

FAA Regulation of Drone Operations

By Jennifer Henry

Can the FAA safely integrate drones into U.S. airspace before business takes off without it?

Commercial Use of Drones in a Holding Pattern

The head of the Federal Aviation Administration Unmanned Aircraft Systems Integration Office recently reported that a near mid-air collision occurred over Tallahassee, Florida, between an unmanned aircraft flying

2,300 feet above the ground and a commercial airliner in March 2014. *See Video: Small Unmanned Systems Business Expo, YouTube (Jim Williams, Fed. Aviation Admin., May 8, 2014), available at <http://www.youtube.com/watch?v=cti42eoRGi0> (last visited June 2, 2014) (beginning at 3:00:00 of the recording).* The airline pilot said that the unmanned aircraft was so close to his jet that he was sure that he had collided with it. Fortunately, inspection of the airliner after landing found no damage. If the unmanned aircraft had crashed into the jet or been ingested by one of its turbine engines, the result could have been catastrophic.

The use of unmanned aircraft by the U.S. military in Iraq and Afghanistan has fueled a huge increase in demand and created the popular term “drone.” Today, someone can go to the nearest Brookstone and for approximately \$300 purchase a model aircraft equipped with a camera that is controlled wirelessly by a smartphone. It can fly up to 165 feet from the wireless device

and stream live video, take still photos, and perform various stunts. As drone technology becomes increasingly less costly and easier to use, use by civilians and for commercial purposes grows. The Association for Unmanned Vehicle Systems International estimates that the industry will create 100,000 jobs and generate \$82 billion in economic activity a decade after drones start sharing the sky. Ass’n for Unmanned Vehicle Systems Int’l, Economic Report, AUVSI.org, <http://www.auvsi.org/econreport> (last visited June 18, 2014). But as the near mid-air collision described above shows, the operation of drones must be regulated and carefully integrated into existing aviation operations to ensure safety for all operating in U.S. airspace.

What Is an Unmanned Aerial System?

In its simplest terms, an unmanned aircraft is a device that is used or is intended to be used for flight in the air with no onboard pilot. Unmanned Aircraft Operations in the National Airspace System, 72 Fed. Reg.



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6689 (Feb. 13, 2007) (Docket No. FAA-2006-25714, Notice No. 07-01). Historically, unmanned aircraft have been known by many names, including “drones,” “remotely piloted vehicles (RPV),” “unmanned aerial vehicles (UAV),” “models,” and “radio control (R/C) aircraft.” Today, the term unmanned aerial system (UAS) is used to emphasize the fact that separate system components are required to support airborne operations without a pilot onboard the aircraft. A UAS consists of three components: (1) an unmanned aircraft, (2) a control station, and (3) a data link. These devices may be controlled via an autonomous onboard computer or via a remote control mechanism in wireless communication with and in control of the UAS. They range in size from wingspans of six inches to 246 feet and can weigh from approximately four ounces to over 25,600 pounds. *Id.* The one thing that they have in common is that their numbers and uses are growing dramatically.

Until recently, UAS mainly supported public operations, such as military and border security operations, and they received little attention from the Federal Aviation Administration (FAA) because they were not as prevalent, were primarily flown in remote locations or in special use airspace, and were not deemed to affect the safety of the National Airspace System (NAS). But as the list of potential uses rapidly expands to encompass a broad range of other activities, there is an ever-increasing desire to operate UAS for commercial purposes. They have been used in search-and-rescue missions, to film movies, to follow migrating whales, and to monitor forest fires. They have tremendous potential in agriculture: they can be used to monitor crops, to take soil samples and other measurements, and to help growers make decisions about seeding, chemical applications, and irrigation. Amazon.com founder Jeff Bezos surprised many when he told “60 Minutes” last December that his company was working on developing GPS-programmed, autonomous drones, or in his words, “octocopters,” to serve as “delivery vehicles” to provide half-hour delivery of future Amazon orders.

