

Soaring to New Heights With Drones: The Rise of UAVs in Construction Projects

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The next time you visit a construction site, look up. You may see a drone in flight. The explosion of interest in the unmanned aircraft systems (UAS) industry is driven by their potential for data collection because of the ability to carry many different onboard sensors. In the construction industry, drones are used for inspections, security and surveillance, material delivery, securing investment, augmented reality, and to identify safety issues.

Drones can also be used to improve day-to-day operations by creating time lapses, job-site monitoring, and thermal imaging. Other examples of ways drones can be used in the construction industry include: design, engineering, planning, marketing, volumetrics, asbuilts, construction progress, and site logistics.

Prior to August 2016, there were many legal prohibitions that limited the use of commercial drones. However, 14 CFR § 107 (Part 107) revolutionized the operation of UAS weighing less than 55 pounds and operating for commercial purposes. This regulation affords commercial operators with the opportunity to fly UAS without prior case-by-case approval from the Federal Aviation Administration (FAA), as long as they comply with certain restrictions. Some of the key operating restrictions include maintaining a visual-line-of-sight, operating only during the daytime or twilight hours, not flying over people not directly participating in the drone mission, and maximum speed and altitude limits. Transport Canada, which is responsible for transportation policies and programs in that country, has also recommended similar guidelines, including keeping the drone in visual line of sight and operating the drone during daylight hours. Additionally, there are extensive requirements for commercial operations under Special Flight Operating Certificate (SFOC), but Transport Canada is in the process of revisiting these rules.

Most of the restrictions under Part 107 are waivable, if granted permission from the FAA through an online application process. The Part 107 waiver process incorporates significant flexibility into the regulations. The waiver process is a tool that the construction industry can utilize to maximize the value and use of UAS. Possible areas to request a waiver include nighttime operations, simultaneous operation of multiple aircraft, operation over people, and operation in restricted airspace.

Use of UAVs in the United States is subject to the enforcement authority of the FAA. The FAA has broad enforcement authority and investigatory powers, which require it to regulate aircraft operations in the National Airspace System (NAS) in order to ensure the safety of persons, property, and manned aircraft. The FAA may take enforcement action against anyone who conducts an unauthorized UAS operation or operates a UAS in a way that endangers the safety of the NAS. The FAA works with local and state law enforcement to explain the legal framework surrounding UAS and to seek help in identifying unlawful UAS operators. Specifically, UAS must comply with safety requirements of Part 107. In addition, those who “endanger the safety of the national airspace system” may face penalties, including warning notices, letters of correction, and civil penalties. With regard to the FAA’s investigatory power, it needs only a “reasonable ground” to show a violation of a statute or regulation to initiate an investigation.

Transport Canada overall has conducted minimal enforcement of drone operations. In 2016, it undertook a large educational effort with regard to the safe operation of drones. It does have an online enforcement tool that provides information about “dos and don’ts” for flying drones, as well as details about regulations.



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The increased prevalence of UAVs has prompted the courts to review the unsettled area of airspace law. One issue is the private versus public control of airspace. On one hand is the common law principle of property ownership that states that one controls the airspace above their privately owned land. On the other hand are FAA regulations, which claim jurisdiction over all U.S. airspace. Additionally, increased state legislation aimed at drone regulation has created preemption concerns, particularly when the state laws are in conflict with federal laws.

Another risk is that liability arising from drones is not covered in typical commercial liability insurance policies. However, it can be added to both property and liability coverage, which generally protects the insured against damage done by or to its drone. Some regulators propose requiring certain drone users to purchase liability insurance.

In order to keep up with the growth and changing needs of drone use, rulemaking for drone usage will likely continue and expand over the coming months.

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