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Is This Really Happening? The Emerging Use of Drones for Commercial Purposes

by John Heil

The topic of unmanned aircraft systems (UAS)—otherwise known as drones—has only recently crossed a threshold in the way it is discussed by serious-minded people. As recently as three or four years ago, drones were widely regarded as occupying two extreme categories: exotic military devices or children's toys. It is fair to say that the Federal Aviation Administration, the agency charged with regulating the national airspace, did not discourage these well-publicized plans for drone use in the commercial realm, our regard for these devices has now changed. They are no longer unapproachable weapons of war or merely a newfangled form of remote-controlled airplane. These devices are, for better or worse, the future of our skies. Kicking and screaming, the FAA is also slowly recognizing that commercial demand for drones is accelerating and that their utility as a business tool is undeniable.

It is evident that concerns over mishaps, misuse, and privacy will only increase in the coming years. Attorneys with an understanding of unmanned aircraft systems will be needed to prosecute and defend drone-related actions in areas of law as wide-ranging as the profession offers: personal injury, property damage, trespass, contract law, intellectual property, civil rights, and insurance coverage should all readily come to mind. The purpose of this article is to provide some background as to the development of drones in our society and the current push to incorporate them as tools for business.

Drones Are Regulatedby Use

A drone is generally defined as an aerial vehicle that does not carry human passengers.[i] The FAA has historically classified drones into two major categories defined by their intended uses: Public Operations (governmental use) and Civil Operations (non-governmental use). The Public Operations classification is governed by 49 U.S.C. §§ 40102(a)(41) and 40125. Civil Operations, per the FAA, includes any drone use that does not meet the statutory criteria for Public Operations. Civil Operations are governed by the strict requirements of Section 333 of the FAA Modernization and Reform Act of 2012. As discussed below, Civil Operations (and, hence, the commercial use) of drones is prohibited without a special FAA exemption. In recognition of the prohibitive nature of Section 333, Congress elected to regard the recreational use of drones differently, and classifies them as Model Aircraft under Section 336 of the Act (in the same way as classic remote controlled airplanes).

The legislative carve-out for recreational drone use has been a huge boon for drone manufacturers. The use of small drones by hobbyists has exploded in popularity over the past few years, and relatively inexpensive and ready-to-fly models can now be found at major retailers nationwide. Pursuant to Section 336 of the FAA Modernization and Reform Act, anyone (whether adult or child) who follows certain basic rules may operate a drone for recreational purposes within unrestricted airspace. Among those limitations, recreational drones must weigh less than 55 pounds, not fly higher than 400 feet, remain within the field of vision of the operator at all times, and avoid manned aircraft operations.[ii]

Scores of mishaps, including near misses with commercial aircraft, runway incursions, and the buzzing of public gatherings, have accompanied the increasingly common use of these devices. Much to the FAA's chagrin, projections in the fall of 2015 estimated that between 700,000 and 1 million small drones would be purchased as gifts during the holiday season. Seemingly panicked, the FAA, in October 2015, established a committee to study the feasibility of requiring recreational drone operators to register their aircraft with the government. In accordance with the committee's recommendation, an Interim Final Rule, 80 Fed. Reg. 78593, 78645-648 (to be codified at 14 C.F.R. §§ 48.1-.205), mandating registration was adopted effective December 21, 2015. Per the rule, recreational drones weighing more than 0.55 pounds but less than 55 pounds must be registered on an FAA web site by someone 13 years of age or older. For a fee of $5.00, registrants are issued a unique number that they must display on their drone. This requirement is presently subject to legal challenge in the D.C. Circuit Court of Appeals, and citizen compliance has not been widespread.

The FAA's very public concern over recreational drone safety has led to further headaches for the agency. As of this writing, various states and municipalities have passed or are crafting their own drone-related statutes and ordinances. These measures threaten to, for the first time, create a patchwork quilt of rules governing the nation's airspace. We can reasonably expect the FAA to seek judicial and congressional assistance in maintaining its supremacy in this area. This tug-of-war resulting from recreational drone use will surely also affect the trajectory of commercial drone development in the near term.

Commercial Applications

It is not an exaggeration to say that, barring a major disaster, our skies will eventually be dotted with drones conducting business of all kinds. This is not science fiction—it may happen within the decade. Already, businesses are applying for FAA exemptions in many areas of commerce that benefit from views from the sky.

The most obvious commercial drone applications are in the areas of photography and videography. Drones are now widely used in film and television production because they greatly simplify the process of getting shots at dramatic and unexpected angles. They are also far cheaper, more flexible, and safer than the helicopters historically used for the same purpose. Realtors are already legally (and illegally) using drones to capture appealing views of properties offered for sale. A realtor can now place a home in context of the neighborhood in which it sits, and a little music attached to a drone-produced video turns the presentation into an appealing mini-movie. From a marketing perspective, this approach is worth its weight in gold.