The FAA Position on Unmanned Aircraft Depends on Its Use

In response to the increased use of unmanned aircraft, the FAA published a notice

in the Federal Register in 2007, clarifying its policy on operation of such aircraft. *See* 72 Fed. Reg. 6689 (FAA, Notice 07-01). In simple terms, the FAA position is that no person may operate an unmanned aircraft in U.S. airspace without specific authority. Whether authority will be granted and the extent to which a drone may be operated depends on whether the unmanned aircraft is used as a public aircraft or a civil aircraft, meaning for business or commercial purposes. *Id.* If a model aircraft is used solely for recreational purposes, no authorization from the FAA is required.

Unmanned Aircraft Systems Operating as Model Aircraft

In 1981 the FAA issued an advisory circular “outlin[ing], and encourag[ing] voluntary compliance with, safety standards for model aircraft operators.” *See* Fed. Aviation Admin., Model Aircraft Operating Standards, Advisory Circular, AC 91-57 (June 9, 1981). An FAA advisory circular is an interpretation by the FAA and is not a regulation. In Advisory Circular AC 91-57, the FAA made clear that someone need not obtain FAA approval to fly model aircraft if these safety standards are followed:

- Operation occurs away from populated and noise-sensitive areas;
- The aircraft is not operated in the presence of spectators until it is successfully flight tested and proven airworthy;
- The model aircraft is not flown higher than 400 feet above the surface;
- It is not operated within three miles of an airport without notifying the entity responsible for air traffic control in the area; and
- The operator gives the right of way to and avoids flying in the proximity of full-scale aircraft.

The circular did not mention anything about the purpose of using the model aircraft to which the standards would apply. In 2007 the FAA issued a policy statement declaring that Advisory Circular AC 91-57 applied to persons interested in flying model aircraft *solely* as a hobby or for recreational use and not those seeking to use drones for commercial purposes. *See* 72 Fed. Reg. 6689 (FAA, Notice 07-01) (emphasis added).

Hobbyists will continue to escape FAA oversight once specific regulations for UAS

are promulgated because Congress has exempted from such regulations “model aircraft,” defined as those flown strictly for hobby or recreational use, if they follow good safety guidelines and are not flown within five miles of an airport. *See* FAA Modernization and Reform Act of 2012, Pub. L. No. 112-95, 126 Stat. 11 §336 (a)(1) (2012).

If the unmanned aircraft had crashed into the jet or been ingested by one of its turbine engines, the result could have been catastrophic.

Unmanned Aircraft Systems Operating as Public Aircraft

The FAA has issued special permits called Certificates of Waiver or Authorization (COA) to government entities granting them permission to use UAS for public purposes and for certain activities. These approved exemptions are required due to the fact that unmanned aircraft (UA) cannot by nature comply with various sections of Title 14 of the Code of Federal Regulations and therefore require alternate regulations and means by which they may operate. Most notably, the lack of an on-board pilot requires an alternate method of the “see-and-avoid” provisions of 14 C.F.R. §91.113, *Right-of-Way Rules: Except Water Operations*. To qualify for a COA, the operator is required to establish the airworthiness of the UAS, either from FAA certification, a U.S. Department of Defense (DOD) airworthiness statement, or by other approved means. *See* Fed. Aviation Admin., Interim Operational Approval Guidance 08-01, Memo on Unmanned Aircraft Systems Operations in the U.S. National Airspace System, at 6.1 (Mar. 13, 2008), available at http://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/systemops/aaim/organizations/uas/coa/faq/media/uas_guidance08-01.pdf (last

visited June 18, 2014). Applicants also have to demonstrate that injury to persons or property along the proposed flight path is extremely improbable. *Id.* at 8.1.

Because UAS technology cannot currently comply with “see-and-avoid” rules that apply to all aircraft, the FAA requires that in addition to the person in control of the UAS, known as the “pilot-in-command”

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or “PIC,” a visual observer or an accompanying “chase plane” must maintain visual contact with the UAS at all times and serve as its “eyes” when operating outside airspace restricted from other users. *Id.* at 8.2.1. In general, this means that the pilot or the observer in most cases must be stationed within one mile laterally and 3,000 feet vertically of the unmanned aircraft. *Id.* Immediate and direct communication between the PIC and the observer must be maintained at all times as well. *Id.* at 8.2.3.

