As drone proliferation and use rapidly increases, local city governments concerned about public safety and privacy within their city limits, are proposing drone ordinances under land use and zoning powers. These ordinances often focus on limiting or prohibiting recreational drone operations by hobbyist.

It is extremely important that local lawmakers and law enforcement recognize that the FAA provides two options for recreational remote pilots to operate in the National Air Space (NAS). Each option has specific operational requirements and limitations.

This document outlines the distinct operational differences and not all the sUAS/drone recreational regulations that are the same for the two groups. Lawmakers and law enforcement should consider these differences when creating and enforcing local drone regulation so as not to be in opposition, but to complement and be consistent with the applicable federal regulations for each recreational sUAS/drone group of remote pilots.

The first option for a recreational remote pilot is to elect to fly sUAS/drones in accordance with the “Special Rule for Model Aircraft” (Public Law 112-95 Section 336), which was codified into law on August 29, 2016 in Part 101 of the Federal Aviation Regulations. Under this rule, remote pilots must operate their sUAS/drone in accordance with a community-based set of safety guidelines and within the programming of a nationwide community-based organization (CBO).

The Academy of Model Aeronautics (AMA) has 195,000 members and 2,450 flying clubs and currently is the only FAA recognized CBO or membership based aeromodelling association in the United States.

The second option for a recreational remote pilot is to fly in accordance with FAA’s sUAS Rule (Part 107). Pilots will be required to obtain an FAA remote plot certificate, register their aircraft with the FAA non-modeler registry and follow all the operating rules within Part 107 regulations.

What follows are the significant recreational sUAS/drone operational differences for remote pilots operating in accordance with AMA’s safety programming as members of a recognized CBO and those remote pilots operating in accordance with FAA’s sUAS Part 107 regulations.

1. UAS/Drone Recreational Regulations:

   **AMA Remote Pilots** must fly their UAS in accordance with “AMA National Model Aircraft Safety Code” and “AMA Supplemental Operational Rules” for the different types of UAS and their operations. AMA remote pilots must also comply with UAS flying site specific rules, FAA regulations, and any federal, state or local laws that apply in the operational location. AMA does extensive unmanned aircraft system based risk assessments to identify the severity and probability of safety hazards when creating UAS operational rules to mitigate risks to safe acceptable levels. AMA has an 80-year exemplary record of safe UAS operations in the NAS. AMA’s more comprehensive and special operational requirements for multiple types of UAS, mitigate higher risk operations allowing AMA members to exceed UAS operational limitations of
non-members of a community based organization. Examples include, flying at altitudes above 400 ft. AGL, exceeding speeds of 100 mph, operating UAS weighing over 55 lbs. and night flying. **FAA Authorized** – Congress and the FAA on August 29, 2016 codified into law the “Special Rule for Model Aircraft” operations for members of a community based organization (CBO) or AMA. It preserves Public-Law 112-95 Sec. 336 (c), exempting AMA members from the promulgation of additional FAA UAS rules and allows AMA to continue to provide rules for its members to operate safely and responsibly in the NAS.

**107 or Non-CBO Remote Pilots (recreational operation)** must fly their sUAS in accordance with FAA Title 14 of the Code of Federal Regulations (14 CFR) part 107 rules. There are distinct operational differences under 107 from AMA member operations.

**FAA Authorization Required** - 107 remote pilots must apply and be approved for FAA waivers to operate sUAS at altitudes above 400 ft. AGL, exceeding speeds of 100 mph, operating UAS weighing over 55 lbs., night flying and for other reasons.

2. **UAS/Drone Enforcement of Regulations:**

**AMA Remote Pilots** as a condition of membership in the AMA must agree to adhere to AMA’s Safety Programming and UAS regulations mentioned in section 1 of this document. Each AMA club is required to have a club safety officer who is responsible for ensuring that members follow AMA’s UAS flight operational rules. Complaints of a Violation of AMA’s Safety Code by AMA members or clubs may be made by any entity or individual to the AMA District Vice President or AMA headquarters. Complaint evaluations are conducted by the District Vice President and may result in a hearing/deliberation by the Executive Council to decide if disciplinary action is required. AMA may initiate disciplinary action which may result in suspension of insurance, loss of waivers or permits to fly, sanctions and/or expulsion of membership.

