



November 10, 2016

Office of General Counsel

Drones on Campus

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Session Overview

- Unmanned Aircraft Systems (aka “drones”)
- Regulatory History
- Current Federal Regulatory Framework (in flux)
 - “Recreational” (including student) use
 - Commercial use
- State Regulations
- Safety Concerns and Forthcoming System Procedure

WHAT ARE UNMANNED AIRCRAFT SYSTEMS (AKA DRONES)?

- Aircraft operated without the possibility of direct human intervention from within or on the aircraft
- A device used or intended to be used for flight in the air with no onboard pilot.
- Includes the associated elements (communication links, components, other attachments).



TYPES OF UAS

- “Unmanned Aircraft System” is the industry standard term, not drone.
- May be military, public, civil, or model
- Many configurations
 - Fixed wing, rotor wings, quadcopters, etc.
- Variety of sizes
 - Ultra micro quads (ounces) to military style drones (15,000 pounds)
 - “Small UASs” are less than 55 lbs
- Myriad uses
 - Mapping, agriculture, research, firefighting, commercial, sports, recreational, etc.

TIMELINE OF REGULATION

- Congress mandated the FAA prepare a plan to integrate UAS into the National Airspace System by September 2015.
- FAA released proposed rules in November 2015 for small UAS & approved through emergency rulemaking in December 2015.
 - Electronic registration began in January 2016
- FAA released Part 107 in June 2016 – proposed rules for small UAS – to take effect August 29, 2016.

FAA RULE 107

- The NEW Small UAS Rule (Part 107)
 - Took effect on August 29, 2016
 - Includes pilot and operating rules
- Lifted many previous requirements
 - e.g., requirement to have pilot's license
- But the distinction between hobby or recreational flyers and non-hobby or business flyers has changed.



FAA PROTOCOLS FOR UAS

| | Fly for Fun | Fly for Work |
|------------------------------|---|---|
| Pilot Requirements | No pilot requirements | Must have Remote Pilot Airman Certificate Must be 16 years old Must pass TSA vetting |
| Aircraft Requirements | Must be registered if over 0.55 lbs. | Must be less than 55 lbs. Must be registered if over 0.55 lbs. (online) Must undergo pre-flight check to ensure UAS is in condition for safe operation |
| Location Requirements | 5 miles from airports without prior notification to airport and air traffic control | Class G airspace* |
| Operating Rules | Must ALWAYS yield right of way to manned aircraft Must keep the aircraft in sight (visual line-of-sight) UAS must be under 55 lbs. Must follow community-based safety guidelines Must notify airport and air traffic control tower before flying within 5 miles of an airport | Must keep the aircraft in sight (visual line-of-sight)* Must fly under 400 feet* Must fly during the day* Must fly at or below 100 mph* Must yield right of way to manned aircraft* Must NOT fly over people* Must NOT fly from a moving vehicle* |

| | | |
|----------------------------------|--|---|
| Example Applications | Educational or recreational flying only | Flying for commercial use (e.g. providing aerial surveying or photography services) Flying incidental to a business (e.g. doing roof inspections or real estate photography) |
| Legal or Regulatory Basis | Public Law 112-95, Section 336 – <i>Special Rule for Model Aircraft</i> FAA Interpretation of the Special Rule for Model Aircraft | Title 14 of the Code of Federal Regulation (14 CFR) Part 107 |



FLY FOR WORK? FLY FOR FUN?

- FAA has stated through its Interpretation of the Special Rule for Model Aircraft that “hobby or recreational purposes” is limited to activities that are for:
 - “relaxation”
 - “refreshment or diversion” and
 - are “outside of one’s regular occupation.”
- College or University operation of UAS cannot reasonably be considered to be for “hobby or recreational purposes” and are highly likely to be considered commercial operations or activities in furtherance of university “business.”
- Any university that continues to fly UAS, claiming that their operations fall within the statutory provisions for “model aircraft,” remains open to the risk of enforcement action by the FAA.

FLY FOR FUN? FLY FOR WORK?

- BUT, on May 5, 2016, the FAA issued a new legal interpretation that the use of unmanned aircraft systems by students in accredited education institutions as part of their coursework will be allowed under recreational guidelines for model aircraft, provided the aircraft is operated in accordance with a community-based set of safety guidelines and within the programming of a nationwide community-based organization (e.g. Academy of Model Aeronautics).
- Clarified that UAS can also be operated for demonstration purposes at community-sponsored events, provided that the aircraft operator does not receive any compensation, directly or indirectly, related to the operation of the aircraft.

EDUCATIONAL USE

- Students can learn how to design, construct, and operate small UAS as part of science, technology and aviation-related coursework or for other educational purposes such as in connection with television, film or photography courses.
- These uses fall under hobby or recreational use, according to the FAA's interpretation, and schools and students should follow all the same protocols as a hobbyist.
- Does NOT apply to research use of UAS.
- A course instructor can only provide minimal assistance to a student flying a UAS when the primary purpose of the course is not operating the UAS — rather, is focused on design and construction, etc.

