

DATE:

March 14, 2023

OPERATIONS

SEC.

401.19B

SUBJECT:

UNMANNED AIRCRAFT SYSTEMS (UAS)

CANCELS/ AMENDMENTS:
New Policy

Prelude

The mission of the City of Fulton's Small Unmanned Aircraft Systems (UAS) program is to provide aerial support and assistance to support City of Fulton operations and to requesting municipalities and/or public safety agencies with their missions and requirements. UAS's serve to supplement air operations and are an excellent cost-effective tool, allowing for a fast deployment of aerial support when manned aircraft are unavailable or the mission is too dangerous. Unmanned aircraft shall be operated in a responsible manner consistent with the following department policy.

This document will define the missions, training requirements, command relationships, standardization, specific flight team responsibilities and duties, and the reporting requirements to which Department employees will adhere in order to operate and safely deploy unmanned aircraft.

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General Provisions

PURPOSE: To establish the policies, procedures, and Concept of Operations for Unmanned Aircraft Systems (UAS) within the guidelines of the City of Fulton's Police Department's Certificate of Waiver of Authorization (COA) rules and regulations.

DEFINITION: The City of Fulton's Unmanned Aerial System (UAS) Drone Unit is composed of members of the City of Fulton Police Department and the City of Fulton Fire Department. The Drone Unit is to provide aerial technology to support City of Fulton operations and to requesting municipalities and/or public safety agencies.

STANDARDS: Concept of Operation reflects accepted standards of the Federal Aviation Administration (FAA) regulations, aircraft manufacturers approved flight manual as defined by national response protocols as supported by the Federal Aviation Administration (FAA) all statutes which relate to the safe and efficient provision of such a service. The following procedures are intended to promote safe, efficient and lawful operation of the City of Fulton's Unmanned Aerial System (UAS). Safety, above all else, is the primary concern in each and every operation, regardless of the nature of the mission.

II. Definitions

- A. Aircraft. A device that is used or intended to be used for flight in the air. This includes UASs.
- B. **Airworthiness Statement**. The Airworthiness of the UAS is self-certified by the Remote Pilot in Command through a preflight inspection prior to flight.
- C. Certificate of Authorization (COA). COA is an authorization issued by the Federal Aviation Administration (FAA) to a public operator for a UAS. After a complete application is submitted, the FAA conducts an operational and technical review. If necessary, provisions or limitations may be imposed as part of the approval to ensure the UAS can operate safely with other airspace users.
- D. First Person View (FPV). The Remote Pilot observing the flight solely through the UAV's camera.



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- E. **Flight time**. Remote piloting flight time commences when an aircraft moves under its own power for the purpose of flight and ends when the aircraft comes to rest after landing.
- F. Image. Means any capturing of sound waves, thermal, infrared, ultraviolet, visible light, or other electromagnetic waves, odor, or other conditions existing on or about real property in this state or an individual located on that property. Imagery may include data about people, organizations, events, incidents, or objects as well as metadata.
- G. **Visual Line of Sight (VLOS)**. The Remote Pilot and/or the Visual Observer can see, unaided, the UAS under their control during flight.
- H. Night Flight. Flight of a UAS that occurs between the hours of one-half hour after sunset and one-half hour before sunrise. The time of sunset and sunrise are determined by the National Oceanic and Atmospheric Administration (NOAA), but 14 CFR Part 107 will allow small UAS operations to be conducted during civil twilight if the small unmanned aircraft has lighted anti-collision lighting visible for at least 3 statute miles. The night time-operations prohibition in this rule is waivable through the FAA for Part 107 or as an addendum to approved certificate of waiver to the COA.
- I. Unmanned Aircraft System / Vehicle (UAS/UAV). UAS is the unmanned aircraft system and all the associated support equipment, control station, data links, telemetry, communications, and navigation equipment, etc., necessary to operate the unmanned aircraft. The aircraft's flight is controlled either autonomously by hardware within the UAS or under the remote control of a Remote Pilot on the ground or in another ground vehicle. For purposes of this program, the 14 CFR Part 107 compliant UAS shall weigh less than 55 pounds fully loaded. Maximum groundspeed is limited to 100 mph (87 knots).
- J. **Visual Flight Rules (VFR).** All flights with the UAS shall be conducted under VFR conditions and at an altitude below 400' AGL (Above Ground Level). VFR is established as a 3-mile visibility and a cloud ceiling of 1,000 feet for day operations and 5-mile visibility with a cloud ceiling of 2,000 feet for night operations.



