

# Unmanned Flight: Legal Challenges of Drones

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New York Law Journal  
Oct 23, 2014



The best known use of unmanned aircraft systems, commonly called drones, has been our military's use of predator drones for combat missions in Iraq and Afghanistan. Government agencies have also used drones for law enforcement, border security, firefighting, disaster relief, atmospheric research, and search and rescue missions. Until very recently, however, with few exceptions, the Federal Aviation Administration (FAA) has not permitted the civil use of drones for non-recreational purposes. That is about to change.

The FAA Modernization and Reform Act of 2012 requires that the FAA develop a comprehensive regulatory policy "to support safe and efficient [drone] operations in the national airspace." The law authorizes the administration in the interim to permit the commercial use of certain types of drones in low-risk, controlled environments.<sup>1</sup> The administration announced earlier this year that it expects the filmmaking, agriculture, and oil and gas industries to take advantage of these exemptions.

These are not the only industries, however, that have an interest in commercial drone operations. Realtors will use drones to film properties for sale. Commercial fishermen will use drones to locate schools of fish. Amazon made news when it announced that it was studying the use of drones to deliver packages. DHL recently announced that it will begin using a helicopter drone to deliver medicine to residents of an island in the North Sea.<sup>2</sup>

Several weeks ago, the FAA allowed six Hollywood filmmaking companies to start using drones for film and television productions. These permits signal the beginning of what will soon become the fastest growing area in aviation. The FAA estimates that roughly 7,500 commercial drone operations will be viable within the next five years.<sup>3</sup> This dramatic increase in air traffic raises safety concerns, including the increased risk of mid-air collisions between drones and manned aircraft, and requires smart and effective regulation to address the risks.

## Drone Regulation

The FAA contends that it has authority to regulate all drones because they are "aircraft," defined by law as "any contrivance invented, used, or designed to navigate or fly in the air."<sup>4</sup>

The problem is that the current federal aviation regulations are written for manned aircrafts, not drones. For example, FAA regulations require that the pilot of a manned aircraft be licensed and current in experience in order to act as pilot. There are virtually no regulations that specifically address the qualifications needed to operate drones; in many instances, the FAA just requires that the drone operator hold an airplane license and meet certain training requirements as recommended by the drone manufacturer. Another distinction is that unlike most manned aircraft, drones are not flown to and from airports but can be launched from, and land, just about anywhere. Further, manned aircraft have, in addition to human pilots, radios and transponders and other equipment that help maintain separation between aircraft and avoid mid-air collisions. Drones typically lack such capabilities.

Given the current lack of drone regulations, the FAA is approaching drone operations on a case-by-case basis and imposes requirements intended to maintain the safety of the operations. For example, the six Hollywood production companies' applications promised that the drone operators will hold private pilot certificates, keep the drones within line of sight and restrict flights to "sterile" parts of movie sets that do not pose a risk to people on the ground. The FAA granted the permission on the basis of these safety conditions, but also required the inspection of the drones before each flight and prohibited night operations.<sup>5</sup>

The FAA is crafting drone regulations and must submit a detailed plan for drone integration into the national

air space no later than September 2015. It is also expected to promulgate its first proposed rules governing small drones under 55 pounds before the end of this year.

Current FAA policy divides drones into three categories: public, civil and recreational. Under the current rules, public and civil drone operators must obtain special FAA approval before operating drones.

