

An Architect's Guide to Using Drones

By Michael J. Corso, Esq.

Drones – also called unmanned aerial vehicles (UAVs) or unmanned aerial systems (UAS) – are most simply described as flying devices that do not carry a human pilot. They can be remotely piloted or they can pilot themselves based on pre-programmed instructions. They can be equipped with GPS, on board computers, hardware, electronics, sensors, stabilizers, auto-pilots, servo controllers, and any other equipment the user desires to install. Drones can resemble fixed-wing airplanes but more commonly take the form of quad-copters, that is, rotor-wing aircraft that can take off and land vertically. Most people know that drones can be equipped with infra-red cameras (still and video), license-plate readers, “ladar” (laser radar that generate three- dimensional images and can be seen through trees and foliage), thermal-imaging devices, or even sensors that gather data about weather, temperature, radiation or other environmental conditions. All of this can be used to generate images, recordings or data that design professionals eventually will want to use in their business.

Many in the business world who are interested in UAS operations ask: When can we start making money and using such systems for legitimate business interests? The main problem they face is a legal one: The current Federal Aviation Administration (FAA) stand is a bottleneck for the entrepreneurial energy flooding the drone industry. The most pressing issue presently for UAS operators and the public at large is what uses of UAS are legal, pursuant to both state and federal laws and regulations. The legality of civilian use is quickly evolving through legislation, rule-making and court proceedings.

The airspace above us, and the need to control that which goes through it, is under the jurisdiction of the federal government, more specifically the Federal Aviation Administration (FAA). State laws also need to be considered as concerns over safety, privacy and other issues have led many states to introduce legislation that prohibits UAS use. As it relates to state legislation, you need to ascertain any and all state laws and regulations related to drone usage.

ALERT: The federal rules related to drone usage have been happening at a fast pace. *These rules apply to people and organizations who want to fly drones for hire or want to use them in their work or in business.* The general federal rule is that any commercial operation – even if it is aeronautically identical to a hobbyist operation – is impermissible unless the operator has “special permission” to fly.

Effective August 29, 2016, the FAA has a new small drone rule – formally known as Part 107. Under the new rule, the person actually flying the drone must have a “remote pilot certificate” with a small UAS rating, or be directly supervised with someone with such a certificate. For the certificate, you must either pass an initial aeronautical knowledge test at an FAA-approved knowledge testing center, or have an existing non-student Part 61 pilot certificate. If you are qualifying under the latter provision, you must have completed a flight review in the previous 24 months and must take an FAA UAS online training course.

The Transportation Security Administration (TSA) will conduct a security background check of all remote pilot applications prior to issuance of a certificate. The FAA has posted extensive materials, including a test guide and sample questions, to help you prepare for the knowledge test. You can review the materials by clicking on the “knowledge test prep part 107” button at www.faa.gov/uas. Please see the attached Exhibit A with a three page summary of the Small Unmanned Aircraft Rule (Part 107).

Prior to the latest rule, the FAA created an exemption application process (called a Section 333 Exemption) for getting permission to use a drone commercially. The application or petition for the commercial use exemption must have detailed data on the following:

- Proximity of the operator to the UAS;
- Distance of flight from navigable air space;
- Plans for uncommanded flight deviation;
- Software employed;
- System redundancy; and
- What happens if the device stops or loses communication with the pilot.

Five thousand plus exemptions have been approved as of August 29, 2016 and the meaningful conditions to the commercial drone exemptions that have been issued include the following:

- Each operation must have a pilot and observer;
- The pilot must have at least a FAA private pilot certificate and a current medical certificate;
- The drone must also remain in the line of sight at all times of the pilot and observer. (It should also be noted that effective December 21, 2015, anyone who owns a small unmanned aircraft of a certain weight must register with the FAA Administration’s UAS Registry before they fly outdoors. See the FAA Rules relating to the details of such a registration).

