<table>
<thead>
<tr>
<th>Federal Statutes and Regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Code:</td>
</tr>
<tr>
<td>Transportation and Airline Safety</td>
</tr>
<tr>
<td>Regulations.</td>
</tr>
<tr>
<td>- Airman certification and flight</td>
</tr>
<tr>
<td>- Rules and regulations</td>
</tr>
<tr>
<td>- Safety and security measures</td>
</tr>
</tbody>
</table>

Control over airspace

- Long before drones (1920s)
- History of shared responsibility:
- Federal, state, local

**Drone Regulation**

Drones: The Challenges Continue

Peter J. Kirsch
Drones are Everywhere!
WE HAVE CREDIBLE INTEL THAT HE'S TARGETING PEOPLE...
It's a drone. Do we want any Girl Scout Cookies?
Oh, I’m sorry. Did you want coffee, too?

STARBUCKS DRONE DELIVERY
There are some glitches in the returns process...
Plane allegedly crashes into drone during landing in London 4-17-16 London

Drones flying near airports raises concerns for lawmakers 3-20-16 Memphis

DIA takes aim at drone use around airport 3-19-16 LA

Drone near-misses prompt calls for plane strike research 3-2-16 LHR

FAA working to keep drones away from local aircraft 3-20-16 Atlantic City

A Drone Came Within 16 Feet of Hitting an Air France Plane 3-4-16 France

Drone crashes into Boeing 737 passenger jet coming into land 1-6-17 Mozambique

Drone spotted near Logan Airport on New Year’s Day 1-2-16 Boston
Today's Presentation

Drones Basics
FAA Regulation of Drones and Airports
Control over airspace

- Long before drones (1920s)
- History of shared responsibility --
  - Federal, state, local
Federal Statutes and Regulations

U.S. Code:
- Preemption of airspace regulation
- Establish National Airspace System
- Control of safe flight of civil aircraft

Regulations:
- Minimum safe flight altitudes
- Safe aircraft operations
- Protect airspace from obstructions
Space Classification (not to scale)

Class A
18,000' MSL

Class B

Class C

Class D

Class E

Class G

Class G

Class G

Class G

Level 600

Nontowered airport with instrument approach
Basic (and Really Hard) Questions*

• Are drones aircraft?
  49 U.S.C. 40102

• Where does the FAA regulate?
  14 C.F.R. 91.119
  500' or 1000'

• Where is the navigable airspace?
  49 U.S.C. 40103

• Where, when, how does FAA have exclusive authority?

*before drones
Drone Regulation

Congress directed FAA (2012) to safely integrate drones into the National Airspace System by September 30, 2015
UAS authority depends on use

**PUBLIC AGENCIES**
Certificate of Authorization (COA)
- Only public agencies
- Specific for particular vehicle
- Operator must have pilot license
- Specific use authorized
- Conditions imposed

**COMMERCIAL OPERATORS**
- Two different regulations: Section 333 or Part 107
- Case-by-case exemptions under Section 333
- Recent exemptions: film industry, aerial surveying, inspections
- Up to 400' AGL

**RECREATIONAL USERS**
- Generally unregulated
- (Pending litigation)
UAS authority depends on use
PUBLİC AGENCİES

Certificate of Authorization (COA)

- Only public agencies
- Specific for particular vehicle
- Operator must have pilot license
- Specific use authorized
- Conditions imposed
COMMERCIAL OPERATORS

- Two different regulations: Section 333 or Part 107
- Case-by-case exemptions under Section 333
- Recent exemptions: film industry, aerial surveying, inspections
- Up to 400' AGL
Part 107 Regulations

- 6-21-16 (eff. 8-27-16)
- Fourth regulatory framework
- No airport authorization
- Small UAS up to 400' (sort of)
- Limits on flight over people
Non-Model (Commercial & Non-336)

HIGHLIGHTS OF PART 107

- Aircraft Must Be Under 55 lbs.
- Visual Observer is NOT Required
- Daylight Only
- Cannot Operate Over People
- 400 ft. Max Height Above the Ground

Remote Pilot Certificate
- The Test Costs $150
- FPV Is Allowed If There Is a Visual Observer
- No Operations From a Moving Vehicle in a Populated Area
- Operations in Class G Airspace Only

Certified Remote Pilot 2016
Unanswered Questions in Part 107

- Local regs
  - Preemption
  - Overlap
- Seeking approval
- Operations in uncontrolled airspace
- Waiver process
RECREATIONAL USERS

- Generally unregulated
- (Pending litigation)
What am I?