Drones certainly have more serious and beneficial commercial uses, as well. Farmers are using them to view and study fields in ways never before imagined. Beyond conventional camera views, drones equipped with infrared sensors allow farmers to visually understand relative crop health and moisture content over vast expanses. This previously unavailable data allows practitioners of "precision agriculture" to make decisions related to moisture, fertilization, and application of insecticides in a far more localized manner. Another specialized sensor—LiDAR (Light Detection And Ranging)—enables farmers to create precise three-dimensional maps of topographical features, such as the highs and lows of their fields. Drones with LiDAR seem to be an ideal surveying tool, as well.

Inspections of inaccessible or difficult-to-reach locations, such as bridge supports and smokestacks, are also being tackled by drones. Operators standing in a safe location are certainly less likely to suffer injury, thereby reducing workers' compensation claims and costs. Insurers certainly value this concept, and are themselves exploring drone use for claims adjusting. A number of insurers, such as State Farm, AIG, and USAA, are actively studying incorporating drones into their businesses. Immediate emergency inspections, such as during a disaster or fire, may soon be possible through remotely piloted drones.

Drone-based delivery services are an intense topic of debate. As discussed below, merchants such as Amazon, the online retailer, would like to deliver packages with the help of drones. What about pizza delivery? The possibilities are seemingly limitless, assuming they are permitted by law. The FAA and Congress are under intense pressure to update the laws governing our nation's airspace. While attempting to balance safety and commercial interests, they are working in fits and starts to adjust to this new commercial reality.

The Current Regulatory Landscape for Commercial Drone Use

The landscape for commercial drone use is presently in flux, with far more permissive rules on the horizon. As of this writing, however, the commercial use of drones remains *prohibited* in the absence of four things: 1) a grant of exemption pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 (Section 333 exemption); 2) a Certificate of Waiver or Authorization (COA); 3) a drone registered with the FAA; and 4) a licensed pilot.[iii] This is the case for any type of drone, whether it is a model outfitted with advanced sensors for studying the water content of crops or a six-inch toy given to a child for her birthday. The moment a drone is utilized for any business-related purpose, these requirements apply.

Section 333 exemptions are obtained through a petition process requiring the operator to provide the FAA with comprehensive information about the intended business use for a UAS, the safety measures to be taken, and the particular model of drone(s) that will be utilized. The FAA was initially reluctant to grant Section 333 exemptions, but has accelerated approvals over the past year. As of April 8, 2016, the agency reported that 4,648 petitions had been granted.[iv] That being said, it currently takes the FAA approximately four months to act on a petition.

A COA is a certification to operate a UAS in a particular airspace. To simplify the process, the FAA issues "blanket" nationwide COAs to operators who qualify for Section 333 exemptions. Pursuant to the blanket COA, operators must fly under daytime Visual Flight Rules, maintain visual line of sight with their drone, and stay away from airports and other restricted airspace. Strangely, the blanket COA initially restricted commercial drone flights to below 200 feet, which is half the altitude ceiling for recreational use. Facing numerous demands for a 400 foot threshold, the FAA relented on March 29, 2016; blanket COA now permits commercial flights to 400 feet.[v] If desired, an operator may request a non-standard COA for its particular application.

The "aircraft registered with the FAA" requirement appears to be met so long as the operator's UAS is one the FAA has seen and studied before. A custom-built drone (i.e., an experimental aircraft) can expect greater FAA attention and, in all likelihood, many more obstacles to acceptance.

The final hurdle is, for many individuals and small businesses, a particularly high one. Even after securing a Section 333 exemption and obtaining a registered UAS, a business must still have an FAA licensed pilot on hand to fly it. In other words, the same aircraft flown by a seventh grader for fun must be operated by a medically certified individual who passed aeronautical ground school and flight training in a full-sized airplane. Those seeking to use drones for commercial purposes may hire pilots rather than funding their training; nevertheless, paying for a licensed pilot is not an expense often forecast by small businesses.

New Rules Are on the Horizon

The Section 333 scheme was intended to be temporary. The FAA Modernization and Reform Act of 2012 directed the Secretary of Transportation to prepare a comprehensive plan and proposed regulations for governing the routine non-recreational use of drones.[vi] The idea was to encourage a measured but steady integration of UAS into the national airspace system. Progress on the next steps of this process has been exceedingly slow. Well behind schedule, the FAA, in February 2015, introduced a set of proposed rules for "small" commercial drones weighing less than 55 pounds. The proposed regulations, presented as the "Small Unmanned Aircraft Systems Notice of Proposed Rulemaking" (Small UAS NPRM), eliminates the pilot's license requirement and specifies that operators instead be at least 17 years old, undergo vetting by the Transportation Security Administration, pass an aeronautical knowledge test every two years, and obtain something called an "unmanned aircraft operator" certificate. The proposed rules limit flights to daylight hours within the line of sight of the operator, at altitudes below 500 feet, and at speeds below 100 miles per hour. The proposed rules further prohibit commercial drone operators from flying over people not involved in the drone's flight and from transporting cargo for a fee.[vii]