Section 333 vs. Part 107: What works for you? See attached Exhibit B.

Decision to Operate or Hire Someone to Operate

The design professional first must decide whether to get into the business of operating a drone

for commercial use, or hire someone to do the same. The new rule related to small drone usage for commercial purposes is outlined above (also see Exhibit B). Alternatively, there are businesses that exist that have, or are in the process of obtaining, a Section 333 or Part 107 exemption from the FAA to operate a drone for commercial purposes. In hiring such a firm, it is highly recommended that you enter into a written agreement with that sub-consultant; a suggested format for that agreement is attached hereto as Exhibit C. This proposed agreement covers subjects of insurance, indemnity and warranty and permits.

If the design professional desires to actually provide the drone, it is highly recommended that liability insurance for the usage of the same be obtained. Please see the link at www.traversaviation.com/drone-insurance-guide.html or www.drone-insurance.com that discusses the general state of liability insurance for drone operators that exists at the present time.

Summary of Decisions to Be Made:

1. To become a FAA authorized operator of a small drone, or to hire an organization that has been so approved;
 2. If becoming an operator, obtain liability insurance; if hiring someone to perform the drone services, enter into a written sub-consultant agreement with them addressing insurance, indemnity and other issues;
 3. Check your state and local jurisdiction for any laws related to the civilian use of drones.
-

Michael J. Corso, Esq.

Michael J. Corso is Florida Bar Board Certified in Civil Trial and Business Litigation Law. He concentrates his practice in the defense of product liability claims and non-medical professionals including architects, engineers, surveyors, lawyers and accountants. He is an allied member of AIA Florida and Florida Engineering Society. Michael received his undergraduate engineering degree in Aeronautics and Astronautics from Purdue University and his law degree from Villanova University.

FAA News



Federal Aviation Administration, Washington, DC 20591

June 21, 2016

SUMMARY OF SMALL UNMANNED AIRCRAFT RULE (PART 107)

| | |
|--------------------------------|--|
| Operational Limitations | <ul style="list-style-type: none">• Unmanned aircraft must weigh less than 55 lbs. (25 kg).• Visual line-of-sight (VLOS) only; the unmanned aircraft must remain within VLOS of the remote pilot in command and the person manipulating the flight controls of the small UAS. Alternatively, the unmanned aircraft must remain within VLOS of the visual observer.• At all times the small unmanned aircraft must remain close enough to the remote pilot in command and the person manipulating the flight controls of the small UAS for those people to be capable of seeing the aircraft with vision unaided by any device other than corrective lenses.• Small unmanned aircraft may not operate over any persons not directly participating in the operation, not under a covered structure, and not inside a covered stationary vehicle.• Daylight-only operations, or civil twilight (30 minutes before official sunrise to 30 minutes after official sunset, local time) with appropriate anti-collision lighting.• Must yield right of way to other aircraft.• May use visual observer (VO) but not required.• First-person view camera cannot satisfy "see-and-avoid" requirement but can be used as long as requirement is satisfied in other ways.• Maximum groundspeed of 100 mph (87 knots).• Maximum altitude of 400 feet above ground level (AGL) or, if higher than 400 feet AGL, remain within 400 feet of a structure.• Minimum weather visibility of 3 miles from control station.• Operations in Class B, C, D and E airspace are allowed with the required ATC permission.• Operations in Class G airspace are allowed without ATC permission.• No person may act as a remote pilot in command or VO for more than one unmanned aircraft operation at one time.• No operations from a moving aircraft.• No operations from a moving vehicle unless the operation is over a sparsely populated area.• No careless or reckless operations.• No carriage of hazardous materials. |
|--------------------------------|--|

