



Memorandum

TO: HONORABLE MAYOR
AND CITY COUNCIL

FROM: Edgardo Garcia

SUBJECT: SEE BELOW

DATE: February 18, 2020

Approved

D. D. SyL

Date

2/20/2020

SUBJECT: UNMANNED AIRCRAFT SYSTEM POLICY AND PROCEDURES

RECOMMENDATION

Accept and approve the Police Department's proposed policies and procedures regarding the use of Unmanned Aircraft Systems.

OUTCOME

Approval of the Police Department's final version of the Unmanned Aircraft System Policy and Procedures by the City Council will allow the Department to secure a Certificate of Authorization to operate from the Federal Aviation Administration (FAA).

BACKGROUND

Throughout the spring of 2015 the San José Police Department engaged with the Neighborhoods Commission in a community outreach process to develop a set of preliminary Unmanned Aircraft System (UAS) policies and procedures. The Neighborhoods Commission published its report on March 13, 2015 in which it recommended 20 policies and procedures for the use of a Police Department UAS as part of a one-year pilot-program.

On June 18, 2015 the Public Safety Finance and Strategic Support (PSFSS) Committee considered the Neighborhoods Commission report and the Police Department's recommended modifications to the Commission's policy language. The Committee accepted the Police Department's proposed language for a one-year pilot-program. The PSFSS Committee recommended that the Department 1) seek approval from the FAA to operate a UAS; and 2) Upon receipt of FAA approval to operate a UAS, conduct a one-year UAS Pilot Program under the Department's adopted UAS Policies and Procedures.

On August 11, 2015 the City Council accepted the recommendations of the PSFSS Committee and directed that the department return to the Council once the final policy and procedures were drafted but before those procedures were submitted to the FAA.

Because the FAA had not yet published UAS regulations in 2015, the Department projected it would take several years to get approval and to implement the pilot-program. This process took longer than anticipated. The FAA has established a set of regulations and procedures which has enabled the Department to certify pilots and to apply for a Certificate of Authorization (COA). The COA will authorize the Department to operate a UAS as a public safety entity and to conduct flights at night. The FAA will not provide the COA without a policy in place, despite the 2015 plan to fly a pilot program before establishing the final policy. Given the FAA's demand for a final policy, the earlier directions of the Council, and the evolution of public safety UAS best practices since 2015, the Department believes this is an appropriate time to bring a set of final policies and procedures before the Council for approval.

ANALYSIS

Since 2015 the use of UASs in modern culture has been prolific. Many concerns regarding the use of UASs by public safety personnel which were in the fore at that time are no longer relevant. For example, previous concerns about recording video from a UAS have been made less volatile by the implementation of body worn cameras and the ensuing public expectation that all enforcement encounters will be recorded. In addition, the earlier concerns about flying a UAS at night have proven to be less controversial as industry best practices have developed to commonly include night operations.

The Police Department has acquired a modern small UAS (less than 55 pounds), has trained and licensed Remote Pilots in Charge (RPIC), and has trained Visual Observers (VO) to assist each RPIC. The next necessary step is to acquire a Certificate of Authorization (COA) from the FAA. The FAA requires a finalized set of policies and procedures which, in 2015, the Council asked to review prior to presenting to the FAA. In order to comply with both the Council and the FAA, the Department has composed a set of final policies and procedures which now require approval of the Council.

In preparing the final policies and procedures for UAS operations, the Police Department compared and contrasted the restrictions of the 2015 pilot-program against modern policies and procedures in use by other regional police departments. The Department also considered FAA regulatory requirements and established standards of training. The proposed final policy is attached to this memorandum. It addresses the following subjects which are summarized here:

- The use of the UAS will be authorized in the following circumstances:
 - Post-incident crime scene preservation and documentation.
 - Explosive Ordnance Disposal missions.
 - Incidents involving potentially hazardous materials.