The proposed prohibitions against beyond visual line of sight drone flight and commercial cargo delivery led to intense lobbying efforts by a number of interested parties.[viii] The most visible example is Amazon. Its proposed

delivery service—"Amazon Prime Air"—will guarantee delivery of five pound packages to particular locales by drone flight in 30 minutes.[ix] This will not be possible without significant concessions by lawmakers. Congress appears to be paying attention. A version of the FAA Reauthorization Act of 2016, before the Senate as of this writing, calls for the repeal of Section 333 and states that it "is the sense of Congress that . . . beyond visual line of sight operations of unmanned aerial systems have tremendous potential . . . (A) to enhance research and development both commercially and in academics; (B) to spur economic growth and development through innovative applications of this emerging technology; and (C) to improve emergency response efforts . . . ."[x] Both Congress and FAA are now mulling over creation of a new sub-class of commercial drones potentially authorized to fly over people—a "micro" category much smaller than the so-called "small" drones weighing less than 55 pounds. The idea was briefly mentioned in the Small UAS NPRM; the FAA later changed course and empanelled a Micro UAS Aviation Rulemaking Committee. The committee issued its final report on April 1, 2016 recommending that the FAA create four categories of drones based on their weight, performance, and risk of causing physical harm.[xi] A bill presently before the Senate's Committee on Commerce, Science, and Transportation, envisioning a similar class of less-regulated drones weighing not more than 4.4 pounds, is putting pressure on the FAA to act before Congress does.[xii]

It appears that much debate and maneuvering remains before final rules allowing for the elimination of Rule 333's requirements are enacted. In the meantime, it appears that the remainder of 2016 will be a busy time for the FAA, interested members of Congress, and industry lobbyists.

John Heil *is a partner with the law firm of Heyl, Royster, Voelker & Allen and handles matters in the firm's Peoria and Chicago offices. John focuses his practice on business and commercial litigation, complex civil rights litigation, the representation of insurance carriers in liability coverage disputes, and the defense of catastrophic tort claims. John is a Vice-Chair of the firm's Business and Commercial Litigation Practice, Chair of the Drone Law Practice, and the head of the Peoria office's Mentoring Program.*

John's business and commercial practice includes litigating cases involving allegations of breach of contract, fraud, and deceptive business practices on behalf of large and small businesses and their employees throughout the state. John is also heavily involved in the defense of federal civil rights actions and associated state law claims leveled against members of the law enforcement community and other public officials. In this context John routinely defends allegations of false arrest, excessive force, deliberate indifference, and denial of due process of law.

John joined Heyl Royster in 2007 after serving for eleven years as a trial attorney with the Cook County State's Attorney's Office. During his years as a prosecutor, he prepared and argued hundreds of motions, over one hundred bench trials, and eighteen felony jury trials. As a member of the Civil Actions Bureau, John defended Cook County, its elected officials and employees in state and federal court. John was part of the team charged with defending the elected State's Attorney and his Assistants in several high profile federal civil rights actions in the Northern District of Illinois. He received his J.D., with Honors, from Chicago-Kent College of Law in 1996.

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[i] This definition is statutory in Illinois. *See* Freedom from Drone Surveillance Act, 725 ILCS 167/5.

[ii] FAA Modernization and Reform Act of 2012, Pub. L. No. 112-95, § 336, 126 Stat. 77-78 (2012).

[iii] Fed. Aviation Admin., *Section 333 Frequently Asked Questions (FAQ)*, http://www.faa.gov/uas/legislative_programs/section_333/333_faqs/ (last visited Apr. 11, 2016).

[iv] Fed. Aviation Admin., *Section 333*, https://www.faa.gov/uas/legislative_programs/section_333/ (last visited Apr. 11, 2016).

[v] *FAA Doubles Blanket Altitude for Commercial Drones*, Dronelife (Mar. 29, 2016), http://dronelife.com/2016/03/29/faa-doubles-blanket-altitude-commercial-drones/.

[vi] Pub. L. No. 112-95, § 332, 126 Stat. 73-74 (2012).

[vii] Fed. Aviation Admin., *Operation and Certification of Small Unmanned Aircraft Systems*, 80 Fed. Reg. 9544, 9586-89 (Feb. 23, 2015) (to be codified at 14 CFR § 107).

[viii] *Amazon Wins: the Senate FAA Reauthorization Bill and Drones*, Dronelife (Mar. 11, 2016), http://dronelife.com/2016/03/11/amazon-wins-the-senate-faa-reauthorization-bill-and-drones/.

[ix] Cyrus Farivar, *Amazon Prime Air: Drones to Carry 5lb. Packages over 10 Miles in 30 Minutes*, Ars Technica (Jan. 18, 2016), http://arstechnica.com/tech-policy/2016/01/amazon-prime-air-drones-to-carry-5lb-packages-over-10-miles-in-30-minutes/.

[x] S.2658, 114th Cong. § 2127 (2015-16).

[xi] Micro Unmanned Aircraft Systems Aviation Rulemaking Committee, ARC Recommendations Final Report (Apr. 1, 2016).

[xii] *See* Micro Drone Safety and Innovation Act of 2016, S.2670, 114th Cong. (2016).