

**SMALL UNMANNED AIRCRAFT SYSTEMS
STANDARD OPERATING PROCEDURES**



MATT M. CARPER – INTERIM DIRECTOR AND CHIEF OF POLICE

11/21

POLICY STATEMENT

The mission of the Dayton Police Department Small Unmanned Aerial System is to outline the flight operations, functions, licensing requirements, training requirements and privacy considerations of the Dayton Police Department (DPD) Small Unmanned Aircraft System (SUAS).

I. DEFINITIONS

- A. **Federal Aviation Administration (FAA):** The component of the United States (U.S.) Department of Transportation (DOT) that is responsible for access of the national airspace.
- B. **Small Unmanned Aircraft System (SUAS):** An aircraft, either fixed-wing or rotor-wing, used in law enforcement missions, which flies in the national airspace and is controlled by pilots on the ground. Per Title 14 of the Code of Federal Regulations (14 CFR) Part 107, Small Unmanned Aircraft Systems, the SUAS must be registered with the FAA and have a gross weight of less than 55 lbs. The SUAS will be clearly marked.
- C. **Remote Pilot-in-Command (PIC):** The officer responsible for all SUAS flight operations and equipment on the ground.
- D. **Observer:** The officer responsible for spotting any aerial in-flight obstacles that the SUAS may encounter.
- E. **Certification (Certificate) of Authorization (COA):** Certificate given by the FAA, which grants permission to fly within specific boundaries and perimeters.

II. MISSIONS

- A. SUAS missions include the following:
 - 1. Documentation of crime and vehicle collision scenes
 - 2. Search and rescue operations
 - 3. Special Weapons and Tactics (SWAT) Team operations
 - 4. Criminal Investigations and Search Warrant Service
 - 5. Weapons of Mass Destruction (WMD) and Disaster responses
 - 6. Searches for fleeing suspects
 - 7. Active aggressor incidents
 - 8. Crowd Control and Riots
 - 9. Training
 - 10. Special events
 - 11. In-progress incidents where a short-term aerial presence would be beneficial
 - 12. Any other incidents approved by the Chief of Police, or their designee
- B. Officers certified to deploy the SUAS should be aware of any Fourth Amendment protections before deploying the SUAS. Officers will abide by all search and seizure regulations and search warrant requirements while deploying the SUAS.

III. COMMAND STRUCTURE

- A. Commander
-

1. The Division Commander designated by the Chief of Police has overall authority and responsibility for matters involving specified SUAS units.

B. SUAS Unit Supervisor

1. Oversees all training and documentation of training.
2. Retains all training records and related materials.
3. Coordinates requests for SUAS in special events.
4. Monitors officer performance and ensure SUAS standards are being met.
5. Performs all other responsibilities deemed necessary by the department.

C. R-PIC (Officer)

1. Respond to department requests for SUAS.
2. Keep SUAS and all equipment in deployable working order.
3. Documentation of all SUAS operations i.e.- training, live operations, maintenance etc.
4. Participate in mandatory monthly SUAS training within assigned division.
5. Be familiar with applicable case law and rules that apply to the use of SUAS.
6. Remain Certified as minimum Level I PIC and Observer.
7. The Remote PIC has the following authority and responsibility:
 - a. Overall authority of SSUAS operations.
 - b. Initiating the flight only when confident the flight can be conducted safely.
 - c. May terminate the flight for any reason believed to be hazardous to the operation, personnel, or public safety.
 - d. Verifying that there is a COA from the FAA to conduct flights in the national airspace and that the flight is in accordance with the COA.

D. Observer (Officer)

1. The Observer has the following authority and responsibility:
 - a. Responsible for see-and-avoid operations of the aircraft. The Observer will maintain contact with the Remote PIC and communicate any obstacles that the SUAS may encounter throughout the flight.
 - b. When the flight becomes a hazard to ground personnel or other aircraft, the Observer will immediately notify the Remote PIC.
 - c. During any phase of the flight, if the Observer notices a malfunction or emergency situation with the SUAS, the Observer will notify the Remote PIC of the situation and instruct the Remote PIC to immediately terminate the flight.
 - d. Responsible for all radio communications in relation to the flight.

IV. EQUIPMENT STANDARDS AND DOCUMENTATION

- A. The Dayton Police Department will furnish SUAS and SUAS related equipment needed for operation to the assigned units.
- B. SUAS operators are responsible for the care and maintenance of the SUAS.
 1. RPIC will be familiar with user level maintenance.
 2. Only authorized replacement parts will be utilized for repair.
- C. Any additional maintenance will be referred to SUAS Supervisor, who will make determination of repair.
- D. At no time will a SUAS in need of repair be used for operational flights.
- E. Operators will complete all required documentation for SUAS use (i.e. Training log, Maintenance log, and live operation usage).