EXHIBIT

tabbles

A

| | |
|--|--|
| | <ul style="list-style-type: none"> • Requires preflight inspection by the remote pilot in command. • A person may not operate a small unmanned aircraft if he or she knows or has reason to know of any physical or mental condition that would interfere with the safe operation of a small UAS. • Foreign-registered small unmanned aircraft are allowed to operate under part 107 if they satisfy the requirements of part 375. • External load operations are allowed if the object being carried by the unmanned aircraft is securely attached and does not adversely affect the flight characteristics or controllability of the aircraft. • Transportation of property for compensation or hire allowed provided that- <ul style="list-style-type: none"> ○ The aircraft, including its attached systems, payload and cargo weigh less than 55 pounds total; ○ The flight is conducted within visual line of sight and not from a moving vehicle or aircraft; and ○ The flight occurs wholly within the bounds of a State and does not involve transport between (1) Hawaii and another place in Hawaii through airspace outside Hawaii; (2) the District of Columbia and another place in the District of Columbia; or (3) a territory or possession of the United States and another place in the same territory or possession. • Most of the restrictions discussed above are waivable if the applicant demonstrates that his or her operation can safely be conducted under the terms of a certificate of waiver. |
| <p>Remote Pilot in Command Certification and Responsibilities</p> | <ul style="list-style-type: none"> • Establishes a remote pilot in command position. • A person operating a small UAS must either hold a remote pilot airman certificate with a small UAS rating or be under the direct supervision of a person who does hold a remote pilot certificate (remote pilot in command). • To qualify for a remote pilot certificate, a person must: <ul style="list-style-type: none"> ○ Demonstrate aeronautical knowledge by either: <ul style="list-style-type: none"> ▪ Passing an initial aeronautical knowledge test at an FAA-approved knowledge testing center; or ▪ Hold a part 61 pilot certificate other than student pilot, complete a flight review within the previous 24 months, and complete a small UAS online training course provided by the FAA. ○ Be vetted by the Transportation Security Administration. ○ Be at least 16 years old. • Part 61 pilot certificate holders may obtain a temporary remote pilot certificate immediately upon submission of their application for a permanent certificate. Other applicants will obtain a temporary remote pilot certificate upon successful completion of TSA security vetting. The FAA anticipates that it will be able to issue a temporary remote pilot certificate within 10 business days after receiving a completed remote pilot certificate application. • Until international standards are developed, foreign- |

| | |
|-------------------------------------|--|
| | <p>certificated UAS pilots will be required to obtain an FAA-issued remote pilot certificate with a small UAS rating.</p> <p>A remote pilot in command must:</p> <ul style="list-style-type: none"> • Make available to the FAA, upon request, the small UAS for inspection or testing, and any associated documents/records required to be kept under the rule. • Report to the FAA within 10 days of any operation that results in at least serious injury, loss of consciousness, or property damage of at least \$500. • Conduct a preflight inspection, to include specific aircraft and control station systems checks, to ensure the small UAS is in a condition for safe operation. • Ensure that the small unmanned aircraft complies with the existing registration requirements specified in § 91.203(a)(2). <p>A remote pilot in command may deviate from the requirements of this rule in response to an in-flight emergency.</p> |
| <p>Aircraft Requirements</p> | <ul style="list-style-type: none"> • FAA airworthiness certification is not required. However, the remote pilot in command must conduct a preflight check of the small UAS to ensure that it is in a condition for safe operation. |
| <p>Model Aircraft</p> | <ul style="list-style-type: none"> • Part 107 does not apply to model aircraft that satisfy all of the criteria specified in section 336 of Public Law 112-95. • The rule codifies the FAA's enforcement authority in part 101 by prohibiting model aircraft operators from endangering the safety of the NAS. |



**Federal Aviation
Administration**

Section 333 vs. Part 107: What Works for You?

Search:

News type:



The Federal Aviation Administration's (FAA) new small drone rule – formally known as Part 107 – is effective on August 29. You may also be wondering what happens to your Section 333 exemption grant or petition for exemption. [View the video here.](#)

The biggest question is whether you are better off flying under the provisions of Part 107, or should continue using your existing exemption?