- Search and Rescue operations as defined in the California Government Code.
 - Public safety and life preservation missions to include barricaded suspects, hostage situations, active shooters, and high-risk search warrants/tactical operations.
 - The apprehension of armed and dangerous and/or violent fleeing suspects who pose an imminent danger to the public.
 - Disaster response and recovery to include natural, technical or human caused disasters.
 - Training missions and flight demonstrations.
 - Authorized special events.
 - In response to specific requests from local, state or federal fire authorities for fire response and prevention.
 - When use of the UAS would not infringe upon a reasonable expectation of privacy but could none-the-less take images of a place, thing, condition, or event that would be relevant in proving that a felony had occurred or is occurring, or that a particular person committed or is committing a felony.
 - Pursuant to a search warrant.
- The use of a UAS will be prohibited under the following circumstances:
 - For activities that do not have a legitimate law enforcement purpose.
 - To target a person based solely on individual characteristics, such as, but not limited to race, ethnicity, national origin, religion, disability, gender or sexual orientation.
 - To conduct personal business of any type.
 - The UAS shall not be weaponized.
 - Deployment of the UAS must be authorized by a Lieutenant (exemptions exist under emergency circumstances).
 - The RPIC should have a VO in attendance when operating the UAS (exemptions exist under emergency circumstances).
 - Pre-flight protocols are included to ensure the RPIC weighs risks against mission needs, meets FAA flight requirements, and possesses aviation radio communications.
 - Night operations are authorized under this policy and include procedures with respect to special training, vehicle lighting, recognizing night illusions, and altitude restrictions.
 - Guidelines are established regarding flights over human beings. These include speed, altitude, risk vs. necessity assessments, and reporting requirements whenever a human being is injured in an encounter with the UAS.
 - Training requirements in the policy include initial training for RPICs and VOs as well as recurrent training requirements.
 - The UAS policy includes the capacity for recording to digital media. These procedures dictate that digital media be retained and stored in compliance with established departmental guidelines.

- Flight time restrictions are established to address pilot fatigue (exemptions exist under emergency circumstances).
- Flight personnel will gather weather information from an FAA approved weather resource and consider the effect of weather conditions on flight safety.
- The policy closes by establishing a Program Manager and a Program Coordinator and delineating the responsibilities of each.

The summary above is general by design. The reader is encouraged to review the attached policy for questions regarding the specific language of each section.

CONCLUSION

After a careful consideration of industry best practices in concert with FAA regulations, the Police Department has composed a set of final policies and procedures for its Unmanned Aircraft Systems. This policy must be in place before the FAA will provide a Certificate of Authorization to the Police Department. The policy differs from the 2015 pilot-program restrictions in a number of ways. Most notably it includes video recording, night operations, and a broader list of authorized uses.

EVALUATION AND FOLLOW-UP

This memorandum answers the August 11, 2015 direction that the Police Department present its proposed final policies and procedures to the Council prior to presenting them to the FAA. By approving this policy, the Council will conclude a multi-year effort to establish a permanent and finalized Police Department UAS policy. Once the City-Wide Privacy Policy is approved, the UAS policy would be evaluated for the need to conduct a privacy impact assessment.

CLIMATE SMART SAN JOSE

The recommendation in this memo has no effect on Climate Smart San José energy, water, or mobility goals.

PUBLIC OUTREACH

The presentation of these final policies and procedures completes the process which was established in 2015 when the Neighborhoods Commission conducted numerous public meetings seeking input of the community. This memorandum will be posted on the City's Council Agenda website for the March 3, 2020 Council Meeting.

COORDINATION

This memorandum has been coordinated with the Departments of Civic Innovation, Airport and Public Works (Risk Management), and the City Attorney's Office,.

COMMISSION RECOMMENDATION/INPUT

The 2015 pilot-program and the process for establishing a final set of policies and procedures had input from the Neighborhoods Commission.

CEQA

Not a Project, File No. PP10-068(c), General Procedure & Policy Making resulting in no changes to the physical environment.

/s/
Edgardo Garcia
Chief of Police

Attachment:
Final UAS Policy Proposal

For questions, please contact Lieutenant Stephen Lagorio, at (408) 219-6712.

