**Dupage County Sheriff’s Office**

**(Type of Drone)**

**Unmanned Aircraft System**

**Standard Operating Procedures**Table of Contents

**Section 1: Introductions**

Dupage County Sheriff’s Office Personnel operating any Unmanned Aircraft System (UAS) will abide by the below listed Standard Operating Procedures (SOP). Prior to conducting UAS operations, personnel designated by the Sheriff or his/her designee, will read and sign a notice of understanding stating he/she has read and understands the content listed in this SOP.

**Section 2: Duty Positions and responsibilities**

**2.1 UAS Team Lead**

1. The primary role of the UAS Team Lead is to establish and maintain the program and all personnel assigned to it. This individual shall:
	1. Be selected by the Sheriff or his/her designee.
	2. Be responsible for all flight requirements, to include pilot training records and flight proficiency.
	3. Brief the Special Operations Team Commander or other personnel designated by the Sheriff on the readiness status of the UAS and its pilot(s).
	4. Maintain all records relating to the UAS program.

**2.2 Briefing the UAS Team lead for assignment**

 1. The Special Operations Team commander or other personnel designated by the Sheriff will brief key mission elements to the UAS Team Lead (or the Pilot in Command (PIC) if the UAS Team Lead is not available). At a minimum, The Special Operations Team commander or other personnel designated by the Sheriff will evaluate the following key areas in the mission planning sequence:

1. The flight is in support of an operational mission and authorized by Sheriff or his/her designee.
2. PIC received a brief from the UAS Team Lead, the Special Operations Team commander or other personnel designated by the Sheriff.
3. PIC is qualified and current for the mission

**2-3. Pilot in Command (PIC)**

1. The PIC is responsible for all planning, execution, and safe operation of UAS.
2. The PIC is empowered by the Sheriff or his/her designee to make decisions and take immediate actions necessary to prevent injury, accident, or damage to equipment or individuals.
3. The PIC is responsible for the safe conduct of all UAS flight and ground operations.
4. The PIC shall ensure all personnel involved in support of the operation thoroughly understand their roles in the mission.
5. The PIC shall receive a brief prior to conducting any flight.
6. The PIC will provide a back brief detailing the mission prior to flight.
7. The PIC shall oversee the execution of the entire mission unless properly relieved by another PIC.

**2-4. Mission Logs**

1. The PIC will complete a mission log for all missions to include training, maintenance, and missions.
2. Any issues that have or will affected the mission will be recorded on a mission log.

**Section 3: General Operations**

**3-1 Types of Missions Allowed**

1. The UAS shall be deployed and used only to support official law enforcement and public safety missions or for department approved UAS training.
2. In general, the UAS is used primarily to document crash scenes, crime scenes and as an emergency response asset where public safety is involved.
3. Typical missions include, but are not limited to:
	1. Search and Rescue. To assist missing person investigations, AMBER Alerts, Silver Alerts, and other search and rescue missions
	2. Emergency response situations (indoor/outdoor).
	3. Tactical Deployment
	4. Hazardous Material spills (initial response/investigation).
	5. Larger scale traffic crashes and crime scenes (initial response/investigation).
	6. Catastrophic environmental events/natural disasters (earthquakes, weather, floods).
4. UAS use Restrictions:
5. The UAS shall not be operated in an unsafe manner or in violation of FAA rules.
6. The UAS shall not be equipped with weapons of any kind.
7. The UAS Commander and the Special Operations Team Commander shall approve any payload used on a UAS.
8. The UAS shall not be used for routine observation of the public at large.
9. The UAS shall not be used for surveillance or spying on the public, (without a warrant).
10. The UAS shall not be flown over populated areas, except in response to emergency situations.

**3-2 Pilot In Command Brief:**

* 1. The PIC, upon receiving the mission will performs aback brief and upon completion of the mission, will provide a debrief.
	2. The PIC is responsible for obtaining the weather brief before the flight.

**3-3 Communications**

1. If operating in controlled air space, the PIC will have, at a minimum, communication with Air Traffic Control (ATC) prior to any flight operations.

2. If communication with ATC fails, flight in controlled airspace is not permitted.

**3-4 Weather Requirements:**

1. UAS flights require Visual Meteorological Conditions (VMC). See table 5-1 for FAA weather minimums. The aircraft must remain clear of clouds and visible moisture.

Visual Flight Rules (VFR)

Altitude Visibility Cloud Clearance

Class C, D 3 sm 500’ below

And surface E (4800 m) 1,000’ above

 1,000’ ceiling 2,000’ horizontal

Altitude Visibility Cloud Clearance

Class E & G 3 sm 500’ below

≤ 10,000’ MSL (4800 m) 1,000’ above

 2,000’ horizontal

Table 5-1

2. A weather briefing is the responsibility of the PIC and can be obtained via local FAA facilities or the internet. The weather brief includes, but is not limited to:

1. Takeoff - current and forecasted ceiling, visibility, surface wind direction and speed, and any significant weather systems in the mission area.
	1. Whenever possible, the PIC will update weather within (30) thirty minutes of takeoff and throughout the mission, depending on the weather patterns and probability that the weather will change. The PIC makes final weather decisions for mission operations.

**3-5 Preflight**

1. The PIC will complete an aircraft and mission preflight checklist before each mission.

**3-6 Mission Operations**

1. During mission operations, the PIC will exercise extreme awareness to ensure safe flight operations. Safety takes priority over mission at all times. If in doubt, land the aircraft.

2. Emergency mission data, lost link clearance altitude, will always be loaded and updated as needed for mission operations.

3. Normal operating altitude ranges are zero to four hundred (0-400’) feet AGL. Pay particular attention to obstacle clearance, particularly in reference to base terrain altitude.