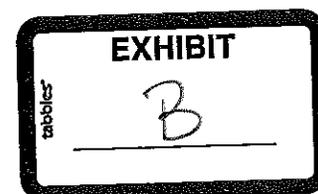
Your exemption is valid until it expires – usually two years after it was issued. Even after Part 107 becomes effective, you may choose to fly following the conditions and limitations in your exemption.

However, if you want to operate under the new Part 107 regulations, you'll have to obtain a remote pilot certificate and follow all of the rule's operating provisions. You must apply for a waiver if some parts of your operation don't meet the rule's requirements.

If you already have a Certificate of Waiver or Authorization under your Section 333 exemption – a "COA" – you can continue to fly under the COA limitations until it expires. If you don't already have a COA, you probably won't need one when the new drone rules go into effect.

However, if you want to fly in controlled airspace, you will need permission from FAA air traffic control. Details about obtaining that permission will be online at www.faa.gov/uas when the small drone rule is effective on August 29, 2016.

If you applied for a Section 333 exemption but haven't received it yet, you should have received a letter from the FAA with specific information about the status of your petition. Generally, if your petition is pending and falls within the provisions of the rule, you should follow the steps outlined in the rule.



Whether you choose to fly under your exemption or under the new small drone rule is your choice, depending on how you want to operate your aircraft. You'll have to compare the conditions and limitations in your exemption to the operating requirements in the rule to determine which one best addresses your needs.

Page last modified: August 29, 2016 10:34:57 AM EDT

This page was originally published at: <https://www.faa.gov/news/updates/?newsId=86285>

SUBCONSULTANT AGREEMENT

ATTACHMENT “___” – UAS ADDENDUM

The following terms are applicable to SUBCONSULTANT SERVICES that require use of an unmanned aerial system (“UAS”), including an unmanned aerial vehicle (“UAV”)

1. **INSURANCE:** In addition to the insurance specified in the Subconsultant Agreement or other form of agreement between (your name) and SUBCONSULTANT (“Agreement”), SUBCONSULTANT shall carry aircraft liability insurance or an equivalent UAS insurance policy covering loss or damage to the UAS (hull coverage), and liability arising from property damage or bodily injury to third parties, with limits of liability of no less than \$___ Million per claim and in the aggregate. All other requirements applicable to SUBCONSULTANT’s general liability policies required in the Agreement shall apply equally to this policy.

2. **INDEMNITY:** In addition to the indemnity contained in the Agreement, SUBCONSULTANT shall, to the fullest extent permitted by law, indemnify, defend and hold (your name) (including their officers, directors and employees) thereof and the CLIENT (including their officers, directors and employees) thereof harmless from and against all claims, losses, damages, costs (including legal costs), actions and other proceedings made, sustained, brought or prosecuted in any manner (collectively “liability”) based upon, occasioned by or attributable to any personal injury, property damage, claim of trespass or invasion of privacy, violations of law, or regulatory fines levied, arising from operation of the UAS, excepting liability caused by the sole negligence of (your name) or the CLIENT.

3. **WARRANTY AND PERMITS:** SUBCONSULTANT warrants that it has obtained all permits or exemptions required by law to operate any UAS included in the SERVICES, and that its operators have completed the training, certifications and licensure as required by the applicable jurisdiction in which the UAV will be operated.

SUBCONSULTANT, prior to commencing any SERVICES under this Agreement which involve operation of a UAS, shall provide documentation to (your name) of legal operation of the UAS, including, to the extent applicable by law; a copy of the permit or exemption to operate the UAS(s); copy of operator licenses and certifications; and certificate(s) of authorization for required flight paths or special flight operating certificate (or related applicable government exemption for the foregoing).

The foregoing shall be in addition to all other terms and conditions of the Agreement.

Acknowledged by SUBCONSULTANT:

Signature: _____

Name and Title: _____

Date: _____