

DRONE DETECTION AND MITIGATION

INTRODUCTORY LEGAL PRINCIPLES & ISSUES

ACI-NA ANNUAL CONFERENCE 2019

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The Obligatory Legal Foundation

- Discussion will be covering aspirational, practical and interrelated issues
- Myriad of legal and real-world matters that make solutions difficult



Issues, Issues Everywhere



A large, bold, black question mark is centered on a white square background.

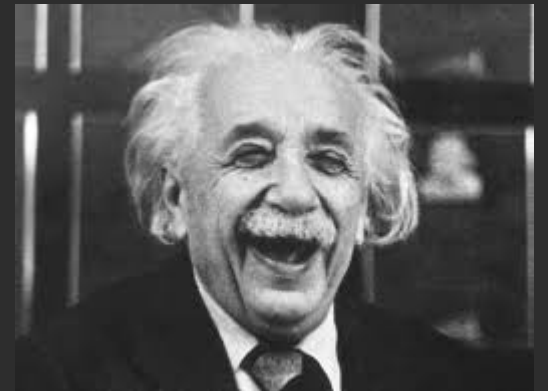


A cluster of red puzzle pieces is arranged in a roughly circular shape. The word "Solutions" is written in white, serif font across the center of the puzzle pieces.



Baseline Legal Materials — An ever Evolving Regulatory Scheme

- 333 → 107 → LAANC
- 336 → 2018 Reauthorization
- Airports' Involvement ... “Notify” → Nothin!
- Register! → No, it's illegal → Register!
- Flight in B, C & D? Ok but... → Not without FAA OK!
- LAANC Just for 107 → Everyone



The only constant is change

Baseline Legal Materials

- 333 Operations
- 107 Operations
- Operations about which we are worried about today
 - Recreational
 - Those with ill-intent

Federal Criminal Statutes

- 18 U.S. Code § 32 - Destruction of aircraft or aircraft facilities
- “Whoever willfully” = intentional acts. Negligent acts?
- 49 U.S. Code § 46307 - Violation of national defense airspace
- **2018 Reauthorization** – Section 384 – Adds to 18 U.S.C 39A – UAS Operations within Runway Exclusion Zone (1 mile / ½ mile) knowingly, recklessly but “imminent safety hazard”

It is just a matter of time...

DJI Drone Collided with US Army Black Hawk Chopper and Dented Its Rotor

JAN 02, 2018 MICHAEL ZHANG



Gatwick drone inquiry: 93 'credible sightings'

Sussex Police appear no closer to solving the mystery of an incident that ruined the travel plans of more than 140,000 people.

Saturday 29 December 2018 18:02, UK

GATWICK

The New York Times

Newark Airport Traffic Is Briefly Halted After Drone Is Spotted



Flights bound for Newark Liberty International Airport were halted on Tuesday evening after a drone was spotted flying nearby. Julio Cortez/Associated Press

