

Rise of the drones

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Drones have opened up a new world of creative and commercial possibilities; but they also present unprecedented challenges to privacy, security and safety, among other things. With the regulators playing catch-up, those seeking to capitalise on the new opportunities must work out how best to navigate this uncharted space.

Introduction

It is hard to avoid the meteoric rise of drones in popular culture. Some of the world's largest and best-known companies – including Amazon, Facebook, Google and Wal-Mart – have explored the possibility of using drones to improve and expand their business capabilities. Technological advances in drone and camera equipment have made consumer drones widely available at a low cost, allowing small businesses and individuals to capitalise on new creative and commercial endeavours.

In the United States, these technological advances have far outpaced the legal framework within which drones must operate. The Federal Aviation Administration (FAA) has been charged with developing and implementing a comprehensive regulatory scheme that safely integrates drones into the national airspace system. In doing so, it faces tremendous challenges to set up a system which addresses many different concerns (eg, privacy, safety, data security and cybersecurity).

The federal government has exclusive sovereignty over the national airspace. Congress has vested the FAA with authority to regulate the navigable airspace to ensure the highest level of safety for all aviation operations. With the passage of the FAA Modernisation and Reform Act 2012, the federal government's intent to occupy the field of flight and airspace safety, including the use of drones, is clear. Therefore, with few exceptions (eg, laws relating to state and local police power), federal law should pre-empt state or local attempts to regulate drones. Unless the context requires a discussion of individual state law, this update focuses on the federal laws and regulations governing drone flight.

Have specific regulations on drones been introduced in your jurisdiction?

Under the act, the FAA was given a mandate by Congress to integrate civil unmanned aircraft systems (UAS) safely into national airspace by no later than September 30 2015. While the FAA has taken steps to achieve this goal, the deadline passed without a final rule in place. For now, drone operators are forced to comply with a patchwork of proposed rules, interim final rules, interpretations and policy statements issued and released by the FAA.

What regulations apply in terms of the right to fly, safety requirements and restrictions on the use of drones, for both leisure and commercial purposes?

Commercial use of drones

Section 333 of the act provides that the transportation secretary (acting through the FAA) may grant exemptions from the general broad prohibition of commercial drone use and authorise such use on a case-by-case basis. To date, the FAA has granted nearly 3,000 exemptions under Section 333. Thousands more await approval at this time. In March 2015, in an effort to streamline the Section 333 exemption process, the FAA announced a new policy which granted a blanket certificate of waiver or authorisation for flights at or below 200 feet to any drone operator holding a Section 333

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exemption.(1) Such flights must:

- involve aircraft that weigh less than 55 pounds (lbs);
- operate during daylight and in accordance with applicable visual flight rules conditions;
- be conducted at all times within the visual line of sight of the operator; and
- remain at certain distances away from airports or heliports.

Operators that wish to fly outside the parameters established for the blanket certificate of waiver or authorisation must apply for a separate certificate of waiver or authorisation specific to the airspace required for such operations.

In February 2015 the FAA issued its long-awaited proposed framework of regulations governing commercial drone use in the national airspace. The new regulations cover:

- operational limitations;
- operator certification and responsibilities; and
- aircraft requirements.

The proposed regulations apply to US-registered aircraft weighing less than 55lbs engaged in non-recreational operations. The FAA received more than 4,600 comments and a final rule is not expected until late 2016.

The notice of proposed rulemaking outlines regulations that place several limitations on the operation of drones. As mentioned above, the aircraft must weigh less than 55lbs. The aircraft must remain within the visual line of sight of the operator (unaided by any device other than corrective lenses) at all times. Operators of a UAS may operate aircraft only during daylight hours, with minimum weather visibility of 3 miles from the operator. The FAA also proposes that drones must operate at a maximum altitude of 500 feet above ground level and cannot operate at an airspeed of more than 100 miles per hour. Other restrictions under the proposed rules would:

- prohibit an operator from flying a drone over any persons not directly involved in the operation of the aircraft;
- require that an operator yield right of way to other aircraft, manned or unmanned; and
- refrain from operating the aircraft in a careless or reckless manner.

These are not substantively different from the patchwork of rules already in place.

As an alternative to the above, the FAA is also considering a framework that would apply to a sub-class of drones: micro-drones. This framework would apply to aircraft weighing up to 4.4lbs. The micro-drone is restricted to operating at a maximum altitude of 400 feet above ground level and no more than 1,500 feet away from the operator. These aircraft would be subject to a maximum airspeed of approximately 35 miles per hour and permitted to operate only within unregulated airspace. Flying a micro-drone over persons not directly involved in the operation of the aircraft would be permitted.

The notice proposes to relax the pilot certification requirement. Drone operators would be required to obtain an unmanned aircraft operator certificate with a drone rating. To obtain this certificate, operators must:

- be at least 17 years old;
- pass an initial aeronautical knowledge test; and
- successfully undergo vetting by the Transportation Security Administration.