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III. Missions

It shall be the mission of those personnel of the City of Fulton Police & Fire Department who are trained in the use of the Unmanned Aerial System (UAS), to use this resource to protect the lives and property of citizens and first responders in a constitutionally and legally sound manner. Use of the aerial system can be utilized in circumstances which would save life and property, as well as being able to detect possible dangers that could not otherwise be seen. Its intended use is to provide greater situational awareness during critical incidents thereby enhancing responder safety in response to and mitigation of emergent situations and incident types unrelated to citizen monitoring or surveillance.

UAS's can support any responder in many types of hazardous incidents that would benefit from an aerial perspective. Additionally, the UAS would have suitable uses in missing persons, search and rescue operations, accident scene reconstruction and documentation as well as many tasks that can best be accomplished from the air in an efficient and effective manner.

It shall be the intent of every UAS operator to make every reasonable effort to not invade a person's reasonable expectation of privacy when operating the UAS. Personnel operating a UAS shall be mindful of privacy rights and absent a warrant or exigent circumstances shall not intentionally record or transmit images in any location where a person would have a reasonable expectation of privacy. Operators and observers will take reasonable precautions to avoid inadvertently recording or transmitting images in violation of privacy rights.

All missions will be flown in accordance with FAA regulations, 14 CFR Parts 107 and/or Certificate of Authorization, applicable portions of 14 CFR Parts 61 and 91, current FAA National Policy regarding UAS Operational Approval and the City of Fulton Police & Fire Department's Unmanned Aircraft Concept of Operations.

Citizens' complaints will be handled by the respective agency based on their policies regarding the same.

Request for UAS support outside the City of Fulton Police and City of Fulton Fire Departments will be coordinated with the Oswego County UAS Coordinator or designee and will comply with the New York State mutual aid system or the agency assistance policy in place for local law enforcement agencies.

Data collected on the UAS SIMM card will follow the Fulton City Police Departments evidence collection and storage policy. Fulton City Police Department maintains its own record and storage center. The data shall be collected for authorized purposes only.



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Data oversight and auditing procedures will comply with current policies in place for Fulton City Police Department. The respective department's lead pilot will assist in maintaining compliance and audits every 6 months as well as provide annual reports when requested.

Information Sharing Agreement:

- 1. Transfer: will occur by [system to system transfer, Secure File Transfer, etc.]. Information will be shared on a strict need to know basis only and the data will only be processed by staff in order for them to perform their duties in accordance with one or more of the defined purposes.
- 2. Retention: Information collected using UAS that may contain PII shall not be retained for more than 180 days unless retention of the information is determined to be necessary to an authorized mission of the retaining agency, is maintained in a system of records covered by the Privacy Act, or is required to be retained for a longer period by any other applicable law or regulation.
- 3. Dissemination: UAS-collected information that is not maintained in a system of records covered by the Privacy Act shall not be disseminated outside of the agency unless dissemination is required by law, or fulfills an authorized purpose and complies with agency requirements.
- 4. Under no circumstances should personal data be processed in any way that is unsecure or left unattended. It is the responsibility of the sender to ensure that the method is secure and that they have the correct contact details for the receiver.
- 5. Both parties shall comply with all Federal and State laws and regulations governing the confidentiality of the information
- 6. The data recipient will not release data to a third party without prior approval from the data provider.

Public notification of UAS operation:

- 1. At the request of incident commander or RPIC a hyper-reach, a mass-dialing program, can be requested to notify the public that a drone operation is taking place over a certain area.
- 2. At the request of the respective agencies Chief and/or the Deputy Police Chief/Asst. Fire Chief a media/press release may be released to the public after a UAS mission or prior to a pre-planned mission.



