Not to Drone On... A Deeper Dive and Hover into Unmanned Aerial Devices

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I. Introduction

Under the current regulatory scheme, the only way to operate small Unmanned Aerial Systems ("UAS") commercially without risk of penalty is to obtain an exemption from the Federal Aviation Administration ("FAA") from current regulations related to manned aircraft. UAS, more commonly known as drones, are regulated differently depending on whether they are operated for hobby or recreational use or whether they are being operated for business purposes. Practically, this means that the exact same machine is regulated differently depending on whether it is being operated for profit. Because drones are considered civil aircraft for regulatory purposes, they are governed by the statutes, regulations and guidelines that govern manned aircraft.

As one could imagine, the regulations related to aircraft, at the time of enactment, didn't contemplate the tremendous technological advances that have resulted in unmanned aircraft that can be operated remotely or automatically to assist in, among other things, news coverage, agricultural use, public service purposes and delivery and logistics. Recognizing this severe limitation in existing regulations, and seeking to provide for the inherent differences between manned and unmanned aircraft, Congress enacted legislation in 2012 empowering the FAA to implement regulations that would provide for the safe integration of the use of UAS in the National Airspace System ("NAS"). This legislation allowed the FAA the flexibility to grant waivers or exemptions to commercial operators of UAS from the current federal requirements while new comprehensive regulations can be worked out and implemented, taking into account the rapidly evolving advances related to UAS that will be used in our everyday lives.

II. FAA Modernization Re-Authorization and Reform Act of 2012 ("FMRA")

The FMRA mandated that the Secretary of Transportation, in conjunction with public and private representatives of the aviation industry, "develop a comprehensive plan to safely accelerate the integration of civil unmanned aircraft systems into the national airspace system." Public Law 112-95, §332(a)(1) (Feb. 14, 2012). Section 333 of the Act allows for the commercial operation of UAS in specific instances and Section 336 incorporates prior rules and guidelines related to operate UAS for recreational purposes.

Prior to the enactment of the FMRA, the FAA treated use of model aircraft – those aircraft under 55 lbs. – as outside the scope of its regulatory authority, having issued guidelines in 1981 that encouraged model aircraft operators to voluntarily comply with Federal Aviation Regulations ("FARs"). Almost all drones fall into the model aircraft category based on weight, seemingly making them not subject to the authority of the FAA.

A. The Pirker Case

The legal issues related to the FAA's authority and jurisdiction over operators of model aircraft were at issue in the landmark case *Adminstrator v. Pirker*, 2014 NTSB LEXIS 22. In 2012, the FAA fined Pirker $10,000 when he operated his powered glider aircraft in the vicinity of the University of Virginia in 2011 contrary to Federal Aviation Regulations ("FARs"). *Id*. at *2-3. The Order of Assessment charged that Pirker operated the aircraft with a camera aboard that sent real-time video to the ground; that the flight was performed for com-

pensation; and that he operated the aircraft at altitudes of approximately 10 feet to approximately 400 feet over the University of Virginia in a careless or reckless manner so as to endanger the life or property of another. *Id*. At 18 – 20.

The case was heard by an Administrative Law Judge ("ALJ") of the National Transportation Safety Board ("NTSB"). The ALJ dismissed the case because the FAA's reliance on a broad definition of aircraft could "result in the risible argument that a flight in the air of, *e.g.*, a paper aircraft, or a toy balsa wood glider, could subject the "operator" to the regulatory provisions of FAA Part 91, Section 91.13(a)." Noting that the FAA had historically exempted these devices from the FARs definition of aircraft, the court dismissed the FAA's fine against Pirker, finding that the statutory definition of aircraft was not applicable to model aircraft, noting that compliance with previous FAA guidance as to the operation of model aircraft was voluntary. *Id*. at *5, 14-15.

The FAA appealed the ALJ's ruling to the full board of the NTSB ("the Board"). The Board reversed the ALJ, finding that Pirker's Ritewing Zephyr did fall within the definition of aircraft and that its operator was subject only to the regulation related to "careless or reckless" operation of an aircraft. 2014 NTSB LEXIS 61, *19. The Board did not make a determination as to whether Pirker was careless or reckless, but did find that the relevant regulations and guidelines did not expressly differentiate from manned, unmanned or model aircraft. *Id*. Therefore, Pirker's UAS was subject to the regulation related to operating it in a careless or reckless manner and the case was remanded to the ALJ for further findings. *Id*.

