

UNMANNED AIRCRAFT SYSTEMS (UAS) OPERATION SUGGESTIONS

The use of Unmanned Aircraft Systems (UAS), also referred to as drones, has increased nationwide as regulations regarding who can operate these systems have rapidly changed. Emergency Service Organizations (ESOs) are more frequently utilizing this technology for various applications, including hazard assessment and wildfire control. While these tools can be a vital asset to public service activities for ESOs, there are also compliance requirements and inherent risks associated with UAS operations.

This bulletin provides an overview of the compliance requirements set forth by the Federal Aviation Administration (FAA) regarding commercial use UAS pilot certification, registration, and operation.

All ESOs including fire departments and EMS departments are required to receive clearance from the Federal Aviation Administration (FAA) under 14 CFR Part 107 to operate a UAS or a drone based on the fact that these activities are considered commercial/public entity UAS operations. Current regulations allow for system operators for commercial use to pass a test and become a certified pilot.



Non-Public Entity Flight Certification Process:

You must obtain a Remote Pilot Certificate from the FAA to fly your drone under the FAA's Small UAS Rule (Part 107). To obtain a Remote Pilot Certificate, first-time pilots must meet the following eligibility requirements (Federal Aviation Administration, 2020).

1. Must be at least 16 years of age
2. Be able to read, speak, write, and understand English
3. Be in a physical and mental condition to fly a drone safely
4. Pass the initial aeronautical knowledge exam
5. Must pass TSA Security Background Check

Public Entity Flight Certification Process:

Government entities or organizations (e.g., law enforcement agencies, public universities, state governments, and local municipalities) have two options for obtaining permission for flying UAS (FAA, 2016).

1. Fly under the [small UAS rule](#) – Follow all rules under 14 CFR Part 107, including aircraft and pilot requirements (14 CFR Part 107 rules listed under the Non-Public Entity Process discussed above).

OR

2. Obtain a blanket public Certificate of Waiver or Authorization (COA) – permits nationwide flights in Class G airspace at or below 400 feet, self-certification of the UAS pilot, and the option to obtain emergency COAs (e-COAs) under special circumstances (14 CFR Part 107). – **Note:** COAs are typically valid for two years.

Information on the COA Application process can be found at the following link, including a sample application: [COA Sample Application](#).

Contact 9-AJV-115-UASCOA@faa.gov to learn more about public COAs.

Differences between Part 107 and COA Authorization:

Part 107 authorization licenses the individual that completes the exam and certification process and places responsibility on the licensed individual because they are the pilot certified to fly, not the agency. The certificate is valid for two years and requires a retest to re-certify.

Alternatively, a COA authorization is issued to the agency, not a specific pilot. The FAA grants the agency the privilege to self-certify and train pilots, as long as the agency meets the FAA's requirements during the application process.

VFIS recommends all UAS operators obtain their Remote Pilot Airman Certification from the Federal Aviation Administration regardless of Public Entity or Non-Public Entity status.

There are several topics to address when considering a UAS:

- How many drones will be in the fleet?
- How many drone operators will be allowed to use the equipment?
- Have adequate training procedures been established for operator certification?
- What will the drones be used for?
- Have the applicable state and federal regulations been reviewed?
- Have department operational guidelines that meet the applicable regulations been established?
- Are registration, flight, and maintenance records for the aircraft in compliance with [NFPA 2400 Standard for Small Unmanned Aircraft Systems](#) and 14 CFR Part 107?
- Who will maintain these records?
- Has the mission of the aircraft been defined in the operation records?

Areas of Concern & Hazards:

- Wind, rain, and other weather restrictions for drone use
- Powerline proximity policies
- Privacy policies and guidelines in accordance with FAA requirements
- Battery charging, inspection, and maintenance programs
- Data protection of drone footage

Drone Registration Requirements:

The Federal Aviation Administration requires all owners of UASs or drones weighing between 0.55 and 55 pounds to register online before flying. Failure to register an aircraft can result in civil penalties up to \$27,500 (FAA, 2020). Criminal penalties for failure to register can include fines of up to \$250,000 and/or imprisonment up to three years under 18 U.S.C. 3581 (b)(5).

Rules for Operation:

FAA restrictions not only apply to commercial applications such as ESO drone operations. Separate FAA regulations apply to recreational use of UAS as well. If members or the public are allowed to operate their personal drone from department property, there are FAA requirements in place regarding when and where the drones can fly as well as registration requirements based on the weight of the aircraft and operating rules. These requirements can be found on the FAA's UAS website.

Remote ID of Unmanned Aircraft:

The [Remote Identification of Unmanned Aircraft Final Rule](#) was released on December 28, 2020 and is intended to further integrate UAS/drones into the National Airspace System. Remote ID will provide information about drones in flight such as the identity, location, and altitude of the drone and its control station or take-off location. The FAA has described Remote ID as a "digital license plate" for UAS platforms.

Drone pilots have three options available to meet the identification requirements of the remote ID rule:

- Standard Remote ID Unmanned Aircraft:
 - Broadcasts remote ID messages directly from the drone – Remote ID capability is built into the drone.
- UAS/Drone w/ Remote ID Broadcast Module:
 - Remoted ID capability from module attached to the drone. Broadcasts remote ID messages directly from module. the drone – Remote ID capability is built into the drone.
- Operate Without Remote ID Equipment:
 - UAS without Remote ID equipment can only operate at FAA-recognized identification areas (FRIAs) sponsored by community-based organizations or educational institutions.
 - Must operate within visual line of sight and within the FRIA

Waivers to Certain Small UAS Operating Rules:

There are some UAS operations that are not covered by Part 107 and will require a waiver from the FAA. The FAA may grant waivers if the operation can be performed safely but may otherwise not be allowed under Part 107. The Small UAS rule (14 CFR Part 107) includes the option to apply for a [Certificate of Waiver](#), which allows for a UAS operation to deviate from certain operating rules if the FAA finds that the proposed operation can be performed safely.

With drones continuing to be a larger presence in the National Airspace System, the rules will likely undergo routine changes and/or updates. The [FAA's website](#) devoted to drones/UAS operations is the best place to stay up to date on the most recent operational regulations.

UPDATE TO OPERATIONS REQUIRING WAIVERS

On December 28, 2020 the FAA released the [Executive Summary Final Rule on Operation of Small Unmanned Aircraft Systems Over People](#). The final rule allows for routine operations of drones over people, and established four categories of UAS/drones with specific eligibility requirements for each category of aircraft. Additionally, the final rule allows for routine operations at night under specific requirements. This new rule will eliminate the requirements for individual Part 107 waivers for these operations.

REFERENCES

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