

WICHITA POLICE DEPARTMENT

POLICY NO. 802

SUBJECT: UNMANNED AIRCRAFT SYSTEM (USA) TEAM GUIDELINES	
Effective Date:	Distribution: All Personnel
Reviewed/Approved Date:	Next Review Date:
Approved By:	Amends/Rescinds:
<i>This Policy is for departmental use only and does not apply in any criminal or civil proceeding. This Policy should not be construed as creation of a higher legal standard of safety or care in an evidentiary sense with respect to third party claims. Violations of this Policy will only form the basis for departmental administrative sanctions. Violations of law will form the basis for civil and criminal sanctions in a recognized judicial setting</i>	

I. PURPOSE

The Wichita Police Department has implemented a small Unmanned Aircraft System (“sUAS”) program to directly assist with the operational elements of the Department in the prevention of crime, the apprehension of criminals, the preservation of the public peace, and to protect the personal and property rights of the citizens of Wichita, Kansas. This policy sets forth how the sUAS program will operate. The sUAS program will operate in coordination with law enforcement officers conducting a specific mission as guided by the Certificate of Authorization (COA) issued by the Federal Aviation Administration (FAA). These operational procedures are designed to minimize risk to people, property, and aircraft during the operation of the sUAS while continuing to safeguard the right to privacy of all persons.

II. POLICY

III. DEFINITIONS

Aircraft: A device used or intended to be used for flight in the air, including unmanned aircraft (UA).

Airworthiness: A condition in which the UAS (including the aircraft, airframe, engine, propeller, accessories, appliances, and control station (CS) conforms to its type certificate (TC), if applicable, and is in condition for safe operation.

Certificate of Waiver or Authorization (COA): An FAA grant of approval for a specific operation. COAs may be used as an authorization, issued by the Air Traffic Organization (ATO), to a public operator for a specific UA activity.

UAS Coordinator: A member responsible for all FAA reporting and administrative responsibilities associated with the operation of the UAS per FAA guidelines. The UAS Coordinator will also be responsible for implementing recommended manufacturer hardware and software updates associated with the UAS. UAS Coordinator will be responsible for reporting any issues directly to the Special Operations Division Commander or designee.

Crewmember (UAS): In addition to the crewmembers identified in Title 14 of the Code of Federal Regulations (14 CFR) part 1, a UAS flight crew member includes pilots, sensor/payload operators, and visual observers (VO), but may include other persons as appropriate or required to ensure safe operation of the aircraft.

Flyaway: An interruption or loss of the control link, or when the pilot is unable to effect control of the aircraft and, as a result, the UA is not operating in a predictable or planned manner.

Lost Link: The loss of command-and-control link contact with the remotely piloted aircraft such that the remote pilot can no longer manage the aircraft's flight.

Observer: A trained person who assists a UAS pilot in the duties associated with collision avoidance and navigational awareness through electronic or visual means. Collision avoidance includes, but is not limited to, avoidance of other traffic, clouds, obstructions, terrain and navigational awareness. A visual observer (VO) is a trained person who assists the UAS pilot by visual means in the duties associated with collision avoidance.

The Pilot in Command (PIC): The person who has final authority and responsibility for the operation and safety of flight, has been designated as PIC before or during the flight and holds the appropriate category, class, and type rating, if applicable, for the conduct of the flight. The responsibility and authority of the PIC as described in § 91.3 apply to the UA PIC. The PIC position may rotate duties as necessary with equally qualified pilots. The individual designated as PIC may change during flight. NOTE: The PIC can only be the PIC of one aircraft at a time.

Unmanned Aircraft System (UAS): A UA and its associated elements related to safe operations, which may include control stations (ground-, ship-, or air-based), control links, support equipment, payloads, Flight Termination Systems (FTS), and launch/recovery equipment.

Visual Line of Sight (VLOS): Unaided (corrective lenses and/or sunglasses exempted) visual contact between a PIC or a VO and a UA sufficient to maintain safe operational control of the aircraft, know its location, and be able to scan the airspace in which it is operating to see and avoid other air traffic or objects aloft or on the ground.

IV. PROCEDURES

A. Deployment

Possible deployment applications include but are not restricted to:

1. Use in critical incident/Tactical Operations, to provide situational awareness to the Tactical Commanders in the Command Post.
2. Vehicular accident reconstruction
3. Search and rescue operations
4. Crime scene photography and documentation

5. 3D mapping and modeling of critical infrastructure and pre-event mapping for planning large-scale public events.
6. The Chief of Police or designee will approve deployment outside of Sedgwick County.

