



FLAMETHROWING DRONES IN MY BACKYARD?

Emerging Trends in Drone Regulation and Litigation

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Utility companies in China clear debris from power lines with flame throwers attached to drones.¹ In Australia, Alphabet's subsidiary, Wing, has had great success using drones² to deliver packages in suburban locations.³ In Kentucky, according to one judge at least, you can shoot drones out of the sky with impunity.⁴

Many industries in the United States use drones to perform a variety of tasks that were impossible or impractical before the advent of this technology, and drone use will only increase in the future. This article will discuss current commercial drone use, and the legal framework surrounding drone use in the United States.

COMMERCIAL DRONE USE IN THE UNITED STATES

Many industries successfully use drones in the U.S., while others are still working through technological limitations, and, sometimes more significantly, regulatory and legal uncertainties surrounding drone use. The following are just some of the industries in the United States that are utilizing drones at an ever-increasing rate:⁵

- **Agriculture** - To map fields, disperse seeds, spray crops, and monitor crop health.
- **Construction** - To survey sites, monitor progress, perform inspections, maintain security, and to lift and stack materials.
- **Utilities and Telecommunications** - To inspect power and telecommunication lines, towers, pipelines and other facilities, detect leaks, and help with storm restoration.
- **Insurance** - In 2019, insurance companies used 17% of all commercial drones. The drones are used to inspect properties prior to policy issuance, as well as damaged properties during the adjusting process.
- **Maritime** - Security purposes, inspection of vessels, and to deliver items to ships at sea.
- **Mining** - Photography to collect data on mineral stockpiles.
- **Public Safety** - First on the scene at accidents for early assessment, to provide high resolution photographs and video of dangerous areas or situations without exposing officers to risk, and many other uses.
- **Real Estate** - Surveying, inspecting and photographing property.
- **Transportation and Logistics** - Delivery of packages.
- **Warehousing** - Indoor drones to monitor inventory and transport packages between warehouses.
- **Legal** - Accident scenes vehicle and product inspections.

The above list encompasses just some of the many commercial uses of drone technology in the United States. Some of the industries listed above have had great success in utilizing drones to streamline their operations.

Other industries, however, have taken more time to fully utilize drone technology in the United States. In particular, the transportation and logistics industry. In 2016, it was thought that by 2021 drones would revolutionize the package delivery business - regularly delivering packages to our doorsteps within a couple of hours - or sooner - of placing an order. As of 2022, this revolution has not been realized. Part of the challenge is to create technology and an infrastructure to safely and efficiently deliver packages to consumers in a variety of population settings.⁶ Regulatory and legal hurdles, however, are major factors in the delay.

REGULATORY ISSUES SURROUNDING DRONE OPERATION IN THE UNITED STATES

There are legitimate concerns about airspace safety given the potential number of drones that could inhabit the skies in the future with the continued expansion of commercial use.⁷ Therefore, companies using drones to deliver goods will have to adhere to guidelines and regulations from multiple agencies in the U.S. – from federal law and the Federal Aviation Administration (FAA), to state and local laws, some of which will not be uniform.⁸

Prior to 2016, companies were required to obtain a special waiver from the FAA, a Section 333 Exemption, in order to fly drones for commercial purposes. In 2016, drone industry growth took off when the regulations were relaxed through the issuance of 14 C.F.R. 107 (“Part 107”), which relaxed the rules for flying drones weighing less than 55 lbs.

Even though drone use in the transportation industry is in its relative infancy, several large transportation companies have already received FAA certification allowing them to participate in drone delivery with a limited number of pilots and drones.

In addition to the companies receiving the required certification from the FAA, each pilot must obtain a license, and the companies must comply with the requirements of Part 107, which are quite onerous in the delivery context. Specifically, without obtaining a Part 107 Waiver, a drone is required to: (1) remain in the line of sight of the pilot in control;⁹ (2) be operated by a live pilot who is not simultaneously operating another drone;¹⁰ (3) not be operated from a moving vehicle;¹¹ (4) not be operated at night;¹² and (5) not be operated over human beings, including people in vehicles, unless authorized by Part 107.¹³ In addition, there are FAA regulations governing the airspace a drone can operate in, and drones cannot normally be flown within five miles of an airport.¹⁴ And although waivers of the FAA 107 requirements are approved, the FAA requires that each operator applying for a waiver provide significant evidence of its ability to safely operate.¹⁵ Fortunately, Congress has recently passed the 2018 FAA Reauthorization Act, which streamlined the process for companies to apply for waivers to fly in controlled airspace. Observers believe this will provide a framework to significantly speed up regulatory approvals in the commercial drone delivery field.