Public drones are those owned and operated by government entities. The government entities must apply for a certificate of authorization or waiver that the FAA issues if it is satisfied with the safety of the proposed operation. This typically entails making sure that the drone "does not operate in a populated area" and that the drone is observed by someone either in a chase aircraft, a manned aircraft that observes the drone's flight and ensures the safety of its flight path, or on the ground.<sup>6</sup>

Civil drones are those owned and operated by private-sector entities. Drones used for commercial purposes fall into this category. Civil drone operators must obtain a special airworthiness certificate from the FAA and to do so must demonstrate that the drone "can operate safely within an assigned flight test area and cause no harm to the public."<sup>7</sup> The special airworthiness certificates are only issued in the experimental category, and the regulations governing experimental aircraft are very restrictive. The drone regulations are expected to include rules governing drone certification that will facilitate the varied commercial uses that drones are capable of performing.<sup>8</sup>

Recreational drones are technically exempt from any FAA approval process because guidelines governing recreational or "model" aircraft are only operating recommendations issued in Advisory Circular (AC) 91-57. The voluntary guidelines set forth in the AC state that model aircraft should refrain from flying above 400 feet, stay away from airports and other populated areas and remain within sight of the operator. Many drones fall into the "model aircraft" category defined by the FAA as aircraft that are less than 55 pounds unless otherwise certified through a design, construction, inspection, flight test, and operational safety program.<sup>9</sup>

This past June, the FAA issued in the Federal Register a notice clarifying the "do's" and "don'ts" of recreational drone operation after a series of incidents involving the reckless use of model aircraft near airports and heavily populated areas. Citing its authority to protect civilian airspace as well as people and property on the ground, the FAA reiterated in the notice that it may take enforcement action against those who operate model aircraft "in a manner that endangers the safety of the national airspace."<sup>10</sup>

The FAA's notice came after the agency's publicized loss in an attempt to fine a man \$10,000 for operating a powered glider drone in a careless and reckless manner in the vicinity of the University of Virginia while filming a promotional video. In *Michael P. Huerta, Federal Aviation Administration v. Raphael Pirker* (2014), a National Transportation Safety Board (NTSB) administrative law judge found in favor of Raphael Pirker on the grounds that the FAA lacked the authority to exercise regulatory action over model aircraft operations. The ALJ found that "model aircraft operation[s] [are] subject only to the FAA's requested voluntary compliance with the safety guidelines stated in AC 91-57."<sup>11</sup>

In *Pirker*, the FAA took the position that it had the authority to regulate all aircraft, including "model" aircraft, and that Congress intended that commercial drone flight be prohibited, barring FAA permission, until the administration issues regulations governing drones. The court rejected the FAA's position that it had the authority to regulate model aircraft, even if they are used for commercial purposes, under the current regulations. Assuming that the ruling is upheld on appeal, *Pirker* implies that there exists no regulations governing the safe operation of most drones, even if the use is careless and reckless, because model aircraft are currently only subject to FAA's voluntary safety recommendations.<sup>12</sup>

With *Pirker* on appeal, the FAA continues to enforce its policy that it can regulate the operation of all drones. Two weeks following the Pirker decision, the FAA fined a man who operated a helicopter drone that crash-landed and nearly struck a pedestrian on East 38th Street in Manhattan. The administration is also investigating an incident involving a drone flying near the George Washington Bridge that came within 800 feet of an NYPD helicopter, forcing the helicopter to change its course to prevent a collision.<sup>13</sup> These incidents are likely to continue, and it will be important that the FAA aggressively prosecute drone operators who put the public at risk in unsafe and potentially illegal operations.

## Risks and Liabilities

Drones have a relatively high mishap rate.<sup>14</sup> Most drone-related accidents, however, result in damage only to the drone. This is one of the main benefits of drones and we increasingly see them performing some of the highest-risk aviation missions that are currently being flown by manned aircraft. In this respect, drones will save lives even if they put some pilots out of their jobs.

Drones do, however, pose collision and crash risks and have unique safety-of-flight issues. A study of military drone accidents in non-combat operations indicates that the primary causes of the mishaps were hardware failures, which include individual component failures, mechanical failures, electrical failures, and pilot error.<sup>15</sup> One challenge of drone operation is that the drone pilot must operate the flight remotely by observing the drone from a distance and/or by use of a video screen. As a result, drone pilots may lack the situational awareness of pilots of a manned aircraft.

