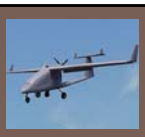

FEDERAL, STATE AND LOCAL DEVELOPMENTS FOR CIVILIAN UAS: (TRYING) TO KEEP PACE WITH THE NEW LAW OF UAS

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Introduction

- UAS: Military vs. Civilian
- Civilian: Public vs. Private
- Private: Hobby vs. Commercial
- Commercial: "Big" vs. Small vs. Micro

- State/Local Laws vs.(and/or) Federal Laws/Regs
- Federal use of State LEA for federal regs

- To INSURE or NOT INSURE? That is the question.

Federal and/or State Law re: UAS

- FAA regulates the national airspace system
- FAA works in cooperation with state depts of transportation
- FAA controls issuance of commercial licenses

BUT

- States laws/regs directly govern UAS usage
- Existing/new State privacy laws can apply to UAS

We (FAA) Were Here First (sort of)

- The Congress mandated that the FAA integrate UAS into the national airspace system by late 2015 via the FAA Modernization and Reform Act of 2012
- The FAA has been pursuing the mandate but not in time to meet deadlines in the enabling legislation
- A 2013 FAA Roadmap discussed broad goals (and insurance was never mentioned in 100 pages)
- The latest proposed rule for "small UAS" could be 18 months to final rule (does not refer to insurance)

WE ARE -- The FAA.

- All UAS are "aircraft, and therefore all the FARs etc that apply to that term also apply to UAS
- FAA controls all airspace as to operation of aircraft
- FAA can license (or not) a UAS "pilot"
- All FARs re pilots can now be applied to UAS pilots
- Can the FAA do anything it chooses within its regulatory authority other than what Congress carved out for hobby use?

Not So Fast. FEDERALISM.

- Absent express preemption, States retain power to regulate the safety/privacy of their citizens
- Almost 20 States have UAS laws on the books
- Many State laws are directed to law enforcement
- Increasingly State laws affect private users
- Increasingly private users subject to criminal action
- Could a state outlaw the use of UAS entirely?

Municipalities Also Consider Regs

- In New York City, a recently proposed City Council bill would restrict drones to limited public spaces like parks, while banning them from heavily populated areas such as sports arenas or airports.
- Rockland County Legislator Hood, who has previously served as Assistant Village Attorney for Haverstraw, is worried about the possible unethical or illegal uses of drones. In a written release from his office Hood says:

  "Currently, there are no state or federal regulations regarding who may purchase a drone and that represents a safety risk to members of the public. Drones may be purchased by sex offenders or individuals with criminal backgrounds and used for unlawful purposes…These aircraft can be used by peeping toms or a contentious neighbor. A resident should have a reasonable expectation of privacy in his or her home."

CIVILIAN: Public (federal)

- Government usage raises 4th Amendment issues
- Supr. Ct. has allowed "unaided" searches from airborne platforms: *Florida v. Riley* (1989) (naked eye from 400 feet through greenhouse glass) and *Dow v US* (1986) (aerial photography permitted)
- But Supremes have rejected "high-tech" searches: *Kyllo v. US* (2001)(thermal imaging of home) and *US v. Jones* (2012) (month long tracking via GPS)
- Govt entity must obtain COA from the FAA to fly

CIVILIAN: Public (state/local)

- Many states passed moratorium (Virginia) or restriction on LEA using UAS to gather evidence
- Some states require destruction of video or other data gathered and not used for prosecution
- State LEA "drafted" by the FAA late 2014 memo to assist in admin action against UAS transgressors
- But unclear how that will work if LEA have no specific arrest powers for FAR violations

CIVILIAN: Private-commercial (federal)

- FAA must license "commercial" ops (not hobby use)
- Pirker v. Huerta (2014) decision by NTSB board reversed FAA ALJ finding (later settled)
- Current ops limited to the scope of an "exemption" (100)
- As of March 23, 2015, the FAA will automatically grant a "blanket" COA for flights at or below 200 feet to any UAS operator with a Section 333 exemption, provided the aircraft weighs less than 55 pounds, operations are conducted during daytime Visual Flight Rules (VFR) conditions and within visual line of sight (VLOS) of the pilots, and stay certain distances away from airports or heliports.
- Ops outside the blanket COA require a separate petition

CIVILIAN: Private-commercial (federal)

- UAS less than 55 lbs. will be subject to the "small" rule that was proposed on 15 Feb 2015:

  --VLOS, not over people, day, yield, max 100 mph, max 500 ft AGL, no Class A, Class G always, modified pilot license, records, preflight, accidents
- UAS under 4.4 lbs subject to "micro" UAS rules
- Over 4000 comments received, some addressing needs for a mandatory insurance program

CIVILIAN: Private-hobby (federal)

Hobby use carve out by Congress (AC 91-57 no longer controls??)

OPERATING STANDARDS.

- a. Select an operating site that is of sufficient distance from populated areas. The selected site should be away from noise sensitive areas such as parks, schools, hospitals, churches, etc.
- b. Do not operate model aircraft in the presence of spectators until the aircraft is successfully flight tested and proven airworthy.
- c. Do not fly model aircraft higher than 400 feet above the surface.

  When flying aircraft within 3 miles of an airport, notify the airport operator, or when an air traffic facility is located at the airport, notify the control tower, or flight service station.
- d. Give right of way to, and avoid flying in the proximity of, full-scale aircraft. Use observers to help if possible.