- Public
- Sec. 333 COAs
- Hobby
- Part 107
Drones today are heavily but not exclusively regulated by the FAA..... And there are huge gaps in what is regulated
We've heard about:
  • Drone delivery
  • Drones and privacy
  • 'No drone' zones
  • Drone technology

But precious little about
DRONES AND AIRPORTS
What do airports really need to know about drones?
What do Commissioners really need to know about drones?
NO DRONE ZONE
KEEP CALM AND IGNORE DRONES
Not so fast...
An airport toolbox
Drones are an aeronautical activity

Obligation to protect safety of airport and airspace
Education - B4UFLY

**B4UFLY**

- FAA-designed app
- Geo-referenced map
- 5 mile circles around airports...
- AND EVERY HELIPAD
- **Directs user to “notify” airport/helipad operator**
- Notification...No power given to operator to veto flights
B4UFLY

- FAA-designed app
- Geo-referenced map
- 5 mile circles around airports...
- AND EVERY HELIPAD
- Directs user to "notify" airport/helipad operator
- Notification...No power given to operator to veto flights
Safety is everyone's responsibility. Unmanned aircraft must never interfere with manned aircraft operations. B4UFLY provides situational awareness of your current or planned operational area, as well as additional reference resources.

Continue
Safety is everyone's responsibility. Unmanned aircraft must never interfere with manned aircraft operations. B4UFLY provides situational awareness of your current or planned operational area, as well as additional reference resources.
Know Before You Fly

DO:
FLY YOUR UNMANNED AIRCRAFT BELOW 400 FEET

DO:
FLY WITH LOCAL CLUBS

DO:
INSPECT YOUR AIRCRAFT BEFORE YOU FLY

DO:
TAKE A LESSON BEFORE YOU FLY

DON’T:
FLY NEAR AIRPORTS OR ANY MANNED AIRCRAFT

DON’T:
FLY NEAR PEOPLE OR STADIUMS

DON’T:
BE CARELESS OR RECKLESS. YOU COULD BE FINED IF YOU ENDANGER PEOPLE OR OTHER AIRCRAFT

DON’T:
FLY ANYTHING THAT WEIGHS MORE THAN 55 LBS.

DON’T:
FLY FOR PAYMENT OR COMMERCIAL PURPOSES UNLESS SPECIFICALLY AUTHORIZED BY THE FAA

www.faa.gov/uas • www.knowbeforeyoufly.org
DRONE USERS OPERATING UNDER FAA RULES

Users of small unmanned aircraft systems (sUAS) must:

- **Register** your aircraft, registermyuas.faa.gov
- **Obtain** an FAA remote pilot certificate
- **Follow** FAA regulations
- **Be at least** 16 years old
- **Fly** a UAS weighing less than 55 lbs
- Perform a pre-flight check to ensure the flight can be conducted safely
- **Fly only within class G airspace** (Class B, C, D and E airspace needs FAA approval)
- **Fly within** visual line of sight*
- **Fly at or below** 400 feet*
- **Fly during** the day*
- **Fly at or below** 100 mph*
- **Yield** right of way to manned aircraft*
- **Not Fly** over people*

*The operator may apply for a waiver to these rules.

For more information, visit: WWW.FAA.GOV/UAS

For all operating rules, visit: www.faa.gov/uas/resources/uas_regulations_policy

The FAA may pursue enforcement action against anyone who operates an unmanned aircraft system in violation of FAA regulations.
UAS activity on airport

- FAA considers it to be aeronautical activity **but**
- UAS don't need an airport to operate, **so**
- Uncertain scope of airport regulation
Fly Your Drone Responsibly

In response to the growing popularity of commercial and recreation use of unmanned aircraft systems (UAS), commonly referred to as drones, the Federal Aviation Administration (FAA) has issued specific guidelines for the operation of both commercial and recreational UAS.

These guidelines include general operating rules including altitude restrictions, and the requirement to contact the Air Traffic Control Tower to coordinate flight activity.

In addition, drones cannot be operated within a 5 mile radius of any towered airport without notifying the control tower (see the Gateway airspace section).

Always fly your drone near a manned aircraft.

Always keep your drone under 400 feet and not near stadiums, airports, public buildings and large groups of people.
Airport obligations

Grant Assurances
19 (safe activities)
20 (safe airspace)
21 (compatible land use)
Permitting UAS on the airport

- Reasonable rules/regulations
- **Insurance and risk allocation**
- Flexibility to adapt to changing climate
- Separation from other aeronautical activity
- Distinguish by type of use
BUT...
Off-airport regulation

Local authority ---

- Trespass
- Nuisance
- Privacy
- Hunting!
CONCLUSIONS
Considerable uncertainties for airport sponsors... without a lot of help from FAA
We can't do this alone

Local land use authority
Police (education)
Municipal privacy regulation
On airport regulation

Minimum standards
Rules/regulations
Protocol for inquiries
Insurance
Flexibility
Adaptability
Awareness
Questions & Discussion