**3-7 Post Flight Debrief**

At the completion of a flight, the PIC will conduct a debrief, will record total flight time, and launch/land time of the UAS on the approved forms. The PIC will also note any deficiencies with the UAS or equipment used.

**3-8 Multiple UAS Operations: N/A**

**Section 4 Airspace**

**4-1 Airspace**

1.Flights in controlled airspace are coordinated through the local FAA facility. Be aware of all restrictions listed in the Notice to Airman (NOTAM).

1. All flights will be conducted between zero to four hundred (0-400’) feet AGL and within visual range (VLOS) of the PIC/observer.
2. No aircraft will be flown within five hundred (500’) feet of the taxiway during manned aircraft operations

**4-2 Manned Aircraft**

1. If manned aircraft enter the flight path or operating area of the UAS, the UAS will take immediate action to avoid traffic, and if able, land prior to the manned aircraft entering the UAS flight area.

**Section 5 UAS Pilot Training**

**5-1 UAS Pilot Training Program:**

Purpose: To provide specific guidance to ensure the highest standards of flight proficiency and operational readiness among UAS Pilots.

1. Responsibilities:
	* 1. UAS Team Lead: Responsible for ensuring all UAS Pilots receive proper training.
		2. Special Operations Commander. To oversee the development, implementation, and overall management of pilot programs.

4. The UAS Pilot Training Program: Administer, document, and execute the above stated references. All UAS Pilots will comply with this Training Program.

a. Initial training prior to drone operations:

* + 1. Undergo a course of instruction on FAA rules and regulation and pass FAA Part 107 prior to flight training.
		2. Complete review and familiarity of the (INSERT NAME OF DRONE HERE) and maintenance manuals, followed by flight operations and maintenance demonstrations, to include one hundred (100) flights and twenty (20) flight hours.
		3. After completion of the above, the UAS Pilot will be assigned/designated operational.
		4. UAS Pilots must maintain one (1) (INSERT DRONE NAME HERE) flight a month to remain in an operational status.
		5. A UAS Team pilot’s first mission flight must be under the direct supervision of the UAS Team Lead and the Special Operations Commander.

b. Qualification/Refresher Training:

1. Individuals not meeting the training requirements or members who do not have documented training or flight time for the preceding sixty (60) days shall demonstrate proficiency before performing pilot duties during a mission,
2. This training shall include a minimum of one (1) hour of ground instruction and flight time, including making three (3) ten (10) minute flights to demonstrate proficiency.
	* 1. UAS Pilot Annual Training:
			1. UAS Pilot:

Each pilot must attend training once a year to include updated industry standards and field exercises.

Review of current case law governing the use of UAS, and FAA regulations pertaining to the operation of UAS as designated by the Sheriff or his/her designee.

**5-2 UAS Flight Training Area**

The UAS Team will conduct flight training in a remote location, away from urban areas. All flights will be conducted from the surface to four hundred feet (400’) AGL and within visual range of the PIC. The daily flying site will be determined based on local activities, weather, and avoidance of persons gathered at or around a possible flying site. No flights will be conducted that will place the UAS closer than five hundred feet (500’) of manned operations.

**Section 6 Emergency Procedures**

**6-1 Emergency Procedures**

Personnel operating a (INSERT DRONE NAME HERE) will first be trained that in any emergency, the safety of persons on the ground and in the air is top priority.  The following are emergency procedures:

1. Fire: UAS will be flown away from people and property until a safe landing location can be found. A fire extinguisher and first aid kit will be located at the mission site.
2. Loss of Link: Onboard system will land aircraft automatically.
3. Line of site lost: Emergency landing will be executed by manually activating return home mode via client control software.
4. Loss of engine: Emergency landing will be executed by manually activating emergency mode via client control software.
5. Unusual Attitude: Onboard stabilization gyros will be allowed to level aircraft before control is resumed by ground control.

**Section 7: UAS Safety**

**7-1 Introduction**

1. Purpose:

 To establish policy, assign responsibility, and prescribe administrative procedure for accident prevention in mission area. This SOP provides guidance for organizing, coordinating, and controlling the implementation of the DPSO UAS Safety Program.

2. Scope:

 All operations will be conducted to minimize the accidental loss of life, injury, man-hours, equipment, and overall cost. An aggressive accident prevention effort compatible with the mission must be maintained throughout all operations and activities.

3. Objectives:

 All personnel will ensure implementation of the SOP in all sections. Communication and effort will be directed toward the prevention of UAS accidents and other accidents resulting from equipment failure or human error.

**7-2 UAS Safety**

1.Areas of danger**.** Ten to one hundred (10’-100’) feet radius from the launch point, depending on wind condition and operator experience.

2. All personnel must familiarize themselves with the hazards associated with batteries and battery charging.

**Section 8 Crash Reporting**

**8-1 Crash Reporting**

1. If a crash occurs that meets the following criteria the FAA must be notified within (10) ten days via hard copy to the FAA Flight Safety District Office (FSDO) or Internet.
	1. Serious Injury: Loss of consciousness, broken bones, sutures, or overnight hospital stay.
	2. Property Damage: Greater than five hundred (500) dollars not including the UAS.
2. NTSB must be notified immediately at 844-373-9922

**Section 9 Media**

**9-1 Media Storage**

1. Evidence/Property Handling - All original digitally recorded data and media of a flight will be handled and stored in accordance with office policy.
2. Per (725 ILCS 167/1) the Freedom from Drone Surveillance Act, All information recorded while conducting a UAS mission shall be destroyed within thirty days of collection unless there is reasonable suspicion that the information contains evidence of criminal activity or the information is relevant to an ongoing investigation or pending trial.