With the August 29, 2016 passage of Part 107 the rule codifies the FAA’s enforcement authority in part 101 to prohibit model aircraft operators from endangering the safety of the National Air Space (NAS). Remote pilots that do, may be subject to FAA enforcement and receive a citation for violating Federal Aviation Regulation (FAR) 91.13 for “Careless & Reckless” flying. This could result in a fine or imprisonment. The FAA intends to partner with State and local Law Enforcement Agencies (LEA) to deter, detect, investigate, and pursue enforcement actions to prevent unauthorized or unsafe UAS operations.

**FAA, AMA and LEA Authorized Enforcement** – provided in FAA Part 101 to pursue action against AMA remote pilots endangering the safety of the NAS in violation of Federal Aviation Regulation 91.13 for “Careless & Reckless” flying.

**107 or Non-CBO Remote Pilots (recreational operation)** are subject to enforcement from the FAA and LEA as described above for AMA remote pilots. In addition to 91.13, 107 remote pilots are subject to losing their sUAS Remote Pilot Certificate. They may also be cited for violations of 91.14-91.15, 91.113, 91.126-135, 91.137-145, and 14 C.F.R. Part 73.

**FAA and LEA Authorized Enforcement** – provided in FAA Part 107 within Part 101.

3. **UAS/Drone Altitude Above Ground Level Limits:**

**AMA Remote Pilots** may operate UAS/drones at altitudes over 400 ft. above ground level when flying beyond 3 miles of airports. Altitudes above 400 ft. AGL are often done when flying larger, heavier or faster model aircraft that require the additional altitude to perform and recover from aerobatic maneuvers or to provide additional safe separation distances from the ground and people.
especially when someone is learning to fly. The pilot must have clear visibility of the aircraft and its surroundings and should use a spotter to provide additional situational awareness. Remote pilots must fly at permitted locations where there wouldn’t be a hazard to people, property or manned aircraft.

**FAA Authorized** - July 7, 2016 from Earl Lawrence FAA Director of the UAS Integration Office stating that “model aircraft may be flown consistently with section 336 and agency guidance at altitudes above 400 ft. AGL when following a community-based organizations safety guidelines. A CBO such as the AMA may establish limitations in their safety guidelines that exceed the FAA’s 400 ft. AGL recommendations.”

107 or Non-CBO Remote Pilots (recreational operation) may not operate sUAS at altitudes over 400 ft. AGL without applying for an FAA waiver approval from the FAA. 

**Requires FAA Authorization** in an approved waiver by providing justification that the operation can be safely conducted by satisfying performance-based standards.

4. **UAS/Drone Speed Limits:**

   **AMA Remote Pilots** may operate UAS at speeds more than 100 mph. Turbine powered aircraft require an AMA turbine waiver and are limited to 200 mph. Speed limitations must be within the designed flight envelope of the UAS utilizing the designers/mfg. approved operational systems. High speed UAS must be flown only at permitted flying sites of sufficient size with unobstructed space, so as not to create a hazard to people, property or other aircraft. AMA members may be directed to AMA’s Special Interest Groups (SIGS) where other members with years of experience and expertise guide them through the process of selecting and assembling different classes and types of aircraft designed to safely operate at high speeds.

   **FAA Authorized** Public Law 112-95 Sec. 336 (c) when following a community-based organizations (AMA) safety guidelines.

   107 or Non-CBO Remote Pilots (recreational operation) may not operate sUAS at speeds over 100 mph.

   **Not FAA Authorized** - FAA sUAS Part 107 sUAS maximum airspeed of 100 mph (87 knots).

5. **UAS/Drone Weight Limits:**

   **AMA Remote Pilots** may build and fly model aircraft that weigh over 55 lbs. and up to 125 lbs. as stated in PL112-95 Sec. 336, “that the aircraft must be certified through a design, construction, inspection, flight test, and operational safety program administered by a community-based organization.” The builder must submit documents and the aircraft to a certified AMA Large-Model-Aircraft-Inspector (LMAI modeler who has years of experience in LMA). The LMAI will review every aircraft system to determine airworthiness including testing the pilot’s skill level before an annual permit is issued to fly. The LMA must be equipped with dual batteries for redundancy and employ active failsafe systems. A horizontal separation distance of 200 ft. from any spectators must be maintained during flight. The flying site should be a large rural open space (3,000 ft. X 800 ft.) and unobstructed. An additional 250 ft. safety zone should be added to the overfly area if any major roads, buildings, or outdoor personnel activities are in the general area.