However, the FAA does not have exclusive jurisdiction over every aspect of drone use. Operators must obtain airspace

authorizations from local governments before they begin sending drones carrying packages through the air. In addition, state law governing privacy, trespass, and law enforcement operations still apply to drone use.¹⁶ Moreover, each state has its own legislative rules for drone operation—Kentucky, for example, prohibits flight paths over certain properties like prisons and railroads, while other states prohibit drone operation near critical infrastructure, oil refineries and chemical facilities.¹⁷ Therefore, drone operators will need ensure that they inquire at all levels of government for needed authorizations.

LEGAL LIABILITY ISSUES SURROUNDING DRONE OPERATION

In addition to the ever-evolving regulatory environment, legal issues surrounding the operation of drones, from invasion of privacy and trespass claims, to negligence and product liability, are still being fleshed out.

In 2018, the Uniform Law Commission (“ULC”) released a model tort law titled the Uniform Tort Law Relating to Drones Act (“Model Act”). The Model Act primarily addresses tort trespass actions relating to drone operations that substantially interfere with a person’s use and enjoyment of their property. The Model Act will be submitted by the ULC to several states as a possible uniform approach to tort legislation involving drones. Of course, states are free to adopt some, all, or none of the provisions of the Act into their particular statutory scheme.

In addition to trespass and invasion of privacy claims, improper operation of drones has led to negligence actions against drone operators. For example, a sorority at the University of Southern California hired an event organizer to host a party. The event organizer hired a drone operator to take photographs. The drone operator crashed the drone into the plaintiff’s head. She sued the sorority and the event planner for negligence and premises liability. With regard to commercial drone operators in the transportation industry, negligence actions would likely result from accidents involving drones that cause damage as a result of a drone contacting people or property, or unintentionally dropping a delivery load and causing injury or damage.

In addition, as drone use proliferates, product liability claims against manufacturers will begin to appear. Some areas of potential liability may be related to automated and pre-programmed flight operations, allowing the drone to operate without the direct input of controls by the operator. Other

areas of exposure may involve injury caused by the propellers on the drone in the event of a collision. Some manufacturers equip drones with programs to immediately shut off propellers if a collision occurs. What if that technology fails? Likewise, will all drone manufacturers be held to that “safety” standard? What about parachutes? Should manufacturers equip drones with parachutes to protect people on the ground in event of a failure?

As drone use becomes more prevalent in the future, particularly in the transportation industry, tort litigation surrounding drone use will increase. And although I do not foresee a time when flame throwers are used on drones in the United States, just think of the liability issues that would open up.



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¹ Yi Shu Ng, *Chinese companies are torching trash off power lines with flame-throwing drones*, Mashable.com, February 20, 2017.

² Drones are technically referred to as Unmanned Aerial Vehicles, or UAVs.

³ Brian Heater, *Wing approaches 100,000 drone deliveries two years after Logan Australia launch*, techcrunch.com, August 25, 2021.

⁴ www.wdrb.com, *Judge dismisses charges for man who shot down drone*, October 26, 2015. Notwithstanding the fact that at the time, it was against Federal Law to shoot down a drone.

⁵ Grant J. Guillot, *A Multi-Industry Examination of Drone Use: How the Regulatory Environment and Public Perception Issues Shape the Ability of End Users to Leverage Uncrewed Aircraft Systems*, Journal of Drone Law and Policy, Volume 1 (2020).

⁶ Patrick Lucas Austin, *Amazon Drone Delivery Was Supposed to Start By 2018. Here's what happened Instead. Whatever Happened to Amazon's Drone Delivery Service?* | Time.

⁷ *Id.*

⁸ Grant J. Guillot, *A Multi-Industry Examination of Drone Use: How the Regulatory Environment and Public Perception Issues Shape the Ability of End Users to Leverage Uncrewed Aircraft Systems*, Journal of Drone Law and Policy, Volume 1 at p. 14 (2020).

⁹ 14 C.F.R. § 107.31.

¹⁰ 14 C.F.R. § 107.19 and § 107.35.

¹¹ 14 C.F.R. § 107.25.

¹² 14 C.F.R. § 107.29.

¹³ 14 C.F.R. § 107.39.

¹⁴ 14 C.F.R. § 107.41.

¹⁵ Grant J. Guillot, *A Multi-Industry Examination of Drone Use: How the Regulatory Environment and Public Perception Issues Shape the Ability of End Users to Leverage Uncrewed Aircraft Systems*, Journal of Drone Law and Policy, Volume 1 at p. 15 (2020).

¹⁶ *Id.* at 17.

¹⁷ *Id.*