The FAA UAS guidance for public use also includes minimum qualifications and currency requirements for an operator. Unmanned aircraft flight above 18,000 feet must be conducted under Instrument Flight Rules (IFR), based on an IFR flight plan, and with ATC clearance, and the aircraft must be equipped with at least a Mode C transponder, operating navigation lights or collision avoidance lights, and have the capability to maintain communication between the PIC and Air Traffic Control (ATC). *Id.* at 8.2.12. Unmanned aircraft

flights below 18,000 feet have substantially similar requirements except that if an operator chooses to operate an aircraft based on something other than an IFR flight plan, he or she may be required to coordinate in advance with ATC. *Id.*

The most common public use of unmanned aircraft today in the United States is by the DOD. 72 Fed. Reg. 6689 (FAA, Notice 07-01). Other agencies have also found public uses for unmanned aircraft, such as monitoring the United States-Mexico border. There were 545 COAs active as of December 4, 2013. Fed. Aviation Admin., Fact Sheet—Unmanned Aircraft Systems (UAS) (Jan. 6, 2014), http://www.faa.gov/news/fact_sheets/news_story.cfm?newsId=14153 (last visited June 18, 2014).

While the process to obtain a COA had been burdensome, the FAA has now streamlined the application procedures for drone operations by developing an automated, web-based process for completing the application. Today, the average time to issue an authorization for non-emergency operations is less than 60 days, and the renewal period is two years. *Id.* The agency has expediting procedures in place to grant one-time COAs for time-sensitive emergency missions, such as disaster relief and humanitarian efforts, and reportedly issued a waiver for use by a Texas law enforcement agency responding to a hostage situation in less than two hours. *Id.*

Unmanned Aircraft Systems Operating as Civil Aircraft

The FAA is currently only issuing experimental airworthiness certificates to private sector aircraft to do research and development, crew training, and flight demonstrations. FAA, Unmanned Aircraft (UAS) General FAQs, http://www.faa.gov/about/initiatives/uas/uas_faq/ (last visited June 18, 2014). Experimental certificate regulations preclude carrying people or property for compensation, and routine operation of UAS over densely populated areas is prohibited. *Id.*

Experimental certificates are issued with accompanying operational limitations that are appropriate to an applicant’s operation. 14 C.F.R. §91.319. The applicable regulations for an experimental certificate are found in 14 C.F.R. §§21.191, 21.193, and 21.195. In general, an applicant must state the intended

use for the UAS and provide sufficient information to satisfy the FAA that the aircraft can be operated safely. The time or number of flights must be specified along with a description of the areas over which the aircraft would operate. 14 C.F.R. §21.193(d). The application must also include drawings or detailed photographs of the aircraft. 14 C.F.R. §21.193(b) and (d)(4). An on-site review of the system and demonstration of the area of operation may also be required. 72 Fed. Reg. 6689 (FAA, Notice 07-01). Needless to say, this is not an easy test to satisfy, and the few uses and restricted area of operation limits the usefulness of this as an option for interested UAS operators.

Commercial Use of UAS Ban

With the exception of UAS operations by two energy companies in remote areas of Alaska and Antarctica, the FAA prohibits commercial UAS operations in the NAS. Despite this FAA ban, many operators continue to use drones for commercial purposes. They have been used to film scenes in movies and at sporting events, they have inspected oil-field equipment, mapped agricultural land, photographed homes and neighborhoods for real estate marketing, and a company in Minnesota even used drones to deliver beer to anglers in thousands of ice shacks from the frozen northern lakes’ combination bait and beer shops. When the FAA learns of the commercial use of drones, it sends cease-and-desist letters to the operators, even if they are operating in unpopulated areas and less than 400 feet above the ground. But the FAA’s first attempt to enforce the ban on commercial use of model aircraft has so far been unsuccessful.