Unmanned Aircraft Systems Unit



Standard Operating Procedures (S.O.P.'s)

Rev. December 2019
Lt. Steve Lagorio #3258

PURPOSE

This policy is intended to provide authorized Department personnel who are assigned responsibilities associated with the deployment and use of an unmanned aircraft system (UAS) with instructions on when and how this technology may be used for law enforcement and public safety purposes in accordance with law.

POLICY

It is the policy of the Department that duly trained and authorized agency personnel may only deploy an UAS for legitimate law enforcement purposes as specified herein. All UAS deployments, as well as the use, collection, and storage of any audio/video data originating from the use of the UAS, shall comply with applicable law and the policy provisions provided herein.

DEFINITIONS

Digital Multimedia Evidence (DME):

Digital recording of images, sounds, and associated data.

Unmanned Aircraft (UA) or Unmanned Aerial Vehicle (UAV):

An aircraft that is intended to navigate in the air without an on-board pilot. Also, alternatively called Remotely Piloted Aircraft (RPA), Remotely Operated Vehicle (ROV), or Drone.

Unmanned Aircraft System (UAS):

A system that includes the necessary equipment, network, and personnel to control an unmanned aircraft.

Small Unmanned Aircraft Systems (sUAS):

UAS systems that utilize UAVs weighing less than 55 pounds and are consistent with Federal Aviation Administration (FAA) regulations governing model aircraft.

UAS Flight Crewmember:

A pilot, visual observer, payload operator or other person assigned duties for a UAS for the purpose of flight or training exercise.

Remote Pilot in Command (RPIC):

A person exercising control over a UA/UAV/UAS during flight.

Visual Observer (VO):

The flight crewmember responsible for the visual observation of the UAS while in flight. The VO will alert the RPIC of any conditions (obstructions, terrain, structures, air traffic, weather, etc.) which may affect the safety of flight. The VO will be responsible for all aviation related communications required by the Federal Aviation Administration (FAA).

To accomplish this, the VO will be in close proximity to the RPIC to ensure timely relaying of information. All RPICs must operate the UAS with the assistance of a VO.

FAA Part 107:

To operate the controls of an UAS under Part 107, the RPIC must hold a current remote pilot airman certificate with an UAS rating or be under the direct supervision of a person who holds such a certificate.

Night Operations:

Those operations that occur between the end of evening civil twilight and the beginning of morning civil twilight, as published in the American Air Almanac, converted to local time (this is equal to approximately 30 minutes after sunset until 30 minutes before sunrise).

Certificate of Authorization (COA):

Permission granted by the FAA for a public safety agency to fly a UAS within specific boundaries and parameters.

ORDER

Only properly trained Department personnel are authorized to operate Unmanned Aircraft Systems in the National Airspace System pursuant to the provisions contained within the department COA and/or when allowable under FAA Part 107. It shall be the responsibility of the RPIC and the VO to ensure strict observance of the terms and provisions contained within the COA, addendums, and pursuant to FAA part 107.

- A. The use of the UAS will be limited to the following authorized missions:
 - 1. Post-incident crime scene preservation and documentation
 - a. A search warrant will be sought when processing a crime scene where a reasonable expectation of privacy exists (i.e. a residence).
 - 2. Explosive Ordnance Disposal missions.
 - 3. Incidents involving potentially hazardous materials.
 - 4. Search and Rescue operations.
 - 5. Public safety and life preservation missions to include barricaded suspects, hostage situations, active shooters, and high-risk search warrants/tactical operations.
 - 6. The apprehension of armed and dangerous and/or violent fleeing suspects who pose an imminent danger to the public.

7. Disaster response and recovery to include natural, technical or human caused disasters.
8. Authorized training missions and/or flight demonstrations.
9. Authorized special events.
10. In response to specific requests from local, state or federal fire authorities for fire response and prevention.
11. When there is probable cause to believe that (1) the UAS will record images of a place, thing, condition, or event; and (2) that those images would be relevant in proving that a certain felony had occurred or is occurring, or that a particular person committed or is committing a certain felony and use of the UAS does not infringe upon the reasonable expectation of privacy.
12. Pursuant to a search warrant.

