

Unmanned Aerial System (UAS) Operations

357.1 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.

357.1.1 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 (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.

Certificate of Authorization (COA) – Authorization issued by the FAA which grants permission to fly within specific provisions and limitations. Training flights cannot take place without a valid T&E (training and evaluation) COA. Missions cannot take place without a valid operational/emergency COA.

357.2 POLICY

Unmanned aerial systems may be utilized to enhance the department's mission of protecting lives and property. Any use of a UAS will be in strict accordance with constitutional and privacy rights and Federal Aviation Administration (FAA) regulations. Safety, above all else, is the primary concern in each and every operation, regardless of the nature of the mission.

357.3 PRIVACY

The department recognizes that use of a UAS involves potential privacy considerations and is committed to using UAS in a manner that respects privacy rights. UAS operators and observers will consider citizens' civil rights and reasonable expectations of privacy as key components of any decision made to deploy the vehicle.

UAS operators and observers will ensure, and will be held accountable for ensuring, that operations of the UAS appropriately balance operational needs with maintaining public privacy and freedom from intrusion. To ensure that legitimate privacy considerations are observed, UAS operators and observers will:

- (a) Absent a warrant or exigent circumstances, 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).
- (b) Take reasonable precautions to avoid inadvertently recording or transmitting images of areas where there is a reasonable expectation of privacy.

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- (c) During flight, direct onboard cameras so as to face away from occupied structures not related to the mission, to minimize the inadvertent capture of video or still images of uninvolved persons.
- (d) Maintain all video and still images in strict compliance with State law and Sunnyvale DPS policies and procedures.
- (e) Operate strictly within the law and regulations pertaining to UAS. Whenever required by policy or law, operators will ensure that warrants are obtained prior to deploying the UAS.

357.4 PROGRAM MANAGER

The Chief will appoint a Program Manager who will be responsible for the overall direction and management of the UAS program. The Program Manager will have the following responsibilities:

- Ensuring that policies and procedures conform to current laws, regulations and best practices.
- Ensuring that established protocols are followed by monitoring and providing periodic reports on the program to the Chief.

357.5 PROGRAM COORDINATOR

The Director of Public Safety will appoint a Program Coordinator who will be responsible for direct supervision of the UAS Program and its personnel. The Program Coordinator will have the following additional responsibilities:

- Coordinating the FAA Certificate of Waiver or Authorization (COA) application process and ensuring that the COA is current.
- Maintaining contact with the FAA and familiarity with pertinent FAA regulations.
- Ensuring that all authorized operators and required observers have completed all required FAA and Department approved training in the operation, applicable laws, policies and procedures regarding use of the UAS.
- 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.
- Facilitating law enforcement access to images and data captured by the UAS.
- Recommending program enhancements, particularly regarding safety and information security.
- Ensuring that all training, flight and maintenance records for each operator and airframe are maintained.

357.6 TRAINING NEEDS ASSESSMENT

The UAS Program Manager and Program Coordinator shall conduct an annual needs assessment to ensure that training is conducted within unit capabilities, department policy, and training guidelines as established by the FAA.

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357.7 INITIAL TRAINING

- (a) Upon selection to the collateral assignment of UAS Operator, new members shall acquire an FAA Remote Pilot Certificate, or higher.
- (b) Observers must have completed sufficient training to communicate to the pilot any instructions required to remain clear of conflicting traffic. This training, at a minimum, shall include knowledge of the rules and responsibilities described in 14 CFR 91.111, Operating Near Other Aircraft; 14 CFR 91.113, Right-of-Way Rules: Except Water Operations; and 14 CFR 91.155, Basic VFR Weather Minimums; knowledge of air traffic and radio communications, including the use of approved ATC/pilot phraseology; and knowledge of appropriate sections of the Aeronautical Information Manual.
- (c) Before a member can be authorized to conduct flight operations as a UAS pilot, they must complete at least eight hours of flight training with UAS instructors to show proficiency of the flight training exercises and the airframe. This must be accomplished to show their ability and knowledge of the UAS.

357.8 RECURRENT TRAINING

- (a) To maintain a level of proficiency with the UAS, operators shall be required to attend regular training. Training will be coordinated through the Program Coordinator.
- (b) All members in the assignment shall maintain proficiency in their pilot/observer abilities. Members who do not have any documented training or flight time within a span of 6 months will need to demonstrate proficiency before being a pilot/observer during a deployment or exercise.
- (c) Recurrent training is not limited to actual piloting/observer skills but includes knowledge of all pertinent UAS/aviation matters.
- (d) Failure to demonstrate proficiency can result in removal from UAS responsibilities.

357.9 TRAINING RECORDS

- (a) All members will have a training file on record that details training history. This training file will be held in conjunction with the member's normal training file per Department policy.
- (b) All deployments or exercises will be documented and count towards a member's training.
- (c) It is the member's responsibility to verify their training file contains all pertinent information.