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Authorized Missions

- A. Hazardous Material Responses
- B. Search and Rescue missions.
- C. Accident scene investigation, reconstruction and documentation.
- D. Fire scene safety and investigations.
- E. Rail train emergencies.
- F. Scene reconnaissance, damage assessment and documentation of natural and man-made disasters.
- G. Crime scene investigations and documentation.
- H. In the interest of public safety

IV. Training and standardization

Organization

- A. The following shall be the Chain-of-Command for the Unmanned Aerial System (UAS) Drone Team:
 - 1. Unit Crew Members
 - Lead Pilot
 - 3. Deputy Police Chief/ Asst. Fire Chief
 - 4. Police Chief/ Fire Chief
- B. No member of the Chain of Command shall be granted the authority to Order the Pilot in Command (PIC) to conduct flight operations if the PIC has determined the flight is unsafe or not allowed by the authorities granted to the City of Fulton.
- C. The City of Fulton Police Department/Fire Department UAS Program collaborates with the Oswego County UAS Program. The Oswego County UAS Program provides aerial support for county public and safety departments and coordinated training, education, public awareness, and regional operation among local and municipal programs, including the City of Fulton and City of Oswego.



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Structure

- A. The Unmanned Aerial System (UAS) Drone Team shall have a number of members, as directed by the Chief(s).
- B. The team shall be comprised of a Lead Pilot(s), trained pilot(s), trained observer(s), and trained camera operator(s) (if necessary).
- C. The Lead Pilot(s) will develop, prepare, and keep records of training initiatives for their team. The Lead Pilot(s) shall forward copies of all training records to the Department's Training Administrator for inclusion in Agency training files.
- D. The Lead Pilot(s) shall be responsible for the upkeep of equipment, identification of equipment in need of repair and the equipment maintenance log; or appoint a unit equipment technician(s) to perform said task.

Member Selection

- A. Members are selected, based upon interest in UAS operations, and by their respective department's Chief and Deputy Chief/Asst. Fire Chief's approval.
- B. Any member of this department interested in being a part of the Drone Team or the FAA Part 107 Commercial Drone Certification or Crew Member position, and has an interest in participating in the drone program as a: Remote Pilot in Command, Controller Operator, Visual Observer or Camera Operator is requested to send an electronic letter of request to their departments respective Chief or Deputy Chief/Asst. Fire Chief. Applicants should include in the letter any previous drone operation experience, photography and/or videography, or special skills they possess that would enhance the drone program.
- C. A list of recommendations will be forwarded to their respective departments Chief and Deputy Chief/Asst. Fire Chief for final determination.

Crew Resource Management Qualifications

A. Pilot in Command (PIC):

A person operating a small UAS must hold a remote pilot airman certificate with a small UAS rating by successfully passing the FAA Part 107 Airmen Knowledge Test or by maintaining monitored flight hours monthly which are logged in their training file.



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The PIC will function as team leader and the operator of the UAS. The PIC will be ultimately responsible for the operation and solely responsible for input of commands/piloting of the UAS during flight.

The PIC will be responsible for UAS assembly, UAS Flight Preparation, UAS Post Flight Procedures, and UAS Disassembly/ Storage.

Additionally, the PIC will appoint a trained visual observer at his/her discretion.

B. <u>Visual Observer:</u>

The observer will maintain a visual observation of the UAS while it is in flight and alert the PIC of any conditions (obstructions, terrain, structures, air traffic, weather, etc.) which affect the safety of flight.

During flight, the observer will ensure that the operations area remains secured and both PIC and observer are not interrupted. Additionally, the observer will be responsible for all aviation related communications required by FAA.

To accomplish this effectively, the observer will be in close proximity to the PIC to ensure instant relaying of information.

Training Proficiency

Initial UAS training will be accomplished by the Oswego County Emergency Management Office's UAS Coordinator or by a Lead Pilot.

Recurrent UAS training will be conducted on a monthly basis by all unit personnel. The training will consist of a minimum of 2 take-off and landing events and 4 hours of in-flight training in order to meet the proficiency requirements. Trainings may be accomplished by obtaining the required take-offs and in-flight hours during missions.

FAA Part 107 Pilots must recertify every 24 months to maintain a current certification.

UAS operators / unit members must be certified in the operation of the UAS by successfully completing training conducted by a Lead Pilot.