V. TRAINING

- A. Prior to use of SUAS in any division, police personnel that will be involved in operations will attend a 16-hour class to certify them through the department as a SUAS operator.
-

- B. Personnel will conduct mandatory SUAS training to simulate various conditions encountered daily.
- C. SUAS operators will complete any training deemed necessary by the unit supervisor.
- D. Operators will document all required training and maintenance completed. All logs will be entered into the SUAS folder immediately following completion of training and missions.
- E. Once per year, operators must take a re-certification test.
- F. Failure to successfully complete any training or training records may be grounds for the officer to discontinue or be removed from all SUAS operations.
- G. Certification Levels:
 - 1. Level I – Open Air Day Time
 - a. Obtained after 16-hour Course
 - b. Monthly flight minimum- two (2) daytime flights
 - 2. Level II – Open Air Night
 - a. Obtained after 16-hour course in addition to, three (3) extra nighttime hours of training.
 - b. Monthly flight minimum- At least one night flight, and one day flight.
 - Level 2 flights can be at night and day to count for monthly as long as one is at night.
 - 3. Level III – Non-sight/indoor
 - a. Obtained after 16 hours class, plus level two certification, in addition to three (3) extra hours of training for indoor use.
 - b. Monthly flight minimum- one outdoor day flight, one outdoor night flight, and one indoor/non sight flight.
 - 4. Level IV – Instructor/Certifier
 - a. Obtained after reaching levels one (1), two (2), and three (3) in addition to teaching/re-certifying a class at least once a calendar year.
 - b. Monthly flights remain the same as level three (3) operator.
 - 5. Operational flights will count towards monthly flight minimums.

VI. **FLIGHT AND OPERATIONS**

- A. Authorization for active incidents will not be required, pre-planned events, such as search warrants and crowd management will need authorization from the commander or their designee.
 - B. No flight will commence until a minimum of one PIC and one Observer are present. Multiple Observers may be used during an operation if deemed necessary.
 - C. Pre-Flight: The Initial Check of the SUAS to ensure that it is in working condition and safe to fly.
 - D. Run-Up: The Initial startup of the SUAS ensuring all components are powered and responding appropriately before take-off.
 - E. Take-off: The SUAS leaves the ground and begins the flight mission.
 - F. Emergency: Any instance where the flight has been compromised or an immediately landing is required.
 - G. Landing: The SUAS returns to the take off point and begins to power down.
 - H. Post Flight: Final inspection of the SUAS to check for any damage or issues that may prevent another flight.
-

VII. EMERGENCY AND ACCIDENT SITUATIONS

- A. Any accident involving the operation of the SUAS that results in serious injury/loss of consciousness, or property damage greater than a \$500.00 loss, should be reported to the FAA within ten (10) days.
- B. Documentation in the form of a report and photographs will be completed to document the injuries, crash incident, and any other information needed.
- C. Supervisor will conduct property damage investigation in accordance with SOP.
- D. In-Flight Emergency Procedures
 1. In case of Fly Away situation:
 - Change the aircraft's Flight Mode to Attitude (ATTI) mode and try to regain control
 - If control is not restored, activate the aircraft's Return to Home (RTH). Check whether the mode is functional and/or if the control of the aircraft has been regained
 - Turn off and on the controller and try to recover control of the aircraft
 - If safe to do so, attempt to power off the motors
 - If aircraft flyaway continues, note aircraft battery life, height, speed and heading
 - Maintain Visual Line of Sight (VLOS) with the aircraft for as long as possible

Once the aircraft has been recovered remove from service and contact any emergency personnel if needed.

2. In case loss of visual contact with aircraft:
 - Check if any other individual have visual of aircraft
 - Consider increasing altitude to clear known obstacles
 - Focus on the video stream and navigate aircraft home
 - Use map/radar to manually fly aircraft home
 - Engage Home link procedure on controller
3. In case of loss of radio contact with aircraft:
 - Focus on visual contact and track the drone to determine its location
 - If possible get others to help as spotters
 - Try to realign antennas to regain contact
 - If contact attempts fail the aircraft will automatically use the loss link procedure and return to predetermined location
4. In case of loss of GPS with aircraft:
 - Keep visual contact with aircraft and fly home manually
 - Focus on the video stream and navigate aircraft home
5. Recovery situation:
 - If aircraft is "lost" in known location, make sure it is safe to attempt recovery
 - Consider getting assistance if location is deemed inaccessible or unsafe
6. In case of injury:
 - Have a medical kit available
 - Request medical professionals to the scene (i.e. Dayton Fire Department, or Tactical Medics)
 - Know where the nearest medical facility is located in case transport is needed.
7. Lost Link Procedure:
 - If the control link is lost for more than 8 seconds, the aircraft will immediately climb to a predetermined altitude of 400 feet AGL and return to the recovery point.
 - Once at the recovery point, the aircraft will begin a slow descent for landing

VIII. DATA

- A. Only data that is necessary for law enforcement purposes will be gathered and stored.
 - B. The following individuals are eligible to view and analyze data collected from an SUAS:
-

1. Senior Command Staff
 2. Lieutenants who directly oversee the use of the SUAS
 3. Sergeants who supervise those involved in viewing and analyzing the data collected
 4. Officers and Detectives who are analyzing the data collected for dissemination to other sworn personnel for law enforcement purposes
- C. Data gathered from the use of an SUAS will be protected in accordance with General Order 1.01-7, Management Information System / KRONOS Timekeeping / Data Security.
- D. Requests for information gathered through the use of an SUAS will be handled in accordance with General Order 1.10-8, Public Access to Agency Records.
- E. Information gathered from an SUAS will only be shared with other agencies for law enforcement purposes.
- F. Retention of Records
1. All photos and videos will be retained for a minimum of 30 days.
 2. Videos/Pictures recorded while training will be retained for 45 days.
 3. Certification and Re-Certification flights will be recorded and retained for one year.
 4. All photos and videos containing evidentiary value will be retained in accordance with the current City of Dayton Schedule of Records Retention and Disposition Form RC-2.
 5. The data may be deleted after it has met the requirements listed in the Schedule of Records Retention and Disposition Form RC-2.
 6. Once the data has met the eligibility to be disposed the Public Records Administrator will be consulted and the data deleted.
 7. Data may be retained beyond the retention period with permission from a Division Commander if it contains significant historic information or may be beneficial to law enforcement in the future.
-