   **FAA Authorized** – Public Law 112-95 Sec. 336 (c) when following a community-based organizations (AMA) safety guidelines.
107 or Non-CBO Remote Pilots (recreational operation) may not operate UAS that weigh 55 lbs. or over.
Not FAA Authorized - FAA sUAS Part 107 sUAS must weigh less than 55 lbs. (25 kg)

6. UAS/Drone Night Flying Operations:

AMA Remote Pilots may fly sUAS/Drones at night when done in accordance with AMA’s night flying requirements. The remote pilot’s UAS/Drone must utilize an onboard lighting system that allows the pilot to clearly see the UAS and discern its orientation and attitude by means of colored lighting and/or an orientated light scheme. Flights must not be conducted over any people and at locations where there is no chance of people entering the designated flight area. Altitudes are limited to 400 ft. AGL. LED lighting shows up best in total darkness and do not fly at dusk.

FAA Authorized – Public Law 112-95 Sec. 336 (c) when following a community-based organizations (AMA) safety guidelines.

107 or Non-CBO Remote Pilots (recreational operation) may not operate a sUAS at night.
Not FAA Authorized - FAA sUAS Part 107 sUAS Daylight-only operations (official sunrise to official sunset, local time). Must apply for a Certificate of Waiver, issued in accordance with 14 CFR § 107.200, provide justification that the operation can be safely conducted by satisfying performance-based standards.

7. UAS/Drone Operations at/near Airports:

AMA Remote Pilots may fly on airport property and at AMA clubs located on airport property where permission from airport authority has been granted. Remote pilots must not operate their UAS in the traffic pattern or published approach corridors used by manned aircraft. When within 5 miles of an airport, the operator of the model aircraft must provide the airport operator and the airport air traffic control tower (when an air traffic facility is located at the airport) with prior notice of the operation. Model aircraft operators flying from a permanent location within 5 miles of an airport should establish a mutually agreed upon operating procedure with the airport operator and the airport air traffic control tower (when an air traffic facility is located at the airport). Within 3 miles of an airport sUAS/drone altitudes are limited to 400 ft. AGL and when beyond 3 miles, altitudes may exceed 400 ft. AGL.

FAA Authorized – Public Law 112-95 Sec. 336 (c) when following a community-based organizations (AMA) safety guidelines.

107 or Non-CBO Remote Pilots (recreational operation) may not operate sUAS in Class B, C, D and E airspace without acquiring ATC permission and/or an FAA waiver issued in accordance with 14 CFR § 107.200, provide justification that the operation can be safely conducted by satisfying performance-based standards.

8. UAS/Drone Operation Locations:

AMA Remote Pilots may apply for membership in any of the over 2,400 AMA clubs where they can fly their sUAS at the club’s flying site(s). These flying sites are in urban and rural locations on public, private and commercial property. They vary in open space size and proximity to populated areas and may limit the type and size of UAS flown for safe operation. AMA Clubs rent, lease, own or are provided free use of a flying site location. Members may also fly at non-club locations where they have obtained permission to fly from the property owner or manager. AMA flying is
recognized as a passive use of “open space” land by many public agencies that provide AMA clubs with flying sites on land controlled by the EPA, Departments of Fisheries & Wildlife, Forestry Reservation, Parks & Recreation, Conservation Commission, and Municipal Airports etc. that have mandates to use portions of the properties for public use/recreation. The UAS navigable flight area on the flying site must not be directly over unprotected people, animals, vessels, vehicles, or structures so as not to endanger the life and property of others who are not directly involved in the UAS activity.

**FAA Authorized** – Public Law 112-95 Sec. 336 (c) when following a community-based organizations (AMA) safety guidelines.

**107 or Non-CBO Remote Pilots (recreational operation)** must fly their sUAS in accordance with FAA Title 14 of the Code of Federal Regulations (14 CFR) part 107. 107 remote pilots are advised to select an operational area (site) that is clearly unpopulated/uninhabited. If selecting a site that is populated/inhabited, have a plan of action which ensures persons remain clear of the operating area, remain indoors, or remain under safe cover until such time that the small UA flight has ended. As of this writing, there are no known 107 recreational remote pilot clubs or club flying sites.