While the operator certificate never expires, the operator must pass an aeronautical knowledge test every 24 months. The operator certification process for micro-drones would not require the aeronautical knowledge test and instead would require self-certification by the operator in a signed statement to the FAA.

In the notice the FAA also proposed that drones be required to satisfy the aircraft registration rules which apply to all other aircraft. This includes the US citizenship requirements identified in 49 USC

44103 and 14 CFR 47.3. However, the FAA has proposed to relax the aircraft markings and airworthiness certificate requirements for drones.

Model aircraft

Section 336 of the act prohibits Congress from promulgating any rule or regulation regarding model aircraft if the model aircraft is, among other statutory requirements, flown strictly for hobby or recreation, no more than 55lbs and otherwise does not interfere with manned aircraft operations. However, on June 25 2014 the FAA issued a notice of interpretation on the model aircraft rule in which it stated that model aircraft fall within definition of 'aircraft' and therefore fall within its authority for purposes of promulgating regulations to maintain the safety of the national airspace.

In the interpretation, the FAA arguably expanded on the statutory definition of 'model aircraft' as follows:

- The FAA interpreted the visual line of sight requirement to mean that:
 - the aircraft must be visible at all times to the operator;
 - the operator must use his or her own natural vision (corrective lenses are considered natural vision, but this does not include binoculars, night vision goggles or first-person camera technology); and
 - people other than the operator may not be used in lieu of the operator to maintain visual line of sight.
- The FAA interpreted the weight requirement to mean the weight of the model aircraft at the time of the operation.
- The FAA provided guidance on what constitutes hobby or recreation, which it has deemed to be a pursuit outside one's regular occupation engaged in for relaxation. Flights conducted for commercial operations, in furtherance of a business or incidental to a business cannot be for hobby or recreation.

Despite the prohibition on passing regulations affecting model aircraft under Section 336 of the act, the FAA maintains in the interpretation that it may pass regulations that will affect all aircraft operations, including model aircraft. This includes rules covering:

- how the aircraft is operated;
- operating rules for designated airspace;
- special restrictions (eg, temporary flight restrictions and notice to airmen); and
- what constitutes a prohibited commercial operation of a model aircraft.

The FAA cites the act as its authority to issue such rules, under which it may pursue enforcement action against persons operating model aircraft who endanger the safety of the national airspace system.

Registration

Under its emergency rulemaking authority, the FAA issued regulations requiring registration of all drones – or, in the case of model aircraft, drone operators – with the FAA. For model aircraft, from December 21 2015 all persons aged 13 or older who operate drones for hobby or recreation must register as a hobbyist operator. If drone owners operated their drones before December 21 2015, they can register at a later time, but no later than February 19 2016. Those who purchased their drones on or after December 21 2015 must register before they conduct their first outdoor flight.

There is an important distinction here. Model aircraft hobbyists must register themselves. They must register online and provide the FAA with their full name, home address and email, and must acknowledge their intent to follow certain well-known safety guidelines in order to complete their registration. Registrants must also provide a credit card number to pay the FAA the \$5 fee. This registration must be renewed every three years.

Commercial drone operators must register each drone in their fleet. Those operating their drones for commercial purposes (eg, under a Section 333 exemption) may not register their drones using the online web-based system, but must instead use the existing paper-based system of Federal Aviation Regulations Part 47, which applies to all other aircraft, including passenger aircraft. The registration fee and renewal period are the same for commercial drones, but credit card payment is not yet

available.

The penalties for a person operating a drone without registration are significant and include civil penalties of up to \$27,500 and, if warranted, criminal penalties of up to \$250,000 and three years' imprisonment. This rulemaking, as it applies to model aircraft, is facing a challenge in the US Court of Appeals for the DC Circuit on the grounds that it violates Section 336 of the act.

What are the related privacy issues to consider where data and images are captured by drones?

Significant privacy issues arise when discussing the implementation of drones in our everyday lives. Most of the popular drones available to consumers are packaged with high-definition cameras and geolocation software, both of which are capable of recording vast amounts of data that, in the wrong hands, could be used to cause harm or infringe civil liberties. As is the case with any technology, protecting this data is of the utmost concern. Some observers have noted that hacking into drone software is a real possibility and the risks of a data breach or a third party taking control of unmanned aircraft should be explored in more detail.

There are also significant due process considerations regarding the surveillance capabilities of drones used by government entities. The Fourth Amendment to the Constitution protects against unreasonable searches and seizures. Drones have made it easier, safer and more cost efficient for law enforcement to enhance investigative techniques and conduct surveillance of persons or property. At least 13 states have passed legislation restricting some aspect of law enforcement drone use. Some states (eg, Florida) have passed regulations banning all law enforcement use of drones, except for precisely enumerated exceptions. Some states (eg, Wisconsin) allow the use of drones only if law enforcement first obtains a search warrant. North Carolina and Virginia have previously imposed complete moratoria on governmental drone use, with limited exceptions for exigent circumstances.