In 2013 the FAA assessed a \$10,000 fine against a Swiss photographer, Raphael Pirker, for his use of a radio-controlled aircraft to capture video footage of the campus and medical center at the University of Virginia. See FAA Order of Assessment, Docket No. 2012EA210009 (June 27, 2013). Mr. Pirker was being paid by a communications company, and the radio-controlled aircraft contained a camera that transmitted real-time pictures back to him on the ground. There was no allegation that anyone was injured or that any property damage resulted from Pirker’s operation of the model aircraft.

The FAA cited Pirker with a \$10,000 civil penalty for operating his 4.5 pound aircraft

“in a careless or reckless manner so as to endanger the life or property of another.” *Id.* at 3. The order of assessment asserts that Pirker did not possess an FAA pilot certificate and operated the aircraft recklessly, including in a tunnel containing moving vehicles, under a crane, and unacceptably close to humans, buildings, and a heliport. *Id.* at 1–2. The sole charge against Pirker was a violation of Section 91.13(a) of the federal aviation regulations (FARs), which states that no person may operate an aircraft in a careless or reckless manner so as to endanger the life or property of another. 14 C.F.R. §91.13(a). The FAA did not charge Pirker with violations related to the drone’s lack of airworthiness certification or his lack of a pilot’s license.

Pirker fought the penalty on three grounds. First, he argued that there is no existing regulation governing the operation of model aircraft because the FAA expressly declined to regulate model airplanes when it issued the advisory circular in 1981, instead promulgating voluntary guidelines. Respondent’s Motion to Dismiss, *Huerta v. Pirker*, NTSB Docket CP-217, at 4, available at <http://www.kramerlevin.com/files/upload/FAA-v-Pirker.pdf> (Kramer Levin Naftus & Frankel LLP, last visited June 18, 2014). Second, Pirker asserted that the FAA does not have jurisdiction to regulate airspace below 500 feet. Respondent’s Reply Brief, *Huerta v. Pirker*, NTSB Docket CP-217, available at <http://www.nts.gov/legal/pirker.html> (last visited June 18, 2014). In support of this argument, Pirker’s attorneys cited several United States Supreme Court cases that grant property owners the rights to control the airspace immediately above their property up to the airspace that would be navigable by piloted aircraft, generally considered to begin above 500 feet. *See, e.g., United States v. Causby*, 328 U.S. 256, 264 (1946) (noting that landowners no longer had full property rights to all airspace above their property, but reserving some property rights immediately overhead). Third, Pirker’s attorney argued that the 2007 FAA policy statement banning the use of UAS for commercial purposes is not a valid regulation that binds the public because it was put into place without the benefit of the notice-and-comment rulemaking required by the federal Administrative Procedure Act (APA). Resp’t Motion to Dismiss, at 13. This process is required for any new rule that will bind the

public. Notice-and comment process is not required for “interpretative rules, general statements of policy, or rules of agency organization, procedure, or practice.” 5 U.S.C. §553(b). However, such interpretative rules and statements of policy have limited or no binding effect on the public and are not enforceable as legislative rules.

The administrative law judge (ALJ) who presided over the action ultimately found that “there was no enforceable FAA rule” that applied to the type of model aircraft that Pirker used, and the FAA therefore had no authority to assess Pirker with a fine. Decisional Order, *Huerta v. Pirker*, NTSB Docket CP-217, at 8 (Mar. 6, 2014), available at <http://www.nts.gov/legal/pirker/pirker-cp-217.pdf> (last visited June 18, 2014). The 2007 FAA notice banning the commercial use of unmanned aerial systems did not give the agency regulatory authority over small unmanned aircraft, he reasoned, because it is a nonbinding policy statement and did not meet the notice and comment legislative rulemaking process. The 5 U.S.C. §553(d) process requires publication of notice not less than 30 days before the effective date. FAA Notice 07-01, 72 Fed. Reg. 6689, explained above, was issued on February 6, 2007, and published in the Federal Register as a notice of policy on February 13, 2007.