Rightwing Zephyr similar to the one from the Pirker Case

Prior to the remand hearing before the ALJ, the parties settled the case for $1,100 with Pirker admitting no liability in the matter and the FAA's authority to regulate and take enforcement action against drone operators seemingly intact. During the pendency of the Pirker matter, the FMRA was enacted, giving clarity on the definition and scope of use for model aircrafts – limiting them to strictly recreational use –, in addition to giving the FAA the authority to offer exemptions to UAS being used for commercial purposes.

III. Commercial Use of UAS (Section 333 Exemptions)

Section 333 of the FMRA empowered the Secretary of Transportation to make determinations regarding whether certain UAS can operate safely in the NAS prior to the implementation of the rules being implemented pursuant to this Act. Thus, the Secretary may waive or exempt an operator from certain requirements applicable to manned aircraft under this section. These requirements include, but are not limited to, civil aircraft certification requirements (14 C.F.R. 91.203), civil aircraft worthiness (14 C.F.R. 91.7) and civil aircraft pre-flight action (14 C.F.R. 91.103). Even if some of these exemptions are granted, a UAS operator still must possess at least a sport or recreational pilot's license in addition to having a valid driver's license.

When seeking a Section 333 exemption, the applicant must describe a number of aspects regarding safety and intended use of the UAS, including, the aircraft and how it operates, qualifications of the operator, and how the operations will be safely conducted. Until the final implementation of the FAA's proposed rules related to UAS, receiving a Section 333 exemption is the only way to operate UAS for commercial purposes without risk of penalty. As of December 10, 2015, the FAA has granted over 2500 applications for exemptions. A counter of exemptions issued and related links and lists of exemption holders can be found here: https://www.faa.gov/uas/legislative_programs/section_333/.

In October 2015, the FAA proposed a 1.9 million dollar penalty – the largest it has proposed to date – against SkyPan International, alleging that it operated over 65 unauthorized drone flights from March 2012 through December 2014. https://www.faa.gov/news/press_releases/news_story.cfm?newsId=19555. SkyPan's drones took aerial imagery of the skylines of New York and Chicago. SkyPan denied the FAA's allegations, responding on its website that it has legally and safely operated for over two decades. http://skypanintl.com/about_new.html. SkyPan did apply for a 333 exemption in December 2014 which was granted in April 2015, but the FAA is still seeking to enforce its proposed penalty. There is presently not a hearing scheduled in this matter and the issue remains unresolved as of the writing of this paper.

IV. Recreational Use of UAS (Section 336)

The FMRA defines model aircraft as "an unmanned aircraft that is – (1) capable of sustained flight in the atmosphere; (2) flown within visual line of sight of the person operating the aircraft; and (3) flown for hobby or recreational purposes. Public Law 112-95, §336(c). The key distinction to determine whether UAS is deemed recreational or commercial use depends on how the UAS is operated. Congress expressly disallowed the FAA from promulgating additional rules related to the recreational use of UAS if such aircraft were used in the following manner:

(1) if the aircraft is flown strictly for hobby or recreational use;

(2) the aircraft is operated in accordance with a community-based set of safety guidelines and within the programming of a nationwide community-based organization;

(3) the aircraft is limited to not more than 55 pounds unless otherwise certified through a design, construction, inspection, flight test, and operational safety program administered by community-based organization;

(4) the aircraft is operated in a manner that does not interfere with and that gives way to any manned aircraft; and

(5) when flown within 5 miles of an airport, the operator of the aircraft provides the airport operator and the airport air traffic control tower (when an air traffic facility is located at the airport) with prior notice of the operation (model aircraft operators flying from a permanent location

within 5 miles of an airport should establish a mutually-agreed upon operating procedure with the airport operator and the airport air traffic control tower (when an air traffic facility is located at the airport).

Id. at Section 336(a).