By Patrick McGeehan

Jan. 22, 2019



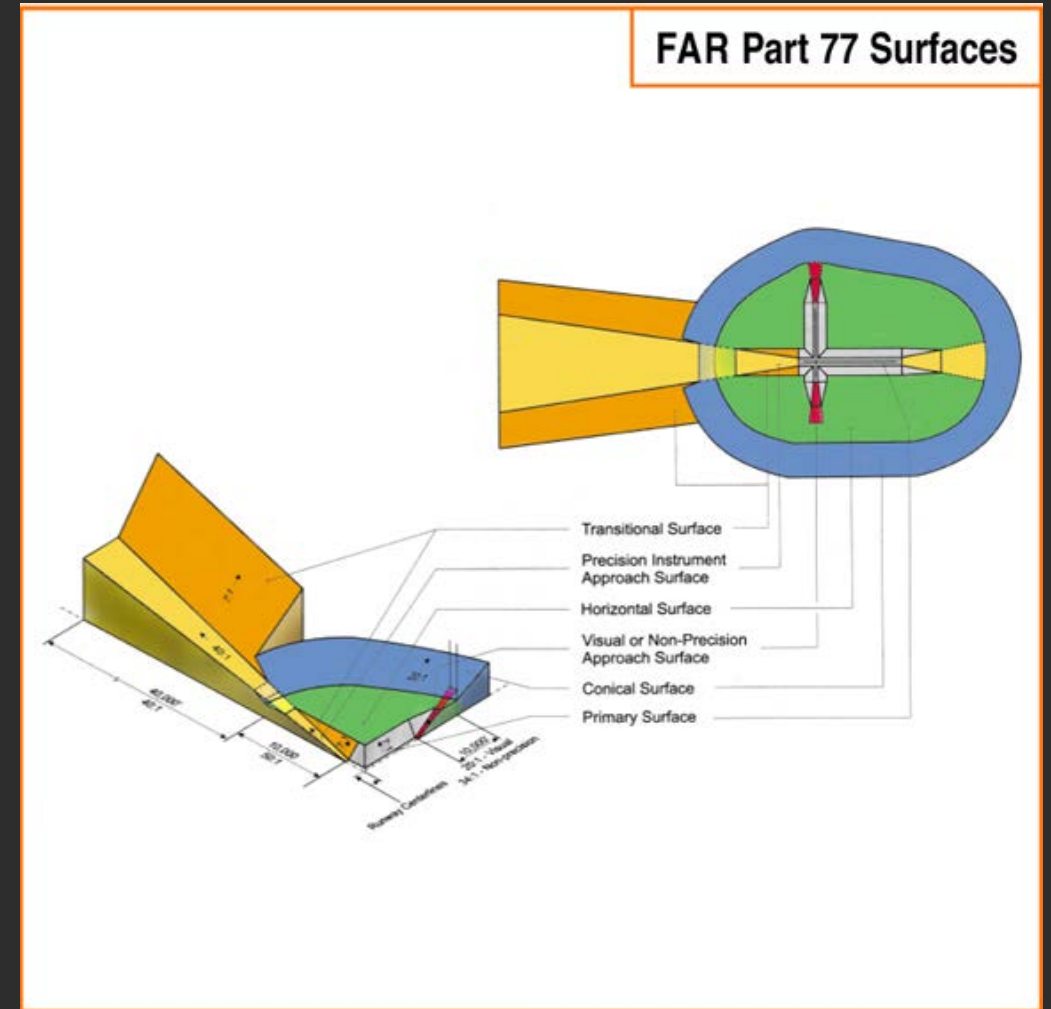
Researchers at Virginia Tech's College of Engineering Analysis

- Drones as small as 8 pounds will have “**devastating**” effects if sucked into the turbofan engines of commercial aircrafts.
- Computer-simulated tests showed an 8-pound drone would **rip apart** the fan blades of a 9-foot diameter **turbofan engine** during take-off **in less than 1/200th of a second**.
- The tests discovered that drone debris thrashing about inside the engine could reach speeds 715 miles per hour and could lead to catastrophic engine failure.
- “Because the damage is spread to a large section of the engine, it is **unlikely that it will be able to maintain thrust**,”

Javid Bayandor, associate professor of mechanical engineering at Virginia Tech and director of the university's Crashworthiness for Aerospace Structures and Hybrids (CRASH) Laboratory.

Airport Sponsors' Obligation to Play a Role in Airspace Protection

- Sponsors have always had responsibilities in protection of airspace surrounding the field.
- Many iterations possible
- Core obligations are the same



Airport Sponsors' Obligations to Ensure Safety of Surrounding Area

- **Grant Assurances**...federally-obligated airports are responsible for a lot...
- Grant Assurance 19 states that:
 - The airport...shall be operated at all times in a safe condition... The sponsor will not “cause or permit any activity or action thereon which would interfere with its use for airport purposes.”
- Grant Assurance 20 states that:
 - The airport sponsor will take appropriate action to assure terminal airspace is cleared and protected by removing existing hazards and preventing future hazards.
- Grant Assurance 21 states that:
 - The airport sponsor will take appropriate action, to the extent reasonable, to restrict the use of land in the vicinity of the airport to activities compatible with normal airport activities.
- How does this translate into UAS world?
- Will these form the basis for establishing a standard of care in litigation?