The FAA has appealed the decision of the ALJ, thereby staying the effect of his order. Because the ALJ’s decision is not a decision of the full National Transportation Safety Board (NTSB), it does not have precedential value either. 49 C.F.R. §821.43. The FAA raises two issues in its brief. First, the FAA argues that the judge erred in determining that Pirker’s small drone was not an “aircraft” under Part 1, Section 1.1 or 49 U.S.C. §40102(a)(6), and in fact, the drone was subject to the requirements of the federal aviation regulations, including the requirement that aircraft not be “operated in a careless or reckless manner so as to endanger the life or property of another.” Administrator’s Appeal Brief, *Huerta v. Pirker*, NTSB Docket CP-217, at 5–9, filed, Apr. 14, 2014. Second, the FAA argues that the judge erred in finding that the FAA had effectively waived any right to enforce its rules against model aircraft operators, regardless of whether they are operated as a hobby or for commercial purposes. *Id.* at 9–16. The Associated Press, The New York Times Co.,

and other members of the media filed an amicus brief, urging the FAA to consider the implications of restricting journalists’ access to this new news-gathering tool and saying that the FAA crackdown on drone photography could run afoul of reporters’ First Amendment right to gather the news.

The appeal will be decided by the NTSB members, who are charged with reviewing appeals of FAA cases. 49 C.F.R. §821.43. As mentioned, because the ALJ’s decision is not a decision of the board, it does not have precedential value. *Id.* Judicial review of the NTSB’s final order can be sought by filing a petition in either the appropriate court of appeals of the United States or the United States Court of Appeals for the District of Columbia within 60 days after the board’s order is issued. 49 U.S.C. §1153(a). With all that is at stake, it is likely that a final ruling on this issue will not be reached for some time.

FAA Efforts to Integrate UAS into the NAS

The FAA *authority* to issue regulations governing UAS has not been challenged. Indeed Congress mandated that it does just that as part of the FAA Modernization and Reform Act of 2012. So its efforts arguably would be better spent developing regulations following the proper notice and comment legislative rulemaking process than seeking to penalize those whose only “crime” was to operate a model aircraft for a business rather than recreational purpose.

To accommodate the growing demand while maintaining the safety of the NAS, Congress directed the FAA to promulgate regulations to accelerate the integration of unmanned aircraft into U.S. air space by September 2015. FAA Modernization and Reform Act of 2012. Pub. L. No. 112-95, §§332, 333 (2012). Congress’ mandate to the FAA included the following:

- Allowing local government and public safety agencies to operate unmanned aerial systems weighing 4.4 pounds or less
- Simplifying the process for obtaining Certificates of Authorization required for such functions
- Determining whether public and private UAS can safely share the NAS
- Issuing a five-year roadmap for introducing UAS into the NAS

- Establishing a UAS integration program at six test sites
 - Implementing rules for operating smaller (less than 55 pounds) commercial UAS.
- Id.* at §§332–335.

It is incumbent on the FAA, as opposed to some other authority, to develop regulations to safely integrate UAS into the NAS

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because Congress gave the FAA statutory authority to provide for the safe operation of aircraft within the National Airspace. 49 U.S.C. §40101. “National airspace” is essentially defined as any navigable airspace, 49 U.S.C. §40102(a)(32), and “aircraft” is broadly defined as “any contrivance invented, used, or designed to navigate, or fly in, the air.” 49 U.S.C. §40102(a)(6).

The FAA has accomplished some of the milestones set by Congress. For example, it has selected six UAS testing and research sites across the country with geographic and climatic diversity to study issues ranging from system certification, command and control linking issues, and the environmental effect of UAS. It created the Unmanned Aircraft Systems Integration Office to facilitate integration of UAS safely and efficiently into the NAS, and it has developed a detailed “roadmap,” which transcends specific timelines and examines the complex relationship of activities necessary to accommodate and to integrate UAS into the NAS. *See* Press Release, FAA Releases Unmanned Aircraft Systems Integration Roadmap (2013), Fed. Avia-

tion Admin., http://www.faa.gov/news/press_releases/news_story.cfm?newsId=15334, (last visited June 18, 2014) (then follow hyperlink to *Integration of Civil Unmanned Aircraft Systems (UAS) in the National Airspace System (NAS) Roadmap* (2013)).

