



DESIGN & CONSTRUCTION

Using Drones for Professional Services

Unmanned aerial systems (more commonly known as drones) are becoming an integral part of the design and construction industry. The U.S. Federal Aviation Authority (FAA) set up general requirements for commercial drone use and granting permits for certain uses, like observation and exploration, on design and construction projects.

Until a few years ago, the FAA did not allow commercial drone use without granting an exemption. The federal regulatory process has taken an incremental approach to integrating drones into commercial operations. The FAA's hesitancy to authorize general drone use was based on safety and privacy concerns. Interference with manned aircraft and the dangers to people and property from accidents have been primary concerns. Popular opposition to both the invasion of privacy aspects of drone use and the noise was also influential in forcing the FAA to proceed cautiously.

The FAA's Rules

The FAA worked on rules for commercial use of drones for several years and published the long-awaited **final rule on the commercial use of small drones**. The "Operation and Certification of Small Unmanned Aircraft Systems," or UAS (drone) requirements, are contained in Part 107 of the FAA rules. By statute, a small drone is an unmanned aircraft

and the equipment necessary for the safe and efficient operation of that aircraft weighing less than 55 pounds.

The final rule was the next phase of integrating small drones into the National Airspace System. It gives a blanket authorization for many uses of commercial drones and accommodates the evolution of drone-related technologies that could lead to expanded, or unforeseen, uses. For more general information, go to the [FAA Fact Sheet](#).

In the FAA's rules, the regulatory agency lists "Operational Limitations," "Remote Pilot in Command Certifications and Responsibilities," and "Aircraft Requirements" for commercial drones as well as information for model aircraft. Among the major provisions are these:

- A commercial drone must not weight more than 55 pounds and can only be flown within line of sight of the operator or assigned observer.
- The drone must only be flown in daylight and during twilight if the drone has anti-collision lights.
- It cannot operate over any persons not directly involved in the operation or under a covered structure. Operations from a moving vehicle are allowed only if the drone is flying over a sparsely populated area. And the restriction on the airspace is still applicable. Commercial drone

operations in Class G airspace are allowed without air traffic control permission. (Class G airspace was formerly known as Uncontrolled Airspace and is the airspace where commercial air traffic is not present.)

- The maximum allowable altitude is 400 feet above ground (higher if the drone remains within 400 feet of a structure.) The maximum speed is 100 mph.
- The new FAA rules allow a drone to carry an external load if it is securely attached and does not adversely affect the flight characteristics or controllability of the aircraft. For the first time, the FAA will allow a small drone to transport property for compensation within state boundaries provided the drone—including its attached systems, payload, and cargo—weighs less than 55 pounds total.
- Operators need a remote pilot airman certificate with a drone rating or be under the direct supervision of a person who holds such a certificate. Operators are required to pass an aeronautical knowledge test and be vetted by the Transportation Security Administration, which is required to conduct a security background check of all remote pilot applications prior to issuing a certificate. Upon passing, they would receive a permit that needs to be renewed every two years as well as an operator's certificate with a rating for small drone control.
- Safety is still a major concern and operators are responsible for ensuring that a drone is safe before flight. The pilot will have to perform a preflight visual and operational check of the drone to ensure that safety-pertinent systems are functioning properly. This includes checking the communications link between the control station and the drone. And, of course, the drone must also be registered with the FAA.
- The pilot in command has to comply with several other provisions of the rule. The pilot must make the drone available to the FAA for inspection or testing on request, must provide any associated records required to be kept under the rule, and must report to the FAA within 10 days any operation that results in serious injury, loss of consciousness, or property damage (to property other than the drone) of at least \$500.

The rule does not specifically deal with privacy issues in the use of drones and the FAA does not regulate how drones gather data on people or property. The FAA basically avoided the privacy and security issues by stating that operators are encouraged by the FAA to

check local and state laws before gathering information through remote sensing technology or photography. This is an issue that may be a significant source of business and professional claims in the future; significant claims related to the violation of confidentiality and the improper acquisition of trades secrets through drone use are possible.