The FAA has attempted to address this by requiring in certain applications that the drone have an observer in addition to the pilot. The observer's job is to watch the drone and the surrounding airspace. Another potential safety concern regarding drones is that because drone pilots are not at any personal risk, they may take chances for which the instinct for self-preservation would otherwise stop the pilot of a manned aircraft from taking.

The legal liability of drone operators will not differ too greatly from the legal liability of manned aircraft operators. If a drone causes a midair collision with a manned airplane, the drone operator will be liable in the same manner as the operator of a manned aircraft. Considering the relatively low cost of drones and the current lack of a legal requirement for drone operators to carry insurance, there is a risk that a drone operator who causes an accident will not have coverage or the financial resources to meet its legal responsibilities to any injured parties.

## Conclusion

In 10 years, drones will be used for missions that today would be unimaginable. How the FAA integrates drones into our national airspace has major commercial and safety implications. It is important that the administration issue robust regulations so that drones do not pose unintended risks to manned flights or to people on the ground.

What is most promising is that drones will be used for some of the most dangerous aviation missions. Predator drones have taken on risks that have been historically borne by military pilots. Civil drones will mean that we will not have to continue placing aircraft crews in harm's way to conduct many high-risk missions.

### Endnotes:

1. FAA Modernization and Reform Act of 2012, Pub. L. No. 112-95, 331-336, 126 Stat. 11 (to be codified at 49 U.S.C. 40101).

2. Zacks Equity Research, "Google/Amazon Take Back Seat as DHL Starts Drone Service," ZACHS (Oct. 2, 2014), <http://www.zacks.com/stock/news/149024/GoogleAmazon-Take-Back-Seat-as-DHL-Starts-Drone-Service>.

3. Press Release, Fed. Aviation Admin., Busting Myths About the FAA and Unmanned Aircraft (Feb. 26, 2014), <http://www.faa.gov/news/updates/?newsId=76240>.

4. 49 U.S.C. 40102(a)(6); 14 C.F.R. 1.1 (definition of aircraft).

5. Press Release, Fed. Aviation Admin., U.S. Transportation Secretary Foxx Announces FAA Exemptions for Commercial UAS Movie and TV Production (Sept. 25, 2014) [http://www.faa.gov/news/press\\_releases/news\\_story.cfm?newsId=17194&cid=TW251](http://www.faa.gov/news/press_releases/news_story.cfm?newsId=17194&cid=TW251).

6. Fed. Aviation Admin., Unmanned Aircraft Systems Public Operations, [http://www.faa.gov/uas/public\\_operations/](http://www.faa.gov/uas/public_operations/); see also Timothy Ravich, "The Integration of Unmanned Aerial Vehicles into the National Airspace" (2009), 85 N.D. L. Rev. 597, 613-614.

7. Fed. Aviation Admin., Unmanned Aircraft Systems Civil Operations, [http://www.faa.gov/uas/civil\\_operations/](http://www.faa.gov/uas/civil_operations/).

8. Id.

9. Fed. Aviation Admin., Unmanned Aircraft What Can I Do With My Model Aircraft?  
[http://www.faa.gov/uas/publications/model\\_aircraft\\_operators/](http://www.faa.gov/uas/publications/model_aircraft_operators/).

10. Press Release, Fed. Aviation Admin., FAA Offers Guidance to Model Aircraft Operators (June 23, 2014),  
[http://www.faa.gov/news/press\\_releases/news\\_story.cfm?newsId=16474](http://www.faa.gov/news/press_releases/news_story.cfm?newsId=16474).

11. *Huerta v. Pirker*, Docket CP-217, 2014 WL 3388631 (N.T.S.B. March 6, 2014).

12. See AC 91-57.

13. G. McNeal, "In Drone Near Miss with NYPD Helicopter, Defendants Say NYPD to Blame," *Forbes* (July 8, 2014) [http://www.forbes.com/fdc/welcome\\_mjx.shtml](http://www.forbes.com/fdc/welcome_mjx.shtml).

14. Ravich, *supra* note 7, at 607.

15. Id.

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