B. Aircraft

1. **General Airworthiness:** The Investigations Division Commander shall designate the UAS Coordinator to be responsible for ensuring that the sUAS are maintained and flight ready according to the manufacturer's recommendations and related industry standards.
2. **Mission Specific Airworthiness:** The PIC shall be responsible for ensuring that the sUAS is airworthy before each mission. The PIC may rely upon the inspection and reports provided by the UAS Coordinator.
3. **Maintenance:** The Investigations Division Deputy Chief shall designate the UAS Coordinator who is responsible for the maintenance of the sUAS. The UAS Coordinator or designee shall be specifically trained on the maintenance of the sUAS based on the recommendations by the manufacturer. The PIC and Observer shall perform a pre-flight and post-flight inspection of the sUAS. Any equipment issues must be immediately reported to UAS Coordinator. It shall be the responsibility of the UAS Coordinator to determine whether the reported issue needs to be corrected before the next flight.
4. **Software and hardware changes:** All changes shall be documented in the unmanned aircraft and ground control station logbooks by persons authorized to conduct UAS maintenance.
5. **Storage Transport:** The aircraft shall be stored securely to limit possible damage to the unit while in transit. The UAV should be stored in the assigned aircraft case. Batteries must be transported in an appropriate container to prevent possible damage to the batteries. Batteries should not be dropped or punctured.
6. **Battery Charge:** Any components necessitating a charged battery shall be charged by manufacturer's recommendations. To the extent permissible by manufacturer's recommendations, the sUAS shall be fully charged when not in use. The Lithium-ion Polymer (LiPO) batteries should be charged and stored in a cool and dry location. Because of the fire hazard risk, batteries should not be left unattended when charging at a full or rapid charge (vs. trickle charging) and should be charged at the recommended amperage and not exceeded. If the LiPO batteries begin smoking or expanding (puffing), they should immediately be isolated for risk of explosion or fire. Never completely discharge LiPO batteries, or they will become un-useable (i.e., unable to hold a charge). In certain cases, intelligent

batteries automatically discharge after sitting for prolonged times and much be checked from time to time and before usage.

C. Pilots

1. Pilot Rating: PIC's will complete the department approved training before being allowed to operate any UAS System as a Pilot in Command. Release to solo status will be approved by the Deputy Chief of the Investigations Division or UAS Coordinator.
2. Initial Training: A department-approved UAS instructor shall properly train all pilots who will be flying law enforcement missions. The sUAS pilots will meet all conditions of the (COA) or the conditions of FAA Part 107 Rules issued by the FAA. The pilots will have a current working knowledge of the airspace intended for operations, Air Traffic Control communication requirements, specific sUAS aerodynamic factors, and the ability to obtain and interpret weather. All pilots must meet the following flight experience requirements and be current with their flight log entries.
 - a. Basic Flight Operations Training: Pilots must pass the approved FAA Written Exam and must complete training by the SOD approved UAS Coordinator/ Instructor.
 - b. Currency Training: All pilots must have a minimum of three qualifying sUAS flights to include take-offs and landings in the preceding 90 days to be eligible to fly sUAS missions.
 - c. All members of the sUAS unit shall read the current COA and maintain proficiency in their operator/observer abilities. Members who do not have documented training or flight time for the preceding 90 days shall demonstrate proficiency before performing pilot/observer duties during a mission.
 - d. Failure to maintain/prove proficiency can result in removal from sUAS Team.
 - e. Flight Log: Pilots will be responsible for maintaining a flight logbook tracking their UAS operations. The electronic Logbook will be made available when requested per department policy.
 - f. No training flights will be conducted without a department approved UAS flight instructor present. Only after being approved for solo UAS operation by the Investigations Divisions Commander or UAS Coordinator will the operator be allowed to operate a UAS in solo status.
 - g. Changes within the software will be conducted only by the UAS

Coordinator or designee.

- h. Hardware configurations may be selected by the PIC from a set of configurations selected by the UAS Coordinator by the conditions outlined within the COA.
- i. All Flights will be done in GPS mode (GPS-P mode included). No Atti mode operations will be conducted and no exception to this will be approved.
- j. Flights will only be conducted using a fully charged batteries. No partially charged batteries will be used. (This does not include landing and moving locations within the immediate area, or landing and turning off the UAV to change cameras, SD cards, etc.)

D. Requirements for solo status

- 1. UAS Coordinator will complete the review and verify member is proficient in operation the UAS in solo status.
 - a. COA limitations and requirements based on the departments FAA approved COA.
 - b. 5 hours of dual instruction flight time. Observer time does not count towards dual instruction pilot time.
 - c. Equipment identification and assembly before the flight
 - d. Explain remote control operation and controls including all switches and buttons.
 - e. Explain battery concerns
 - f. Demonstrate Pre-flight checklist adherence
 - g. Explain HUD
 - h. Calibrate Compass
 - i. GPS System and requirement for flight
 - j. Identifies GPS Signal and Ready to fly status bar
 - k. Takeoffs
 - 1. Manual

2. Auto
 3. Hand Launch
1. Landings
 1. Manual
 2. Auto
 3. Hand Catch
 - m. Return to Home Operation
 - n. Point of Interest Operation
 - o. Waypoint Operation

E. Night Operations

1. 2 hours of dual instruction flight time at night. Observer time does not count towards dual instruction pilot time. UAS pilots must be proficient in daytime flying before advancing into nighttime training.
2. COA limitations and requirements for night vs. day
3. Explain FLIR operation/Special considerations
4. Explain Radiometric Data/Readings