* STANDARDS HAVE NO RELATION TO THE REALITY OF HOBBY USE*

CIVILIAN: Private-hobby (federal)

- Section 336 of FAA Modernization Act:
  "FAA may not promulgate any rule or regulation regarding a model aircraft . . . If —
  (1) flown strictly for hobby or recreational use;
  (2) **operated in accordance with a community based set of safety guidelines and within the programming of a nationwide community-based organization;**
  (3) not more than 55 pounds . . . unless . . . ;
  (4) operated in a manner that does not interfere with and gives way to any manned aircraft; and
  (5) when flown within 5 miles of an airport, ..."

CIVILIAN: Private (state/local)

- States can closely regulate operations and overlap with the FAA on licenses, airspace, etc.
- E.g. – North Carolina has legislated a licensing regime for UAS
- Can you fly in NC if you are licensed by the FAA but not by NC?
- What if you are not a NC resident but there on vacation/student/etc?

and north of the border . . .

- **EXEMPTION FROM SECTIONS 602.41 AND 603.66 OF THE *CANADIAN AVIATION REGULATIONS***
- Pursuant to Subsection 5.9(2) of the Aeronautics Act, and after having determined that the exemption is in the public interest and is not likely to adversely affect aviation safety, I hereby exempt persons conducting flight operations utilizing unmanned air vehicles (UAVs) with a maximum take-off weight exceeding 2 kilograms but not exceeding 25 kilograms, with a maximum calibrated airspeed of 87 knots or less, operated within visual line-of-sight from the requirements of sections 602.41 and 603.66 of the *Canadian Aviation Regulations (CARs)*, subject to the conditions set out below.
- Goes on to provide 54 conditions, including $100,000 liability insurance coverage

UAS Losses

- The potential for third party liability is exemplified by the varied nature of the loss history, including fatal injuries
- These losses have all occurred before virtually any commercial usage has begun in the US
- Typical aviation policies likely would have covered third party liability exposure for these losses
- What policy, if any, is covering OEMs/operators/MROs, airfields, others for UAS losses?

DEADLY UAS ACCIDENT IN SWITZERLAND

JULY 11, 2013

A 41 year old male was found with fatal injuries to the head and arms by a walker in Luzern Switzerland. The helicopter Gaui Formula X7 was found next to the body and collected as evidence by the police.

REMOTE-CONTROLLED MODEL HELICOPTER FATALLY STRIKES ITS OPERATOR

September 5, 2013

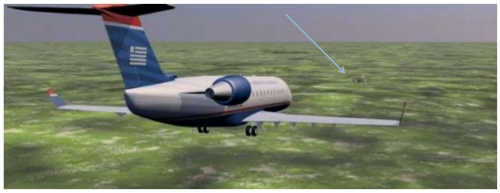
A 19-year-old man was killed when a remote-controlled model helicopter that he was piloting in a Brooklyn park struck him in the head, the authorities said. He allegedly had been sponsored by a manufacturer of that model.

SMALL DRONE CRASH LANDS IN MANHATTAN
October 03, 2013

A man was narrowly missed outside GCT by a UAS flown by a reckless hobby operator. He contacted NYPD, who told him that no law had been broken and initially did not pursue the pilot. The FAA later fined the operator $2,200 for operating without the permission of air traffic controllers.

PILOT REPORTS PASSENGER JET NEARLY STRUCK BY UAS ON APPROACH
March 22, 2014

A pilot for US Airways reported a drone passing his aircraft in the opposite direction at 2300 feet, close enough that he was convinced it had struck the wing or an engine. The animation below depicts the UAS over the right wing as it closes in. This near miss followed an Alitalia pilot reporting the same scenario on approach to JFK earlier in the year.



UAS STRIKES RUNNER IN AUSTRALIAN ROAD RACE
April 7, 2014

A UAS with a camera mounted in order to film a road race allegedly crashed into a runner, causing her to fall and sustain bodily injuries.

. . . and the list goes on.

- Crash into a Virginia racetrack in 2013 injures four spectators and operator not located.
- Near miss between UAS and NYPD helicopter patrolling near GWB in late 2014.
- Near miss between UAS and NYPD helicopter searching for missing person in Bronx in 2014.
- Multiple reports of low flying UAS near DAL, JFK, HPN, others.

Common UAS Commercial Uses

- Agriculture – survey and spraying
- Industry – pipeline, smokestack inspection
- Insurance – claims investigations
- Real estate – photography
- Movie industry – videotaping
- Medical - transport medication to remote locations
- Sports events - videotaping

Potential OEM Exposure From Losses

- OEMs liability for negligence, breach of warranty and strict liability
- What would a reasonable OEM would do when deciding how to design/build a UAS?
- UAS has a "defect" – what are the intended uses?
- Breach of warranty for express contract wording or an implied state law warranty
- Lack of prior cases involving UAS will result in unpredictability and high risk for initial cases

Potential MRO Exposure from Losses

- Maintenance schedules not published by OEM results in frequent ad hoc repair events
- Is there a TBO? If not, when to pull from service?
- What needs to occur when a unit is presented?
- Will there be an 8130 since the UAS is an "aircraft"?
- What will qualify as a "major repair"?

Operator Liability Exposure

- Failing to use a UAS reasonably with regard to the potential harm – what is reasonable? Hobby standards?
- State laws for trespass, noise, nuisance, anti-surveillance and other prohibited or restricted actions
- Some states allow private citizens to file a lawsuit to enforce the actions prohibited by state law

Defenses to Third Party Claims

- Design reasonable and no defect present
- Misuse of the product
- Assumption of risk by user despite warnings
- Unanticipated modification of product
- Failure of user to exercise reasonable care
- Failure to adhere to manual requirements
- Violation of FARs or state regulations/laws

Conclusion

QUESTIONS ?

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