357.10 USE OF UAS

Only authorized operators who have completed the required training shall be permitted to operate the UAS. All use shall be authorized by the Program Coordinator.

The authorized missions for UAS use are:

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- (a) Search and Rescue Missions
- (b) Response to Fires or Post-Fire Investigations
- (c) HAZMAT response
- (d) Barricaded Suspects, Hostage Situations and other high-risk Tactical Operations to reduce risk to department personnel, suspects and community members.
- (e) Disaster Response (i.e. flood, earthquake)
- (f) Video/Photograph documentation of Crime Scenes
- (g) Training Flights as required to meet FAA and Department certification standards
- (h) Used in accordance with a court order or search warrant

357.11 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.
- To harass, intimidate, or discriminate against any individual or group.
- To conduct personal business of any type.

The UAS shall not be weaponized.

357.12 FLIGHT BOUNDARIES

- (a) Although there may be requests for UAS support outside of Sunnyvale, the COA for our UAS restricts UAS deployment outside the County of Santa Clara and further restricts the proximity of flight to other locations.
- (b) At no time shall UAS support be granted outside the County of Santa Clara without first obtaining an emergency FAA COA and approval by the UAS Program Coordinator.
- (c) Information regarding flight boundaries can be found in the FAA COA and the use of a San Francisco VFR Terminal Area Chart.
- (d) Maximum altitude shall not be set more than 400 feet AGL, per the FAA COA.

357.13 WEATHER

- (a) Before each deployment, the pilot/observer will ensure that he/she gathers enough information to make themselves familiar with the weather situation existing throughout the area of deployment. The operator shall utilize FAA approved weather resources to obtain the latest and most current weather conditions.
- (b) An anemometer should be utilized in order to better estimate wind speed and determine if it is within the capabilities of the airframe being flown.

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- (c) Operators/Observers should use the Beaufort Scale when making deployment decisions in regards to wind conditions. This scale can be located in the manufacture's user manual.
- (d) The weather conditions reported for the operation shall be recorded in the flight log.
- (e) The operator shall ensure that the flight will occur within FAA VFR weather requirements.

357.14 MINIMUM PERSONNEL REQUIREMENTS

- (a) Due to the nature of the law enforcement mission, the minimum personnel required on ALL missions will be two, a pilot and observer. Under no circumstances will a pilot attempt to complete a deployment alone.
- (b) Although training is not considered a mission, an observer shall be used.

357.15 FLIGHT TIME LIMITATIONS

- (a) During any 24 consecutive hours, the total flight time of any pilot may not exceed 10 hours, which shall include any other unmanned flying by that pilot. A pilot's flight time may exceed the flight time limits if the assigned flight time occurs during a regularly assigned duty period of no more than 14 hours and:
 - 1. If this duty period is immediately preceded by and followed by a required rest period of at least 10 consecutive hours of rest.
 - 2. If the flight time is assigned during this period, which total flight time when added to any other unmanned flying by the pilot may not exceed 10 hours.
 - 3. If the combined duty and rest periods equal 24 hours.
- (b) Each flight assignment must provide for at least 10 consecutive hours of rest during the 24-hour period that precedes the planned end of the agency flight.
- (c) When a pilot has exceeded the daily UAS flight time limitations in this section, because of circumstances beyond control of the agency or pilot, the pilot must have a rest period before being assigned or accepting an assignment for flight time, of at least:
 - 1. Twelve (12) consecutive hours of rest if the flight time limitation is exceeded by more than 30 minutes.
- (d) No member shall act as a pilot or observer within eight hours after consumption of any alcoholic beverage (FAR 91.17).

357.16 PERSONAL EQUIPMENT

- (a) Pilots/Observers shall wear eye protection at all times while the UAS is in flight.
- (b) Pilots/Observers will take into consideration current weather conditions when planning to deploy, and wear appropriate clothing.
- (c) There are no documented issues with the use of a radio or cellular phones during the deployment of the UAS, but the operator/observer should, at all times, take into

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consideration safe operation of the UAS when using the radio or another device. (Use of the radio or other device is strictly prohibited by the pilot during flight per the COA.)

- (d) Pilots/Observers shall wear clothing that easily identifies them as Sunnyvale DPS personnel.

357.17 OUTSIDE AGENCY REQUEST

- (a) Pilots/Observers shall wear eye protection at all times while the UAS is in flight.
- (b) Pilots/Observers will take into consideration current weather conditions when planning to deploy, and wear appropriate clothing.
- (c) There are no documented issues with the use of a radio or cellular phones during the deployment of the UAS, but the operator/observer should, at all times, take into consideration safe operation of the UAS when using the radio or another device. (Use of the radio or other device is strictly prohibited by the pilot during flight per the COA.)
- (d) Pilots/Observers shall wear clothing that easily identifies them as Sunnyvale DPS personnel.