F. Emergency procedures

1. Explain Low Battery warning and Critical Battery warning
2. Forced Landing/Crash procedures (Reports, notifications, photos)
 - a. Pilot (PIC) will secure the scene and immediately notify the UAS Coordinator or a selected agency designee.
 - b. Pictures will be taken documenting the entire scene
 - c. Member involved will also notify UAS Coordinator and make sure all information is available to complete the mandatory FAA online notification report, within the allotted per COA requirements.
3. Perform Simulated Emergency Operations
 - a. Compass error/loss GPS maneuvers

- b. The loss of flight application software or hardware crash

G. Observer

1. An Observer is required for all practice and mission flights or the sUAS.
2. Initial Training: sUAS Observers shall meet all conditions of the most recent COA issued by the FAA. Observers will have a current working knowledge of the airspace intended for operations, Air Traffic Control phraseology and communication requirements, specific sUAS aerodynamic factors, and the ability to obtain and interpret weather. The Observer will receive specific training on relevant Part 91 regulations (14 CFR Part 91-Code of Federal Regulation), such as the obligation to see and avoid other aircraft and the ability to identify a position for purposes of relaying position reports to the PIC.
3. Pre-flight briefing: Observers must participate in the pre-flight briefing.
4. Observers must be available to communicate to the pilot any information required to remain clear of conflicting traffic, terrain, and obstructions; maintain proper cloud clearances and provide navigational awareness.

H. Duties and Responsibilities

1. Unmanned Aircraft Systems (UAS) Coordinator: the member must perform the essential below functions of the position as provided in the job description. Duties and responsibilities include but are not limited to the following:
 - a. Be knowledgeable of the Wichita Police Department's Mission Statement, Vision Statement and Strategic Objectives using said knowledge to direct the efficient and effective use of assigned resources.
 - b. Shall be directly accountable to the Investigations Division Commander.
 - c. Be fair, respectful and responsive to all members
 - d. Initiate the process and produce the criteria for the selection of Unmanned Aircraft System Team members for an Unmanned Aircraft System Operators Pool listing when necessary. The selection process will be submitted to the Investigations Division Commander approval before the beginning of the selection process.
 - e. Provide training objectives and guidelines for the Unmanned Aircraft System Team and coordinate with SWAT, EOD, and SIB Operations Commanders.
 - f. Schedule cooperative training between the UAST members, SWAT,

EOD, SIB and any other designated special operations units.

- g. Respond to the Incident Command Post to supervise all Unmanned Aircraft System Team members' responsibilities and coordinate actions with the Tactical Response Team Commanders and personnel.
 - h. Assign specific roles and assignments to each pilot at the scene.
 - i. Assume overall responsibility for submissions of all post-incident reports to the UAS Team to both the Federal Aviation Administration and the Investigations Division Commander.
 - j. Shall inspect all UAS equipment and ensure that it is in working order and good condition. Including conducting preventative maintenance and suggested manufacturer hardware and software updates.
 - k. Shall request, through the Investigations Division Commander, equipment updates, upgrades or requests for new/additional equipment that would increase/enhance the effectiveness of all UAS members and overall operations.
 - l. Be responsible for the training and supervision of the Unmanned Aircraft Systems Team.
2. Unmanned Aircraft Systems (UAST) Members: The member must perform essential below functions of the position as provided in the job description. Failure to comply with any of these duties will result in disciplinary actions by department procedures. Disciplinary actions may result in the removal from the UAST Team. Duties and responsibilities include, but are not limited to the following:
- a. Be knowledgeable of the Wichita Police Department's Mission Statement, Vision Statement and Strategic Objectives using said knowledge to direct the efficient and effective use of assigned resources.
 - b. Be fair, respectful and responsive to all members
 - c. Members who are selected, trained and placed in the Unmanned Aircraft Systems Team will be permitted by their immediate (regular duty) supervisors/commanders to respond when requested to an incident/Special Event situations or other life-threatening incidents. Additionally, all members of the team will be permitted by their supervisors to attend periodic training sessions when such training is scheduled.
 - d. UAST members serve at the discretion of the Investigations Division

Commander.

- e. UAST members will have primary responsibility for all aircraft operations with the objective of obtaining as much intelligence data as is available.
- f. UAST members will assist in the deployment and recovery of all UAS equipment utilized in each operation.
- g. UAST members will take responsibility for coordinating/notifying the appropriate Air Traffic Control Tower when necessary.
- h. UAST members will strictly adhere to the Public Safety Camera policy.
- i. The UAST will be responsible for submission of all FAA required reports.
- j. Shall keep fit for duty when on standby
- k. Shall inspect all UAS equipment and ensure that it is in good condition. Report any problems or missing/damaged equipment immediately to the UAS Coordinator.
- l. Shall request, through the UAS Coordinator, any equipment updates, upgrades or requests for new/additional equipment that would increase/enhance the effectiveness of all UAS members and overall operations.
- m. When operating any department UAS system, all takeoffs and landings will be performed with a nose out orientation.