All crew members will be familiar with the City of Fulton Police and Fire Department's Concept of Operation and COA's.



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V. Team Activations

Request for Activation

- 1. Request for activation of the Unmanned Aerial System (UAS) Drone Unit shall be made through the 911 Communication Center or the Fulton Police Department OIC.
- 2. The telecommunicator shall immediately notify the Lead Pilot or his designee.
- 3. The Lead Pilot or his designee will advise if further unit member notifications are required.
- 4. The Fulton Police Department OIC shall make concurrent notification to the Deputy Chief or Chief, if applicable and in accordance with incident notification procedures, or if another agency is requesting UAV assistance outside the City of Fulton boundaries.

Response

- A. The Unmanned Aerial System (UAS) Drone Unit shall respond to assist all Oswego County agencies requesting assistance after Chief or Deputy Chief approval.
- B. A minimum two-man crew (comprised of a PIC and VO) is required for all flights unless authorized by the Lead Pilot, Deputy Chief/Asst. Fire Chief or Police Chief, or entails exigent circumstances.
- C. Unit members will be contacted and advised to report to the call out/incident location by Dispatch (911) or by their respective departments.
- D. The PIC will determine if safe operation of the UAS can be accomplished as requested. The decision will be contingent upon several factors to include the ability of the UAS unit to operate within a secure perimeter, physical features of the area, and obstructions to flight, terrain, weather, etc.
- E. When sufficient personnel and equipment arrive, appropriate steps should be taken to complete the mission. This should include, but not be limited to:
 - 1. Establish a safe working area.
 - 2. Plan the mission with the aid of the FPD/FFD UAS Mission/Operations Check List



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All UAS activations will require the designation of a safety officer. The safety officer is empowered to immediately abort the UAS mission if he or she observes a danger to the life and health of persons or property. Any officer on scene may stop the UAS mission as all officers are considered safety officers.

VI. Operations

Safety of Operations

- A. Safety of the UAS operations (including persons and property) is the responsibility of the entire team. UAS team members should bring to the attention of other members any condition which they feel is a safety concern.
- B. Except as required by the mission, all UAS team members will ensure that no persons are in the vicinity of the UAS during operations to avoid flying over uninvolved persons or vehicles.
- C. Under no circumstances shall the UAS be utilized directly over large gatherings of people, as a chase vehicle in a vehicle pursuit or operated from a moving vehicle unless otherwise stipulated in the COA and/or FAA Part 107 waivers.
- D. Except for the purpose of training or with UAS supervisory approval, only UAS unit members who meet the requirements set forth in Section IV (QUALIFICATIONS) will be permitted to act as a unit member.
- E. UAS team members will comply with the UAS Operator Manual, warning, limitations, placards, and/or checklists at all times unless exigent circumstances dictate otherwise.
- F. UAS PICs are authorized to evaluate and accept or decline any mission or portion thereof which affects the safety of operations or the public.
- G. All UAS operations will be conducted in Day Light Visual Meteorological Conditions only, unless otherwise stipulated in the COA and or FAA Part 107 waivers.
- H. All UAS team members will be familiar with the COA and/or FAA Part 107 waivers which relate to the operation of the UAS and comply with same.



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Normal Operations

A. Operations Area

The operation area selected by the UAS team shall be located within a secure perimeter whenever possible. The area should be evaluated for adequate space and clearances in order to safely assemble, launch, and recover the UAS. Attention should be given to overhead obstacles and obstructions that may pose a risk to the UAS during operation. The site selected and utilized by the UAS team should be restricted and access granted to personnel for operational purposes only.

B. UAS Assembly

The UAS will be assembled on site by the UAS team as described by the UAS manufacturer's operation manual.

C. Flight Procedures

A pre-flight check of the UAS will be completed in accordance with the manufacturer's recommendation and applicable pre-flight check utilizing the FPD/FFD UAS Operations Checklist.