Evolution of Federal UAS Regulation

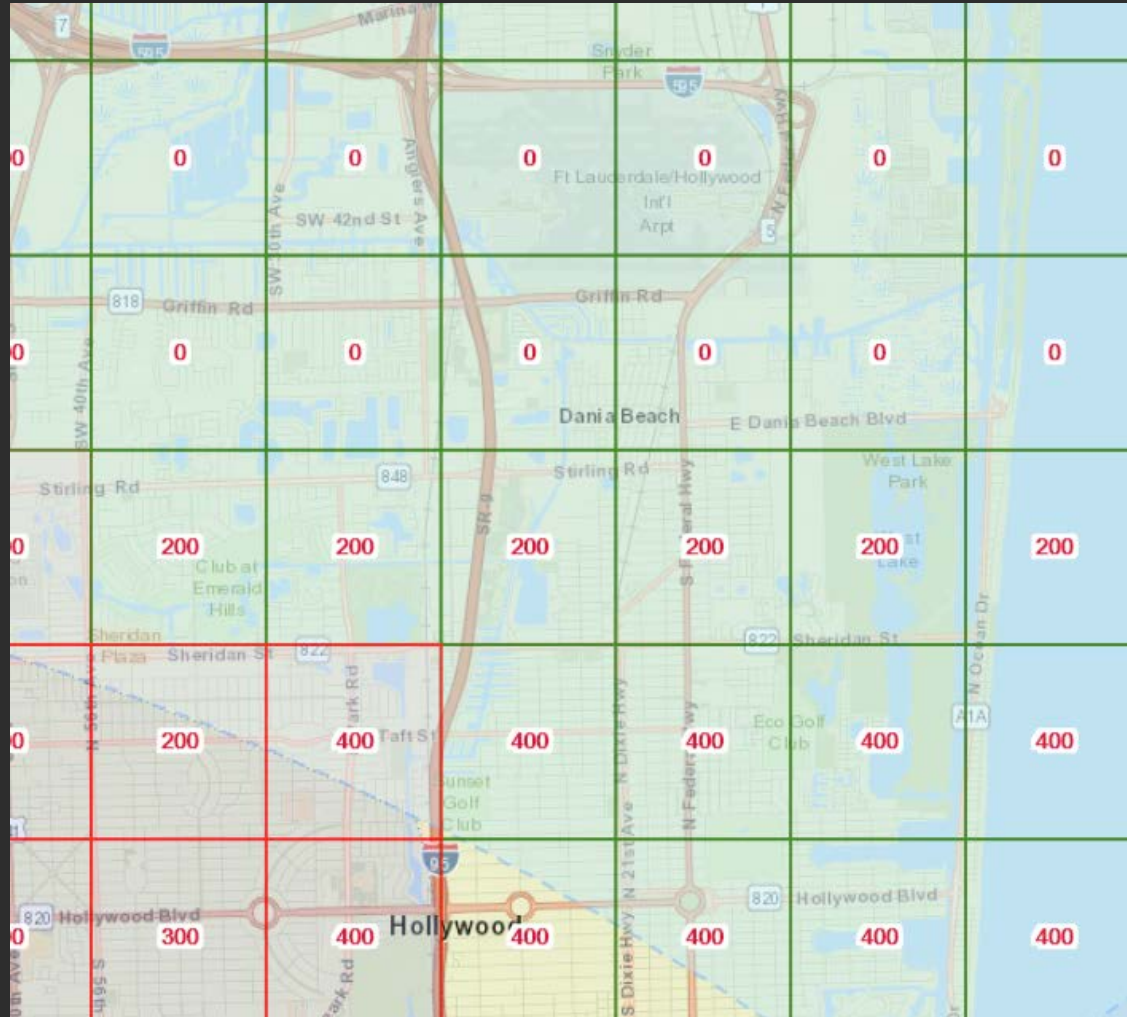
- Original law and § 336 gap
- Section 107 – commercial operators
- Filling the holes: FAA Reauthorization Act of 2018
 - Repeals § 336, all drone operators must follow same rules
 - Key for Airports: **No flight in controlled airspace without FAA Approval**
 - No formal regulations for recreational operators yet
 - Ever-evolving regulatory scheme – latest . . . May 17
 - LAANC to be used
 - Practical impact around airports – “land of the zeros”
 - July 23 – LAANC available to recreational users
 - FAA to develop policy to guide local governments and law enforcement FAA continues to publish rules to integrate drones

Controlled airspace?

Inside layer of
wedding cake – to
the ground



What is the LAANC?



“Dear Sponsor” The FAA UAS Box Set

- 3 letters, the latest dated July 19, 2019 (all available with attachments on FAA website)
- “The FAA currently does not support the usage of C-UAS systems [by airports]”
- “...the FAA cannot confirm the legality of any UAS detection system.”
- Many issues implicated by airports entering the C-UAS field, including Part 77, electromagnetic field generation, need to put on ALP (code for FAA has to approve this)
- “... the U.S Government is working to develop the federal response to a persistent UAS disruption at a major airport.”

