value of over \$500 the PIC is required to report the incident to NTSB and FAA
 - f. Any damage to the UAS, or if the UAS comes in to contact with an object, building, vehicle or person shall be reported to the Program Coordinator.
4. Ground Emergencies
 - a. The PIC should, when practical, assign a law enforcement officer to assist with scene safety. The officer can aid with an arrest of a suspect, unruly persons that may wish to interfere with the use of a UAS, direct and monitor vehicle and pedestrian traffic, and act as an additional safety officer or visual observer.
 - b. In the event of a ground emergency, the safety officer or PIC should assess the situation and call for appropriate resources or advise dispatch.
 - c. Maintaining awareness in the air and on the ground is a significant factor for safe operations.

G. Training

- a. New Pilot Training
 - i. New pilots shall complete approximately 8 hours of training before authorized to act as a PIC
 - ii. Training will include
 1. Department policy, Statutes and FAA Regulations
 2. Safety inspections of equipment
 3. Safety operations
 4. Pre-flight, in-flight, and post-flight procedures
 5. Deployment of UAS
 6. UAS Flight
 7. Communication
 8. UAS Payloads, cameras and media recording
 9. Photography and videography recording
 10. Data transfer
 11. Reporting and documentation
 12. Community and department expectations
 13. Role of and acquiring visual observers
 14. In-climate weather operations
 - iii. Pilots will be proficient in
 1. Take off and landing on controlled locations

2. Take off and landing on improvised locations
 3. UAS operation including hovering, flying, turning, navigating from various positions of orientation from the UAS
 4. Circling a point of interest
 5. Performing area searches, grid searches and terrain searches
 6. Various flight drills as developed in training
 7. Utilizing thermal camera, daylight camera and payloads
 8. Reporting and documentation
- b. Ongoing Training
- i. Department pilots will fly department UAS on average one hour per month, this can include training or mission flights
 - ii. Training flights should focus on scenario events, skill building and UAS efficiency
 - iii. Training should be relevant and realistic
 - iv. Indoor and outdoor flights can be utilized

H. Annual Audit

- a. The Program Coordinator shall audit the program annually
- b. The audit will include
 - i. A detailed inspection of UAS and equipment
 - ii. Registration status
 - iii. Training records
 - iv. Flight Use Reports
 - v. BCA Reporting
 - vi. Appropriate use of UAS by review of ICRs, UAS logs, training logs
 - vii. Review of any crashes or incidents causing damage
- c. Input from pilots, department personnel on program safety and performance

I. Other Regulations

1. Personal use of the department UAS is prohibited
2. Use of non-department owned UAS is prohibited. This does not include test and evaluation units with the approval of the Chief of Police and Program Coordinator