Although drones appear to be inexpensive machines, the price of a drone will probably be the least significant cost factor in the commercial use of drones. Other expenses are likely to move the feasibility of commercial drone options out of casual or limited business operations. The FAA estimates that it would only cost \$150 for an individual to become FAA certified as a remote pilot. However, other costs can be significant, including maintenance, operation staff, and insurance coverage. Professional service firms should not assume that drone operations will be a low-cost, small-investment activity for the firm.

Special Exemptions are Still Possible

During the interim rules phase, many engineering firms and some architecture firms received special permission to use drones for activities that were outside of the regulations. Some firms are still operating under these special privileges that allow an expanded use of drones. Others will seek approval for drone use specific to the services requested by clients and provided by design professionals. Some examples of possible small drone operations that can be conducted under the framework of the new regulations include:

- power-line/pipeline inspection in hilly or mountainous terrain;
- antenna inspections;
- bridge inspections;
- aerial photography; and
- wildlife nesting area evaluations.

Although the line-of-sight restrictions (even with a remote observer) reduce the chance to provide many other valuable services, the FAA has been clear that qualified firms can extend the range of their services by extending the range of their drones. Firms can request a waiver of most operational restrictions by showing that the proposed operation can be conducted safely under a waiver. The FAA has made an online portal available to apply for such waivers.

Drone Operators Must Have Risk Controls and Insurance Coverage

Until the FAA released the new regulations, only specific drone uses by specific users were allowed. Now, many companies—including mapping, surveying, engineering, and other design firms—are ready to put drones into use. Certainly, any legal drone use for design and construction will have to meet the commercial restrictions. Whether a design and construction firm owns and operates the drone or subcontracts for its use with a commercial provider, the entity operating the drone will have to have appropriate risk controls and insurance coverages. The insurance industry is moving forward on coverage for drone use; a form of aviation coverage is currently available.

The issue is not one of professional liability insurance coverage; the Victor and CNA program covers the professional liability of firms using drones as a tool to perform their professional obligations. Professional liability coverage, however, only applies if the underlying cause of action was based on a wrongful act or omission in the performance of professional services and not on a wrongful act or omission in the operation of a business that happens to provide professional services. Firms have to be aware of their business risk and cover their exposure through insurance or contractual indemnity provisions. And professional liability insurance never covers a criminal activity that could result from unpermitted drone operations.

The insurance industry, however, has been concerned with general liability exposure intrinsic in the commercial use of unmanned aircraft and reacted. The Insurance Services Office (ISO), the private organization that develops coverage standards for the insurance industry, developed and filed a variety of general liability insurance endorsements addressing drone exposures to allow for maximum flexibility with this newly emerging exposure. The ISO endorsements treat standard aircraft and unmanned aircraft exposures separately, allowing insurers to decide whether and how to cover unmanned aircraft liability independent of how other aircraft exposures are treated. Exclusionary endorsements can be used to remove all coverage for bodily injury and property damage or can separately exclude coverage for personal injury (such as invasion of privacy) and advertising injury caused by drone use.

FIRMS HAVE TO RECOGNIZE PROFESSIONAL AND BUSINESS EXPOSURES

There are many scenarios where a professional service firm operating a drone or directing its use by a subcontractor could find itself liable for harm. In some cases, this liability would be considered a professional liability risk, but in many situations the liability is a business risk. Examples include:

Claims Scenario 1: If an architecture firm uses a drone to photograph what the sightlines from the 20-story apartment planned for construction will be, and the view is improperly selected so the tenant sues the developer for false advertising and the developer sues the architect who misdirected the drone's camera, a professional liability exposure could result. If that same drone invades the privacy of an apartment dweller in a near-by building while attempting to photograph the site line, such a personal injury to the apartment dweller probably would not be considered a professional exposure.