FAA Statement (continued)

- FAQs
- Notes only DOD, DOE, DOJ and DHS can test and deploy C-UAS
- “When the full weight of local resources are unable to resolve a credible risk from errant or malicious UAS Operations, assistance from federal authorities and supporting resources may be available upon request.”

Who Ya
Gonna
Call ??

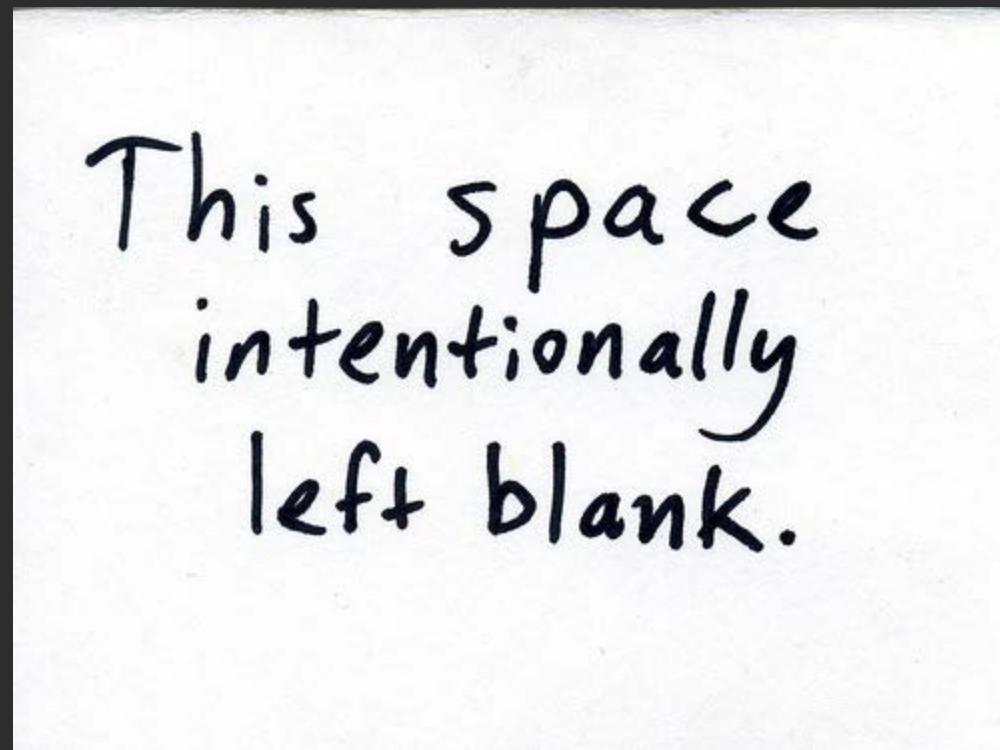


Practical Reality of FAA Enforcement


Johnny violates FAA regulations and...



“...take enforcement
action against you...”



This space
intentionally
left blank.



“...subject you to
enforcement action.”

- Practical
- Legal
- Preemption Issues



Local Law Enforcement Role

- Cannot enforce federal law
- Proactive Intervention
 - Prevention & education
 - The Art of Policing
- Enforce broad purpose laws
- Enforce drone-specific local laws
- Report to airport and FAA



Current Florida Law

General Purpose Statutes

- **Operation of Aircraft in a Reckless Manner:** “It shall be unlawful for any person...[t]o operate an aircraft in the air or on the ground or water in a careless or reckless manner so as to endanger the life or property of another.”
- **Public Nuisance:** “All nuisances that tend to annoy the community, injure the health of the citizens in general, or corrupt the public morals are misdemeanors of the second degree.”
- **Culpable Negligence:** A person is guilty of the second-degree misdemeanor crime of “culpable negligence” when that person “through culpable negligence, exposes another person to personal injury.”

Citations: Fla. Stat. §§ 860.13(1)(b), 823.01, 783.05(1)

Proactive
Policing



Prevention

Community
Outreach

Special (Legal) Issues

- State & Local LEOs - (“it’s an issue for the feds!”)
- The Preemption Nightmare
- The Biggies & Alphabet Groups





Placing all of this in the context...

Drone detection and mitigation:

Current state of affairs, the future and issues for sponsors

Best Practices: The Airport's Role

- Catalyst – beginning the conversation
- Coordinator – unique position in the community
- Outreach Agent and Educator
- Advocate/Trainer
 - Relationships with elected officials
- Regulator – in certain instances