357.18 UAS DEPLOYMENT PROCEDURES

- (a) Initial requests to use the UAS will be screened by a Lieutenant. A Lieutenant may authorize, within policy, the use of the UAS if immediate deployment reduces risk to department personnel, suspects, and community members. Otherwise, an on-duty captain or B/C shall be notified. A Captain or B/C shall be notified for all pre-planned events. The request will be screened by both the Lieutenant and UAS personnel based on the following:
 - 1. Is the proposed use of the UAS within the capabilities of the UAS equipment and personnel?
 - 2. Does the proposed use of the UAS fall within FAA and Department policies and regulations for UAS deployment?
 - 3. Can the UAS be deployed safely given current weather conditions?
 - 4. If the UAS deployment requires a warrant, has one been requested and approved?
 - 5. Are sufficient trained and qualified personnel available to safely operate the UAS?
- (b) If the request is denied, the reason will be shared with the requestor. If the Lieutenant or on-duty Captain approves the deployment, a UAS pilot will be assigned who will be provided all available mission information. If authorized by a Lieutenant, they shall notify the on-duty Captain or B/C of the deployment in a reasonable time frame.
- (c) The UAS pilot will contact a certified observer from the list of available trained observers and arrange for the observer to meet the pilot at the scene. The UAS pilot is responsible for transporting the UAS and all required equipment.

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- (d) Upon arriving at the requested location, the UAS pilot will contact the on-scene Incident Commander, check in, and receive a briefing on the mission requested. The UAS operators will make an on-scene determination of the ability of the UAS to perform the requested mission safely and within department and FAA policies and procedures.
- (e) If the UAS operators determine that the use of the UAS would violate department policy or directives, they will inform the Incident Commander of the potential conflict along with recommendations for modifying the requested mission to conform with department policies and procedures. As this is a change from the original approved mission, the UAS pilot will contact the UAS unit chain of command for direction on how to proceed. As soon as possible after the completion of the mission, the UAS pilot will make a full report of the circumstances and their concern through the chain of command.
- (f) UAS operators will have discretion for declaring safety or violation of FAA rules. If UAS operators determine that a requested mission would violate FAA rules or endanger civilians, the UAS pilot will respectfully inform the Incident Commander of the reason(s) for refusing to operate the UAS and contact the UAS chain of command immediately. The UAS will not be flown in this circumstance, and the authority of the UAS pilot is absolute.
- (g) If the UAS pilot determines that the requested mission will potentially damage the UAS or its associated equipment, the UAS pilot will inform the Incident Commander of their concern and suggest mission parameter changes. The UAS pilot is the final authority regarding UAS operations.

357.19 DOCUMENTATION AND EVIDENCE

- (a) Prior to every flight, a flight log shall be initiated for documentation.
- (b) Inspection and weather will be documented prior to flight within the log book.
- (c) After each flight, the operator will complete a statement documenting the UAS operations.
- (d) After each deployment, video obtained by the UAS Operation will be submitted to evidence in accordance with Department policies and procedures.
- (e) Aerial photography (still or video) shall be stored with digital evidence in accordance with Department policy and procedure.
- (f) The pilot of the UAS is responsible for evidence handling as well as writing any supporting documentation for the incident.

357.20 OPERATIONAL HAZARD AND OCCURRENCE REPORT (OHOR) AND INVESTIGATION

- (a) Occurrences are unplanned safety related events, including accidents and incidents that could impact safety. A hazard is something that has the potential to cause harm. The systematic identification and control of all major hazards is foundational to safety.
- (b) The OHOR concept provides a mechanism to report hazards and occurrences, real and perceived, to those responsible for UAS operations.

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- (c) There is no specific format for the OHOR as the information provided is what is important, not the format. The OHOR should be used without hesitation to report any anticipated, current, or experienced safety hazard, or occurrence. Further, the OHOR can be submitted anonymously and to whatever level in the chain of command, to get the matter proper attention, without fear of reprisal.
- (d) Written memorandums fully explaining the problem will be given to the Program Manager.
- (e) Every hazard and/or occurrence will be investigated, with the results and corrective action taken communicated to all members of the unit. The investigation will be conducted by a supervisor, under the direction of the Program Manager, or any other member of the department who has the technical skill necessary to thoroughly conduct the investigation. The services of an independent subject matter expert may be necessary in some cases to assure a thorough and complete investigation.
- (f) Hazards requiring immediate attention will be brought to the attention of the Program Manager or Program Coordinator, verbally, without delay.
- (g) All members are authorized to take action to correct a hazard if, in that member's opinion, delay will result in accident or injury. The UAS unit chain of command will be notified immediately in such situations.

357.21 RETENTION OF UAS DATA

Data collected by the UAS shall be retained as provided in the established City of Sunnyvale Records Retention Schedule (series PS097) similar to Body Worn Camera or MVAR video. If data is submitted as evidence in a criminal or other case, it will fall under the associated records retention schedule (series PS073) and be retained in accordance with City Administrative Policy for Records Management (Chapter 5, Article 5).