PROHIBITED USE:

The UAS video surveillance equipment shall not be used:

1. For activities that do not have a legitimate law enforcement purpose.
2. To target a person based solely on individual characteristics, such as, but not limited to race, ethnicity, national origin, religion, disability, gender or sexual orientation.
3. To conduct personal business of any type.
4. The UAS shall not be weaponized.

PROCEDURES:

Request For Deployment:

1. Requests for a UAS deployment will be made to the on duty watch commander, special operations lieutenant, or BOI lieutenant in command of the investigation.
2. During exigent situations, appropriately certified RPICs may deploy their UAS for missions authorized within this general order prior to seeking approval. Upon successful completion of the mission, or as soon as practicable, the RPIC will notify the appropriate command officer via their chain of command.

3. RPIC's are authorized to evaluate and accept or decline any mission or portion thereof due to policy or safety concerns or other FAA requirements.

MINIMUM PERSONNEL REQUIREMENTS:

1. Due to the nature of the law enforcement mission, the minimum personnel suggested on ALL missions will be two; a pilot and observer. During exigent circumstances an RPIC may launch his/her UAS without a VO to maintain operational visibility of the scene. A VO should accompany the RPIC as soon as reasonably possible.
2. Although training is not considered a mission, a VO should be used.

PREFLIGHT RESPONSIBILITIES:

1. UAS Flight Crewmembers will utilize the mission briefing card, pre-flight and post-flight checklists, and emergency procedure checklist.
 2. Prior to each flight, the RPIC will evaluate the situation to determine the risks involved with the deployment of the UAS. The RPIC should weigh the risk of an UAS deployment against the benefit it may bring to the overall success of the mission.
 3. Prior to each flight, the RPIC will ensure they have a hand-held aviation radio and are monitoring the proper frequency.
 4. Prior to each flight, the RPIC will determine the airspace they will be operating within and make appropriate notifications [i.e., Notice to Airmen (NOTAM), control tower notifications]. Pursuant to the SJPD COA, when required, NOTAMs will be filed no less than 48 hours and no more than 72 hours prior to flight.
 - a. Due to the immediacy of some operations, the NOTAM may be filed as soon as practicable before flight, and if the issuance of a NOTAM may endanger the investigation and/or safety of the UAS Flight Crewmembers or officers, it may be waived. If a NOTAM is not filed, the pilot in command must be prepared to provide justification to the FAA upon request.
 5. The RPIC will determine the weather conditions and ensure they do not exceed weather minimums for both day and night flight operations, as outlined in SJPD COA and FAA Part 107.
- A. UAS night operations are authorized in the SJPD COA addendum and Part 107 waiver. For purposes of night flights, the following apply:

1. Additional training will be provided on the lighting configuration of the UAS to ensure proper recognition during night flight operations.
 2. Prior to conducting flights, the RPIC and VO must be trained to recognize and overcome visual illusions caused by darkness.
 3. The RPIC and VO must ensure the area of operation is sufficiently illuminated to allow the crew to identify people and obstacles on the ground; or the RPIC and VO must conduct a daytime site assessment prior to conducting night operations, noting any hazards or obstructions.
 4. The UAS must be equipped with anti-collision lighting visible from a distance of no less than 3 statute miles. In the interest of public safety, the RPIC may reduce the intensity of the lighting if he or she determines it is necessary.
- B. No person may operate an UAS over a human being except for operations where it is necessary to safeguard a human life, the human being is directly participating in the operation, the human being is located under a covered structure, or the human being is inside a stationary vehicle that can provide reasonable protection. The following applies to flights over human beings while operating under the COA:
1. The ground speed of the UAS must not exceed 100mph.
 2. No person may operate an aircraft below an altitude that will allow, in the event of a power failure on the UAS, an emergency landing without undue hazard to persons or property on the surface.
 3. SJPD must report any accident or incident resulting in any human injury during COA operations over human beings.
 4. For those operations where it is necessary to operate over human beings in order to safeguard human life, the RPIC must not operate any lower or in proximity to human beings than is necessary to accomplish the operation.
- C. It is the responsibility of the RPIC to complete the Department UAS flight log book (spreadsheet) located on the department server (G-Drive) or current cloud-based software that is subscribed to. Information should include: Date, Case#, Flight Duration, Pilot ID, Drone ID, Flight Details/Abnormalities, Drone Maintenance Record.