But more remains to be done. The FAA plans to approve drones in phases, beginning with small UAS. FAA Administrator Michael Huerta informed a congressional subcommittee in February that the FAA was working on a proposed rule to govern the use of a wide range of smaller UAS (sUAS) and expects to issue the proposal for public comment by the end of the year. *FAA Modernization and Reform Act of 2012—Two Years Later, Hearing Before the H. Comm. on Transp. and Infrastructure Subcommittee on Aviation* (Feb. 5, 2014) (statement of Michael Huerta, Administrator of the FAA), http://www.faa.gov/news/testimony/news_story.cfm?newsId=15715 (last visited June 18, 2014). When finalized, this rule is expected to open the U.S. airspace to commercial operations of small UAS. The FAA has indicated that such regulations will address classification of sUAV, certification requirements of pilots, registration of sUAV, approval of sUAV operations, and operational limits. *Id.* It is anticipated such regulations will reduce the need for conducting operations under a COA or under the constraints of an experimental certificate and will be a key step toward eventual full integration of UAS operations into the NAS.

Part of the delay is due to the unique challenges that UAS present that the FAA must address in drafting proposed regulations if it is to integrate them into the U.S. airspace safely. We mention eight particular challenges here.

First, what requirements should be imposed to ensure that the system can sense and avoid other aircraft? The system must provide “sense-and-avoid” (SAA) capability analogous to the “see-and-avoid” operation of manned aircraft for self-separation and ultimately for collision avoidance protection between UAS and other aircraft that meets an acceptable level of safety. Unmanned flight will require new or revised operational rules to regulate the use of SAA systems as an alternate method to comply with “see and avoid” operational rules currently required of manned aircraft.

Second, what would happen if the connection with control is interrupted and the operator no longer has control of the device? Minimum performance requirements for control and communications (C2) systems must be established. An advisory committee is developing recommendations for the FAA to consider on this point.

Third, should UAS be limited to visual flight rules (VFR) airspace? If so, what if the UAS isn’t large enough to be seen by others?

Fourth, what certifications should be required of the operator? Should they be the same as for those operating manned aircraft? The FAA has taken the position that UAS training standards will mirror manned aircraft training standards to the maximum extent possible, including appropriate security and vetting requirements, and will account for all roles involved in UAS operation. FAA, *Roadmap, supra*, at 3.6. This may include the pilot, required crew members such as visual observers or launch and recovery specialists, instructors, inspectors, maintenance personnel, and air traffic controllers.

Fifth, must all UAS be certified by the FAA as airworthy? Unlike the manned aircraft industry, the UAS community does not have a set of standardized design specifications that ensures safe and reliable operation in typical civilian service applications. As a result, the UAS community often finds it difficult to apply existing FAA guidance. A special federal advisory committee recommends that except for some special cases, such as sUAS with very limited operational range, all UAS will require design and airworthiness certification to fly civil operations in the NAS. *Id.* at 1.4.3.

Sixth, what interaction should UAS have with air traffic control? The FAA *Roadmap* indicates that UAS will comply with ATC instructions, clearances, and procedures when receiving air traffic services, but air traffic controllers contend that existing automation cannot handle drone flight plans. *Id.*

Seventh, how should privacy concerns be addressed? Some critics focus on privacy issues that they see arising due to the increased use of UAS by both public and private entities. The FAA is aware of these privacy concerns and released a privacy policy that applies to the six test sites, which requires operators to comply with all local,

state, and federal laws regarding privacy and civil liberties. Test site operators are also required to develop their own privacy policies and make them available to the public.

Finally, should UAS operators be required to carry liability insurance? Should this issue be addressed by the states or at the federal level?

Ultimately, the pace of integration will be determined by the ability of industry, the user community, and the FAA to overcome technical, regulatory, and operational challenges.

