

ADDRESSING THE RISKS

Droning On

the increased use of unmanned aircraft systems

By Christopher S. Drewry and Jeffrey M. Kraft



Unmanned Aircraft Systems (UAS)—more commonly referred to as drones—have seen rapid growth in use across a variety of sectors, from aerial photography and security surveillance to fast food delivery. The Federal Aviation Administration (FAA) estimates that UAS in use in the United States increased from approximately 2.5 million in 2016 to more than 7 million in 2020, which is approximately 10 times the number of manned aircraft registered in the United States. Of these registered UAS currently in operation, a significant portion of UAS is utilized in the construction industry. As with many other industries, this rapid increase in use will continue to impact the construction industry in a variety of significant ways.

BENEFITS OF UAS

Generally speaking, UAS offer a number of advantages to project participants, including the potential for substantial increases in efficiency, coordination, and safety. More specifically, UAS are used primarily for data collection. Armed with a variety of increasingly small, lightweight, and inexpensive sensors, UAS can collect and transmit data regarding light, images, sounds, magnetic fields, heat, and chemical molecules.

This versatility at data collection has broad application in the construction

industry. On site at a project, UAS can perform surveys and inspections, provide security surveillance and progress reports, identify safety issues, orient new employees, augment reality, and otherwise aid in coordinating, managing, and monitoring site activities and logistics. UAS also can improve safety by performing tasks that would expose a human worker to risk of harm. In addition, UAS can aid in both pre- and post-construction activities such as design, engineering, planning, and marketing. Furthermore, UAS use can significantly reduce labor costs. One estimate values the labor and services exposed to replacement by UAS at \$127.3 billion worldwide, one third of which comes from the construction and infrastructure industries. (See Daniel S. Brennan, *The Internet of Things in Construction: Opportunity, Risk and Insurance Considerations*, 13 No. 2 ACCLJ 3 (Summer 2019))

POTENTIAL RISKS, LIABILITIES

While the benefits are potentially limitless, the increased use of UAS also introduces the possibility for new risks and exposure to liabilities which current risk management regimes may not adequately address in their current form. There are three particular areas of potential risk and liability with respect to UAS: (1) compliance with government regulation, (2) operational risks, and (3) insurance coverage issues.

1 COMPLIANCE WITH GOVERNMENT REGULATIONS

The primary federal regulations governing the use of UAS is 14 C.F.R. § 107, which applies to commercial UAS under 55 lbs. Section 107 requires that commercial UAS operators obtain a Remote Pilot Certificate. Notably, obtaining a Remote Pilot Certificate does not require any experience operating UAS. Rather, the applicant must: (a) be at least 16 years old; (b) speak and write English; (c) possess the physical and mental fitness to safely operate UAS; (d) pass an aeronautical knowledge test; and (e) pass vetting by the Transportation Safety Administration (TSA).

In addition to requiring a Remote Pilot Certificate for operators, Section 107 imposes several restrictions on UAS use, including: (a) maintaining visual-line-of-sight (VLOS) with the UAS at all times; (b) operating at speeds no greater than 100 mph; (c) operating at altitudes no greater than 400 feet or farther than 400 feet from a structure; (d) operating only during daylight hours; (e) not operating in controlled airspace without prior air traffic control approval; (f) yielding the right-of-way to manned aircraft; (g) not operating from a moving vehicle or aircraft; (h) not operating under the influence of alcohol or drugs; (i) not operating multiple UAS simultaneously; and (j) not flying over the

general public. Operators may apply with the FAA for waiver of many of these restrictions. However, waivers may come with a new set of restrictions. For example, to obtain waiver of the daylight-operations restriction, applicants must demonstrate how they will: (a) maintain VLOS with the UAS; (b) avoid other aircraft, structures, people, and other obstacles; (c) continually determine the altitude, attitude, and movement of the UAS; (d) ensure all participants can recognize and overcome visual illusions and physiological conditions that may degrade night vision; and, (e) enable the UAS to be seen at a distance of 3 miles, unless another system is already in place for avoiding all non-participating aircraft.

Failure to comply with these regulations presents a substantial risk to operators. The FAA has broad authority to enforce these regulations with warning notices, letters of correction, and civil penalties. This latter option can be costly to violators; companies may be fined up to \$34,777 per violation, per day, while individuals may be fined up to \$1,527. In addition, the FAA may impose criminal sanctions for purposeful and significant violations.

2 OPERATIONAL RISKS

As one might expect from a 55-lb flying object with spinning metal blades, UAS present a significant risk for personal injury and/or property damage through malfunction or operator error. This risk is magnified when operating in the context of a busy construction site filled with ever-moving, ever-changing people, machines, and other obstacles. The risk is increased further by the minimal requirements for obtaining a Remote Pilot Certificate, which allows for commercial UAS operation by largely inexperienced pilots. Construction industry members may be advised to set (and insurers may require) additional safety requirements for UAS operation, such as minimum flight hours for operators or mandatory recovery parachutes. In addition, UAS operation could be vulnerable to cyberattack.

3 INSURANCE COVERAGE ISSUES

Although currently not required by law, UAS insurance coverage may be required by specific clients or projects, and most credible commercial operators carry UAS liability insurance coverage. Significantly, because commercial general liability insurance policies usually contain aviation exclusions, they generally do not cover liability arising out of UAS operation. Construction industry members wishing to employ UAS will want to pursue either adding UAS coverage to their existing policies or purchasing separate commercial UAS insurance, which typically will cover aircraft operations (including non-pilot, on-ground crew), manufacturer product liability, third-party legal liability, premises liability, medical payments, fire, independent contractor's liability, personal injury, advertising liability, contractual liability, and fellow employee coverage. In exchange, insurers typically require commercial UAS operators to adhere

to additional safety measures (such as minimum operator experience levels) beyond the FAA requirements.

CLOSING THOUGHT

Clearly the usage of UAS within the context of the construction industry offers great potential for use and application on projects, including substantial increases in efficiency, coordination, and safety. However, they also introduce new risks and liabilities that current risk management structures may not adequately address. Members of the construction industry, and their counsel, need to be aware of, understand, and address these risks in adopting and implementing such new technologies. ■

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