9. **UAS/Drone Flight Training:**

**AMA Remote Pilots** may receive remote pilot flight training at AMA chartered clubs by experienced club flight instructors. Many clubs also participate in AMA’s Introductory Pilot Program, where a non-AMA member may fly at a club site and receive member liability insurance protection while under the direct, one-on-one supervision of an Intro Pilot Instructor, for a period of 60 consecutive days starting from the first session. Learning UAS flight operation best practices in AMA club’s mentoring environment, often provides a remote pilot with continued training while progressing from flying entry level UAS to advanced UAS. Maintaining AMA pilot’s exemplary flight safety record helps to preserve AMA’s 336 exemption by Congress and the FAA.

**FAA Authorized** – Public Law 112-95 Sec. 336 (c) when following a community-based organizations (AMA) safety guidelines.

**107 or Non-CBO Remote Pilots (recreational operation)** as of this writing there is no FAA hands on sUAS flight training program available to 107 Remote Pilots. Paid programs are available from private commercial companies and organizations. FAA does require a person to demonstrate aeronautical knowledge by passing an initial aeronautical knowledge test at an FAA-approved knowledge testing center; be vetted by the Transportation Security Administration and certificate holders must pass a recurrent knowledge test every two years.

10. **UAS/Drone Remote Pilots CBO Membership or non-CBO FAA 107:**

**AMA Remote Pilots** currently operate UAS in the national air space as members of the only FAA recognized community based organization, the Academy of Model Aeronautics. The Special Rule for Model Aircraft Sec. 336 (a)(2) states that “The aircraft operates in accordance with a community-based set of safety guidelines and within the programming of a nationwide community-based organization (CBO).”

It is not only required to “follow a CBO’s set of safety guidelines”, but it must be done “within the programming of a nationwide CBO.” To operate within the safety programming of the AMA, the AMA requires that remote pilots must be members of the AMA. Safety guidelines and rules
cannot stand alone; they must be supported by the organization that created them within its safety programming. AMA’s safety programming not only includes a systems approach to developing, monitoring and revising operational rules but the utilizing of a community base of clubs, club safety officers, flight marshals, contest directors, large model aircraft inspectors, intro-pilot instructors and members to educate/train, inspect, and enforce AMA’s operational rules. AMA committees that deal with Flight Systems, Safety Standards, Flying Site Safety, FAA & Government Relations, Special Interest Groups, and its nationwide leadership all contribute to the reasons for having to belong to a CBO to ensure for safe and responsible flying of UAS in the NAS.

**FAA Authorized** – Public Law 112-95 Sec. 336 (c) *when following a community-based organizations (AMA) safety guidelines and within the programming of a nationwide community-based organization (CBO)*”.

107 or Non-CBO Remote Pilots (recreational operation) – currently operate independent of a nationwide community association of clubs, members and flying sites and rely on user and meet-up groups to educate and conduct events. Regulations are created by the FAA and administered and enforced by FAA special agents and local law enforcement.

11. UAS/Drone Safety Record for Remote Pilots:

**AMA Remote Pilots** have operated UAS in the National Airspace System (NAS) for the past 80 years and have done so safely and responsibly. The aeromodelling activity conducted within the safety guidelines of the Academy of Model Aeronautics has achieved an excellent safety record, a record that surpasses most other forms of aviation. The success of this community was recognized by Congress in the FAA Modernization and Reform Act of 2012 with the addition of the Special Rule for Model Aircraft, now Public Law 112-95, Sec. 336 and was reaffirmed on August 29, 2016 when codified into law with the passage of Part 107 rule in part 101 of the Federal Aviation Regulations. The key to the success of the community and the longevity of the aeromodelling activity is the individual commitment of AMA members operating their aircraft in a safe and responsible manner and in accordance with AMA’s community-based set of safety guidelines and operational rules.

**No UAS Violations** - A review of the FAA citations issued for violations in the operation of UAS to date, by recreational remote pilots, revealed that no AMA remote pilots have been cited for violations. Those hobbyists cited and fined were all non-members of a community based organization.

107 or Non-CBO Remote Pilots – As a new classification, 107 remote pilots flying recreationally have yet to establish a safety record however, remote pilots have been cited and fined by the FAA for safety violations in the operation of UAS in the NAS.

**Cited & Fined** – A listing of FAA issued UAS/drone civil penalties for recreational operational safety violations to date confirmed that the remote pilots fined were hobbyist and not members of a CBO or the AMA.

Academy of Model Aeronautics
Advanced Flight Systems Committee
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