Is there any intersection between specific property rights in your jurisdiction and the related airspace and privacy issues arising from the use of drones?

Yes, there is some intersection between specific property rights and the related airspace and privacy issues arising from the use of drones. State and local governments across the country have taken steps to integrate drones into their criminal and civil laws, including civil trespass, harassment and voyeurism. Some examples are as follows:

- Florida and Texas – drone surveillance by a person, state agency or political sub-division with the intent to conduct surveillance on an individual or property in violation of such person's reasonable expectation of privacy without his or her written consent is prohibited.
- Wisconsin – 'drone harassment' is illegal if the drone is operated with the intent to intimidate, harass, annoy or alarm another person, and the operator:
 - operates a drone that hovers over or lands on the real property of another; or
 - uses a drone to engage in a course of conduct or repeatedly commit acts which alarm or seriously annoy such other person and which serve no legitimate purpose.
- Tennessee, Nevada and Oregon – criminal and civil trespass statutes have been amended to address specifically trespass by drone. Trespass by drone occurs when a person or public agency causes an unmanned aircraft to enter the airspace above the owner's land that is not regulated by the FAA. This has generally been defined as lower than 250 feet. In Oregon, the operator has one free flight, but if a property owner notifies the drone operator that the person did not want the drone flown over the property, the drone operator could face liability.

There have been some instances (eg, in California, Kentucky and New Jersey) of property owners shooting down drones flying above their property. These have resulted in cases alleging destruction of property brought by the drone operator, and criminal charges of unlawful possession, discharging a firearm in residential areas or reckless endangerment. The outcome of these cases has varied widely, with courts ruling against drone operators and property owners for seemingly the same conduct. State law will continue to govern these disputes over real and personal property, but under 18 USC 32 it may be a federal crime to shoot down a drone. However, to date the federal government has not charged anyone for shooting down a drone.

Some cities and local municipalities (eg, Chicago) have imposed outright bans on the use of drones in the airspace within city limits. While federal law and other regulations governing airspace would arguably prohibit such use, the local laws may be considered pre-empted given the federal government's exclusive sovereignty over the national airspace.

While the most common intersection between property rights and privacy issues rests in state law, there has been some effort at the federal level to address these concerns. The president issued a memorandum calling for a multi-stakeholder engagement process to develop best practices for the protection of privacy, civil rights and civil liberties. Further, amendments to the act are pending before the Senate which would mandate the FAA (in consultation with the Department of Commerce) to establish and implement a regulatory framework addressing the privacy protections described above (eg, data collection policies, data minimisation policies and warrants required for generalised surveillance). The Department of Commerce would be charged with the obligation to enforce such privacy regulations.

What are the insurance implications in your jurisdiction?

Like the federal regulations governing the operations of civil aircraft under 14 CFR Part 91 (ie, flights of private aircraft by owners), neither the notice nor the interpretation requires drone operators to maintain hull or liability insurance coverage on drones. However, operators of aircraft which carry passengers or cargo for hire must maintain hull, liability and war risk insurance coverage on such aircraft and operations under 14 CFR Parts 121 and 135, respectively.

The US insurance market is entering uncharted territory and has been hindered somewhat in making products widely available by the FAA's delay in issuing its final rules on drone operations. That said, some insurance underwriters with experience in the aviation industry are already offering drone insurance products. It would be prudent for a drone operator (especially one conducting flights in furtherance of its business) to seek out an insurance policy that adequately protects it from first and third-person liability, including physical damage, personal injury and third-party loss in the event of accident or incident involving the drone while in flight. If a drone is capable of collecting, storing or sending data, it may be wise for an operator to seek liability coverage for damages arising from the capture, storage or transmission of personally identifiable information and non-public personal information, and the business-related equivalents of each.

In case of an accident involving a drone in your jurisdiction's airspace, how would liability be treated?

The liability arising from an accident involving a drone may be governed by the law of the state in which the accident occurs, depending on the conflict of laws analysis adopted in the state where the claim is made. States vary in how they treat conflict of laws issues, as well as common law tort principles such as negligence and strict liability. In the event that an accident is caused by a product defect, manufacturers may face products liability claims, which also vary from state to state.

Federal law could come into play when an accident is caused by a drone. The FAA may bring enforcement actions for drones that are operated in an unsafe manner. Drone operators which intentionally inflict harm on others will generally face criminal liability under state law but if the conduct rises to the severity of interfering with the operation of interstate commercial air travel or other terrorist actions, federal criminal law will govern.

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Endnotes

(1) Previously, operators were required to apply separately for the certificate of waiver or authorisation and such applications could not be submitted until the Section 333 was granted. Typically, the FAA would issue certificates of waiver or authorisation up to 60 days following receipt of the application. In addition, certificates of waiver or authorisation would allow an operator to fly aircraft within a specific block of airspace over a confined geographical area. The blanket certificate

of waiver or authorisation allows UAS operators to fly anywhere in the country except restricted airspace, major cities and other areas where the FAA prohibits drone operations.

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