TRAINING REQUIREMENTS:

1. All UAS will only be operated by Department personnel who have been trained in the operation of the system, maintain FAA currency,

possess a current FAA Part 107 certificate with a UAS rating, and are authorized by the UAS Program Manager.

2. All agency personnel with UAS responsibilities, including command officers, will be provided training in the rules governing UAS use.
3. VOs, who have not been certified as remote pilot, shall complete the SJPD VO certification course, maintain FAA currency and be approved by the UAS Program Manager.
4. 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.

RECURRENT TRAINING:

1. To maintain a level of proficiency, UAS Flight Crewmembers shall be required to attend regular training. Training will be coordinated through the UAS Program Manager.
2. All UAS Flight Crewmembers in the assignment shall maintain proficiency in their pilot/observer abilities. Flight Crewmembers 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.
3. Recurrent training is not limited to actual piloting/observer skills but includes knowledge of all pertinent UAS/aviation matters.
4. Failure to demonstrate proficiency or follow department rules can result in removal from the voluntary UAS program.

TRAINING RECORDS:

1. All UAS Flight Crewmembers 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 at the SJPD training unit.

2. All deployments or exercises will be documented in a flight log and count towards a UAS Flight Crewmember's training.
3. It is the Flight Crewmember's responsibility to verify their training file contains all pertinent information.

DATA RETENTION AND PROCESSING:

1. Upon completion of each UAS mission the digital media evidence (DME) shall be reviewed and evaluated for evidentiary value. Data of identifiable individuals captured during a UAS mission shall not be retained unless there is reasonable suspicion that evidence of criminal activity is present. All DME shall be downloaded into DCS and retained per Department policy.
2. Video obtained by the UAS Operation will be submitted to evidence in accordance with Department policies and procedures.
3. Aerial photography (still or video) shall be stored with digital evidence in accordance with Department policy and procedure.
4. All Public Records Act requests for data generated via a UAS deployment shall be referred to the Office of the Chief, Research & Development Unit.

FLIGHT TIME LIMITATIONS:

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.
4. 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.
5. 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:

- a. Twelve (12) consecutive hours of rest if the flight time limitation is exceeded by more than 30 minutes.
6. No member shall act as a pilot or observer within eight hours after consumption of any alcoholic beverage (FAR 91.17).

WEATHER:

Before each deployment, UAS Flight Crewmembers will ensure that he/she gathers enough information to make themselves familiar with the weather situation existing throughout the area of deployment. UAS Flight Crew Members shall utilize FAA approved weather resources to obtain the latest and most current weather conditions.

PROGRAM MANAGER:

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

1. Ensuring that policies and UAS guidelines conform to current laws, regulations and best practices.
 - Compliance checks with this usage and policy will be completed every fiscal quarter in conjunction with Program Manager Reports.

PROGRAM COORDINATOR:

The Program Manager will appoint a Program Coordinator (Sergeant) who will be responsible for direct supervision of the UAS Program and its personnel. The Program Coordinator will have the following additional responsibilities:

1. Coordinating the FAA Certificate of Waiver or Authorization (COA) application process and ensuring that the COA is current.
2. Maintaining contact with the FAA and familiarity with pertinent FAA regulations.
3. Ensuring that all authorized Flight Crewmembers have completed all required FAA and department approved training in the operation of the UAS, and that the Flight Crewmembers comply with all applicable laws, policies and procedures regarding use of the UAS.

4. Developing an UAS inspection, maintenance and record-keeping protocol to ensure continuing airworthiness of an UAS, up to and including its overhaul or life limits.
5. Recommending program enhancements, particularly regarding safety and information security.
6. Ensuring that all training, flight and maintenance records for each Flight Crewmember and airframe are maintained.

Standard Operating Procedures are general guidelines for specific operations and a tool for standardized training. They are not intended to cover every possible tactical scenario and are subject to constant re-evaluation and modification as a result of lessons learned during live operations and training exercises.