In the meantime, states are getting involved with their own legislation on issues such as privacy and operation by local law enforcement agencies. Legislation to curtail the use of data collected by domestic drones operated by local law enforcement agencies has been proposed in 43 states, and nine states—including Virginia, Idaho, Florida, Montana, Tennessee and Texas—have so far enacted such measures. Many of these laws are focused on limiting government and law enforcement activities. *See, e.g.*, the Florida Freedom from Unwarranted Surveillance Act, Fla. Stat. §934.50 (2013); the Illinois Freedom from Drone Surveillance Act, 725 Ill. Comp. Stat. §§167/1–167/35 (214). Other laws have a more unique focus, including an Illinois law criminalizing a person from committing “hunter or fisherman interference” by knowingly “us[ing] a drone in a way that interferes with another person’s lawful taking of wildlife or aquatic life.” 720 Ill. Comp. Stat. §4/48-3 (2014).

Other state “drone” laws are clearly intended to address privacy concerns beyond those raised in government and law enforcement contexts and could impose limitations on a company getting drones off the ground for commercial purposes. *See, e.g.*, Idaho Code §21-213(2)(a) (prohibiting any person from using a drone “to intentionally conduct surveillance of... or collect information about, or photographically or electronically record specifically targeted persons or specifically targeted private property.”); Tex. Gov’t Code §§423.003, 423.004 (criminalizing and creating a private right of action for the use of a drone “to capture an image of an individual or privately owned real property... with the intent to conduct surveillance on the individual or property” or to possess, disclose or otherwise use such

images, with certain exceptions); Oregon Rev. Stat. §837.380 (providing a private right of action for any person who owns or lawfully occupies real property against a person that “operates a drone... flown at a height of less than 400 feet over the property if” that operator has previously flown a drone over the property at a similar low altitude and the owner or the occupant of the property notified the operator that he or she “did not want the drone flown over the property at a height of less than 400 feet.”). Apparently not everyone eagerly awaits the commercial operation of drones.

So What Are Commercial Drone Operators Doing in the Meantime?

Many drone operators have continued despite cease-and-desist letters, but they do so cautiously. Others are anxiously waiting for the NTSB decision on the *Pirker* appeal. One Texas nonprofit organization that has used drones since 2006 to map out its searches for missing people is fighting back after the FAA ordered it to stop using them in February and has filed a petition for review in the U.S. Court of Appeals for the D.C. Circuit. And a group of seven aerial photo and video production companies have taken a different approach and applied for exemptions from the FAA that would allow the film and television industry to use unmanned aircraft systems with FAA approval. Amazon.com Inc recently submitted a similar request for an exemption that would permit the e-retailer to conduct test flights over its Seattle property as part of its efforts to develop a new system for delivering packages to customers within 30 minutes or less. Companies from the agriculture and energy industries are also considering asking the FAA to grant them exemptions so that they may use UAS for limited purposes. These requests ask the agency to grant exemptions from regulations that address general flight rules, pilot certificate requirements, manuals, maintenance and equipment mandates. They are also asking for relief from airworthiness certification requirements under a law that permits the agency to waive certain airworthiness requirements to let specific UAS fly safely in narrowly defined, controlled, low-risk situations. To receive the exemptions, the firms must show that their UAS operations will not adversely affect safety, or pro-

vide at least an equal level of safety to the rules from which they seek the exemption. They would also need to show why granting an exemption would be in the public interest. Because this process has not been used yet, it is unclear how long it will take for the FAA to make a decision about a request.

The manager of the FAA Unmanned Aircraft Systems Integration Office offered this

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advice when asked about the possibility of enforcement against a UAS operator: “The bottom line is that unless you cross that line into hazardous or reckless behavior or come to the attention of the FAA because you’re operating a business illegally, the key is operating safely. And if you’re operating safely and there’s no obvious commerce going on, we’re not going to get involved.” *See* Video: AMA/FAA Forum AMA Expo 2013, YouTube (Feb. 10, 2013), *available at* <http://www.youtube.com/watch?v=hJECplst10M> (quote at 53:35–55:19) (last visited on Jun. 2, 2014). The FAA is aware of the restraints that its position places on commercial users and insists that integrating the use of sUAS in U.S. airspace is among its top priorities. But it cannot rush its deliberative process for fear that doing so may sacrifice safety, and the expense of that would be too great.