V. Proposed UAS Regulations (Proposed Part 107)

In February 2015, pursuant to the Congressional mandate imposed by the FMRA, the FAA proposed new rules to govern UAS. The FMRA gave the FAA the power to determine whether operators of UAS should be required to obtain operational and airworthiness certifications necessary for manned aircraft. As such, the FAA proposed rules for the *Operation and Certification of Small Unmanned Aircraft Systems* ("Part 107") in February 2015 in a Notice of Proposed Rule Making (NPRM), inviting public comment before finalizing the regulations. Docket No. FAA-2015-0150, 80 Fed. Red. 9544 (Feb. 23, 2015) (NPRM). The comment period regarding proposed Part 107 closed in April, 2015. The FAA is now in the process of reviewing the comments prior to implementing or revising the rule. There is no set time frame for the FAA to complete its review of the comments, but it is expected that the regulations will be finalized and issued sometime in 2016. See also below regarding interim regulations on drone registration, even for recreational use.

The proposed rules contain operator limitations, operator certification and responsibility requirements and aircraft requirements as follows:

Operational Limitations

- Visual line-of-sight (VLOS) only; the unmanned aircraft must remain within VLOS of the operator or visual observer.
- At all times the small unmanned aircraft must remain close enough to the operator for the operator 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 involved in the operation.
- Daylight-only operations (official sunrise to official sunset, local time).
- Must yield right-of-way to other aircraft, manned or unmanned.
- 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 airspeed of 100 mph (87 knots).
- Maximum altitude of 500 feet above ground level.
- Minimum weather visibility of 3 miles from control station.
- No operations are allowed in Class A (18,000 feet & above) airspace.
- 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 an operator or VO for more than one unmanned aircraft operation at one time.
- No careless or reckless operations.

- Requires preflight inspection by the operator.
- 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.
- Proposes a microUAS option that would allow operations in Class G airspace, over people not involved in the operation, provided the operator certifies he or she has the requisite aeronautical knowledge to perform the operation.
- Pilots of a small UAS would be considered "operators".

Operator Certification and Responsibilities

- Operators would be required to:
  - Pass an initial aeronautical knowledge test at an FAA-approved knowledge testing center.
  - Be vetted by the Transportation Security Administration.
  - Obtain an unmanned aircraft operator certificate with a small UAS rating (like existing pilot airman certificates, never expires).
  - Pass a recurrent aeronautical knowledge test every 24 months.
  - Be at least 17 years old. 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 proposed rule.
  - Report an accident to the FAA within 10 days of any operation that results in injury or property damage.
  - Conduct a preflight inspection, to include specific aircraft and control station systems checks, to ensure the small UAS is safe for operation.

Aircraft Requirements

- FAA airworthiness certification not required. However, operator must maintain a small UAS in condition for safe operation and prior to flight must inspect the UAS to ensure that it is in a condition for safe operation. Aircraft Registration required (same requirements that apply to all other aircraft).
- Aircraft markings required (same requirements that apply to all other aircraft). If aircraft is too small to display markings in standard size, then the aircraft simply needs to display markings in the largest practicable manner.

  https://www.faa.gov/regulations_policies/rulemaking/media/021515_sUAS_Summary.pdf.

VI. Preemption

Federal statute holds that "[t]he United States Government has exclusive sovereignty of airspace of the United States." 49 U.S. Code §40103(a)(1)). While neither the FMRA nor the proposed drone regulations expressly state that they preempt local or state law, the comprehensive nature of federal oversight in this arena raises questions as to whether federal preemption will displace otherwise applicable state law relating to the safe operation of UAS. Pre-emption in general aviation tort litigation is currently a hot topic and taking shape as we discuss this. UAS regulation may present a new arena in which this area of jurisprudence may develop at the same time.

Questions arise as to whether the FAA would attempt to take action against any state or local law that purports to regulate drones in terms of their safe operation. That remains to be seen. Since privacy is such a

significant topic related to drones, however, state and local legislation current proliferating as to drone operations regarding privacy, trespass, nuisance and surveillance may proceed without FAA opposition or federal pre-emption, since those have not been traditional areas of federal aviation legislation and regulation.