INSTITUTIONAL USE

- Government entities or organizations (e.g. law enforcement agencies, public universities, state governments, local municipalities) have 2 options for flying UAS:
 - Fly under the small UAS rule – follow all rules under 14 CFR part 107, including aircraft and pilot requirements, or
 - 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

REQUIREMENTS OF PART 107 (INSTITUTIONAL USE)

- Restrictions on operation
 - Fly below 400 feet and remain clear of obstacles, including buildings
 - Keep the UAS within visual line of sight at all times
 - Do not interfere with manned aircraft operations
 - Don't fly within 5 miles of an airport, unless you've contacted airport control first
 - Don't fly over people or near stadiums
 - Don't fly anything over 55 pounds
 - Don't fly at night
 - Don't fly your UAS recklessly or dangerously
 - Don't operate from a moving vehicle
- Can get a waiver for some of these restrictions, if FAA finds the proposed operation can be performed safely.

REQUIREMENTS OF PART 107 (INSTITUTIONAL USE)

- Restrictions on Piloting
 - A person operating a small UAS must either hold a remote pilot 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).
 - Part 61 pilot certificate holders may obtain a temporary remote pilot certificate immediately upon submission of their application for a permanent certificate.

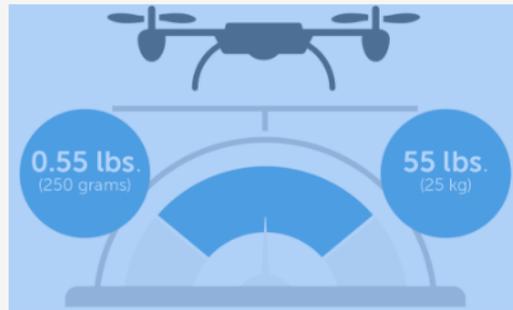
REMOTE PILOT CERTIFICATE

- FAA Part 107 requires a commercial operator to get a Remote Pilot Certificate with a Small Unmanned Aircraft Rating
 - Non-pilots have to pass an aeronautical knowledge test which includes the ability to read aeronautical charts, understand and decipher aviation weather reports, in addition to learning the new operational drone rules at an FAA-approved knowledge testing center
 - Pilots with a part 61 pilot certificate other than student pilot can complete a flight review within the previous 24 months, and complete a small UAS online training course provided by the FAA
 - Cost is approximately \$150
 - Must be at least 16 years old.
 - Vetted TSA to determine whether they are a security risk.

UAS REGISTRATION

Do I need to register my Unmanned Aircraft?

You need to register your aircraft if it weighs between **0.55 lbs.** (250 grams) and up to **55 lbs.** (25 kg)



You will be subject to civil and criminal penalties if you meet the criteria to register an unmanned aircraft and do not register.

<https://registermyuas.faa.gov/>

- \$5 for Three Years
- Label your UAS with your registration number
- Between January and April in Minnesota, 60 cease-and-desist letters were sent to operators who hadn't been cleared by the FAA or state {Cassandra Isackson, director of MnDOT's Office of Aeronautics Services}

UAS OVER 55 POUNDS

- Operators need to use the existing Section 333 exemption process.
- Operating rules and aircraft requirements will be the same or similar to operators flying under the small UAS rule.
- Pilot requirements will be evaluated on a case-by-case basis.

MINNESOTA LAW

- Under Minnesota law, registration is not required for unmanned aircraft operated solely for recreational use.
- But, UAS used for commercial purposes must be registered with MnDOT Office of Aeronautics.
 - fill out an application for registration
 - pay any applicable registration fees
 - provide proof of insurance
 - show proof of sales tax payment or exemption
- Minnesota law also requires liability insurance during the period of contemplated use or operation of your aircraft.

CONCERNS WITH UAS

- Safety Concerns
 - Mid-air collisions
 - can occur if the pilot cannot see and avoid manned aircraft in time (helicopters, agricultural planes and aircraft landing or departing from airports).
 - Loss of control (a major risk that has already caused incidents involving injuries)
 - system failure
 - flying beyond signal range
- Privacy Concerns
- Hacking

SYSTEM PROCEDURE

- Why have a procedure?
 - Mitigate risk
 - insurance, contractual clauses, reasonable limitations
 - Privacy concerns
 - Will need to register Minnesota State-owned UAS with risk management
 - Individual users must comply with all applicable laws
 - May govern indoor use (not covered by FAA regulations)
- Will apply to:
 - system-owned UAS
 - UAS used by contractors/agents
 - other UAS on system property
- Recognize that campuses have different environments and some may need to limit UAS use.

CONTACT INFORMATION

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Please take a few minutes to complete our poll!