Flight Operations

- 1. The UAS shall be operated in accordance with manufacturer specifications and applicable FAA limitations and restrictions.
- 2. A copy of the current valid COA and/or FAA Part 107 waivers shall be present, on site with the UAS team, whenever UAS operations are conducted.
- 3. For all operations, the observer shall utilize a distance from the UAS that will adequately permit them to maintain a visual observation of the UAS and maintain officer safety.
- 4. EMERGENCY/CONTINGENCY PROCEDURES Lost Link Procedure:

The lost link response shall be set to rally point and the maximum altitude set in accordance with the altitude limit of the COA and/or FAA Part 107 waivers.

A preprogrammed or predetermined mitigation plan will be utilized to ensure the continued safe operation of the UAS in the event of a lost link (LL), in the event positive link cannot be established.



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Flight termination must be implemented if the UAS loses communications or loses its GPS signal. The UAS must return to a pre-determined location within the operating area and land.

Our DJI aircraft, and software, come with the technology to maximize safety and efficiency including precise geolocation abilities and emergency return to home abilities if controller signal is lost. All of the safety features incorporated into the DJI products will be utilized during flight, unless exigent circumstances permit otherwise.

Policy and procedure will require that during authorized flights, a separate visual observer will be required in addition to the pilot manipulating the controls of the remote aircraft; ensuring visual line of sight (VLOS) is maintained.

All UAS team members will comply with all limitations, restrictions and requirements as enumerated in the COA and/or FAA Part 107 waivers. (as of 1/5/2023, FPD/FFD UAS teams do not have the below waivers)

- a. 107.29 Night time operation. (However, night time operations can be conducted per COA regulations)
- b. 107.41 Operation in particular airspace. (Operations in Class B, C, D and E Airspace.
- c. 107.33 Daisy Chained Visual observers (this allows for daisy chain of Visual Observers for ELOS).
- d. 107.39 Operation over people.

Maintenance

We currently follow all manufacture guidelines and policy regarding routine maintenance and repairs. Our repair procedure is to use only factory parts and all repairs are to be conducted by an authorized DJI Repair facility with the exception of simple operational repairs such as new batteries, propellers etc.. At this time we will use the Air Data Application to log and record our maintenance of aircrafts and batteries.



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Reporting Requirements

A flight log shall be completed and synchronized in a fleet management software following every UAS flight by the PICs including maintenance checks, and training flights. If the situation of the mission does not allow for immediate entry of the flight data into the fleet management software, then the information may be recorded the following day.

Community Engagements and Outreach

The City of Fulton's UAS program will have a site on the new Fulton Police Department website when complete, and will mirror the Oswego County UAS website. In the meantime, the city has a partnership with the Oswego County UAS Program, and Fulton information will be available on the county UAS website

- 1. Information is available on the Oswego County UAS Website until the completion of the new Fulton Police Department website which it will then be displayed there.
- 2. Located on the website is a UAS Dashboard that the community can view flight information with limited information due to privacy and data policies.
- 3. Located on the website are forms that the community can use to request demonstration for their organization or community event.
- 4. Our UAS team will participate in any community event as requested.
- 5. FAA Drone Safety Days Annually the FAA provide information for UAS programs to assist with education and flight safety for the general community.
- 6. Changes to UAS policy that would significantly affect privacy, civil rights or civil liberties will be posted on the Oswego County UAS website until the completion of the new Fulton Police Department website which it will then be displayed there.
- 7. An annual report will be provided to the public showing Fulton's UAS operations. This report will include a brief description of types or categories of missions flown, and the number of times Fulton has provided assistance to other agencies, or to state, local, tribal, or territorial governments.



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Compliance with the Civil Rights and Civil Liberties

"UAS-recorded data will not be collected, disseminated or retained solely for the purpose of monitoring activities protected by the U.S. Constitution, such as the First Amendment's protections of religion, speech, press, assembly, and redress of grievances (e.g., protests, demonstrations) Collection, use, dissemination, or retention of UAS-recorded data should not be based solely on individual characteristics (e.g., race, ethnicity, national origin, sexual orientation, gender identity, religion, age, or gender), which is a violation of the law."

Dated: March 14th, 2023

This policy will be reviewed every 2 years or as changes are made which would impact the drone program. Any changes to UAS policy that would significantly affect privacy, civil rights or civil liberties will be posted and available to the public

Michael Curtis