VII. UAS Registration

Under Section 333 exemptions, UAS registration is mandatory and must include: a completed Aircraft Registration Application, a full description of the UAS, evidence of ownership, confirmation that the UAS is not registered in another country, an N-number to be assigned to the UAS and a $5.00 registration fee. *See* https://www.faa.gov/licenses_certificates/aircraft_certification/aircraft_registry/UA/.

In October, 2015, the FAA issued a *Clarification of Applicability of Aircraft Registration Requirements for Unmanned Aircraft Systems and Request for Information Regarding Electronic Registration*. *See* 80 FR 63912, 63914. In this clarification, the FAA announced a task force "to explore and develop recommendations to streamline the registration process for UAS to ease the burden associated with the existing aircraft registration process." *Id*. In November of 2015, the Unmanned Aircraft Systems (UAS) Registration Task Force (RTF) Aviation Rulemaking Committee (ARC) issued its Final Report and recommendations related to drone registration. *See* https://www.faa.gov/uas/publications/media/RTFARCFinalReport_11-21-15.pdf.

The recommendations from the task force include that **all** UAS weighing more than 250 grams and less than 55 pounds must be registered. *Id*. This includes not just drones used in commercial applications, but also all recreational use drones. Predictions have been made that perhaps a million drones will be given as gifts in the US this holiday season alone. UAS owners will not have to register each individual UAS that they own; instead, they will be assigned one single registration number that covers all UAS that the registrant owns. *Id*. Registrants will be required to give their name and street address, with the option to provide a mailing address, phone number, email address or serial number. *Id*. The task force recommended that all persons 13 years or older must register and that there will be no citizenship requirement or a registration fee. *Id*. The registration process will be web-based, allowing registrants to input their information and receive a certificate of registration electronically. *Id*. Finally, a registrant must affix their registration number to the UAS. *Id*.

On December 14, 2015, the FAA announced that effective December 21, 2015, all drones must be registered or subjected to a civil penalties up to $27,500, criminal fines of up to $250,000 and/or imprisonment for up to three years. It should be noted that there may be legal challenges related to the FAA's proposal to make new rules related to model aircraft which appears contrary to the FMRA which provides that "the Administrator of the Federal Aviation Administration may not promulgate any rule or regulation regarding a model aircraft, or an aircraft being developed as a model aircraft" if it is otherwise compliant with Section 336 of that Act.

VIII. Drone Insurance

Drone Insurance is not mandated by the FAA nor is FAA approval required for insurance. With a lack of UAS operational history to drive underwriting and premium rates, the evolution of UAS insurance will be an interesting marketplace to watch. Drone insurance is reportedly available in all 50 states, and sometimes falls under ordinary homeowners' insurance. Expect those policies and their exemptions and limitations to evolve as drones proliferate. See http://dronelife.com/2015/02/19/do-you-need-drone-insurance/. Underwriters are looking for the intended use of the UAS, the training and experience of the operator, whether standard operating procedures are in place, maintenance logs and the ability to demonstrate a willingness to operate safely. *Id*.

IX. Conclusion

The FAA is attempting to implement a comprehensive set of rules and guidelines that will give commercial operators some certainty when operating UAS. While the proposed rules for UAS address many aspects of operating drones commercially, they still lack in certain areas that commercial operators would like it to encompass. For instance, under proposed Part 107, operations cannot be conducted beyond the operator's visual line of sight. This means that many of the drones with the capability of first person viewing – that is, the pilot's view is provided by the drone and not by the pilot's own eyesight – is still prohibited by the rule. Further, commercial operations of drones are limited to daylight hours and are still restricted to weights of 55 lbs. or lighter and can't fly faster than 100 mph.

These restrictions could impose significant burdens to commercial operators that believe that they can safely and capably operate otherwise. These operators may need to seek Section 333 exemptions to try to obtain permission to operate outside of the restrictions contained in proposed Part 107 if it is implemented.

It is yet to be determined whether the proposed rules will hinder progress and stifle innovation or will provide the flexibility that is necessary in balancing the safety concerns associated with UAS with the many exciting and innovative features that UAS have to offer when integrated into our daily lives.