Claims Scenario 2: If a civil engineering firm uses a drone to assist in performing an inspection of a bridge and the firm misdirects the drone so that it does not capture detailed information on one section of the bridge, thus not providing an appropriate view for the interpretation of the engineer, that missing interpretation could be a professional liability exposure. If the camera fails to operate properly and information is missing or if the drone crashes into a pedestrian causing a bodily injury, those technological failings are not wrongful acts in the performance of professional services and should not trigger professional liability insurance coverage.

Claims Scenario 3: If a construction manager is using a drone to evaluate construction on a project and fails to recognize improper placement of flashing, debris on a roof membrane, or a missing guard rail that results in a worker injury, that could be professional negligence because of the missed interpretation of the information provided by the construction manager's observation tool—the drone.

Alternatively, insurers can include coverage for one or both of these exposures for designated drones when used at specified locations identified in advance. The schedules can be used to stipulate coverage only for specific unmanned aircraft at specific projects, or for broader categories such as "unmanned aircraft weighing less than 10 pounds" as negotiated with the underwriter. Firms that are anticipating the legal use of drones should check with their brokers about their general liability coverage and the ISO endorsements. Firms that subcontract for

drone operation services should make sure that the firm operating the drone has appropriate coverage for the physical damages a drone could cause, coverage for personal injury claims such as invasion of privacy, and contractually agrees to stand behind its services. Also, the firm should check its general liability coverage and its management liability coverage so that it is not held responsible for imputed negligence or negligence in the selection and management of a drone operator who does not have appropriate coverage.

Unless a professional services firm is either directly or vicariously liable for the actual operation of the drone, the risk can be limited, but it certainly does not disappear. Obviously, a design professional directing the flight of the drone (even if not operating the drone) could result in direct liability for problems ranging from invasion of privacy to collisions. Subcontracted drone services should be carefully negotiated. A suggested subcontract between a design firm and a drone operator can be found on page 5.

Firms Need to Manage the Risk of “Too Much Information”

The greatest source of professional liability exposure could be the contractual exposure of the design firm for monitoring or evaluating the live or recorded images produced by the drone. A real-time feed or a recording of a flyover is likely to result in additional exposure because of an inferred duty to examine in detail all the information available from the drone. Design firms must be specific in their contracts as to their scope of responsibilities in any preliminary study or site-monitoring effort. If the drone is being used to gather information for the planning of a project or other survey uses, such as the identification of site conditions or the creation of documentation of an existing structure, the firm should agree with the client as to appropriate use and detrimental reliance on the drone-obtained information. Still photos from video feeds might be a prudent limitation on the scope of risk that could be created by the drone’s omnipresence.

Unless a firm has the necessary staffing and skill set and is being compensated for real-time or other monitoring of the drone video feed, the firm needs to clearly outline, and usually disclaim, any responsibility to determine if the drone indicates whether or not the project is being constructed in conformance with the contract documents for the project.

The exposure could be limited if the firm contractually agrees to examine only still photography—either directly taken by the drone or pulled from a video feed—that is requested by the firm to allow it to carry out its contractual duty of evaluating the work of the contractor. In compliance with a firm’s document retention policy, unrequested or unused information, such as the recording of a video feed, could then be discarded to avoid future attempts to place responsibility on the design firm beyond its contractual obligations. If, however, a client simply provides the design firm with drone-produced information during the construction process that the client obtains for its own purposes, the firm should respond appropriately. It could either indicate that it has no reason to review the information and return it to the client or suggest to the client that the extra-contractual duty of examining information from the drone would be conducted, but only when there is compensation for the additional services and only on a limited basis for a specific purpose.

Drone usage will not change the professional liability of design firms unless the standard of care evolves to require the use of drones and the evaluation of the abundant information they capture. Professional service firms can increase their contractual liability to a client or to others if the firms affirmatively take on responsibility. They can set up unrealistic expectations from their use of drone information. They can assume responsibility if the use of drone-provided information is not clearly defined by contract. And, if they ignore contractual provisions that spread or shift liability to others requiring drone use or actually conducting the drone flights, they can be held responsible for their vicarious or coordination liability. For firms to expand their services by incorporating the use of drones as a tool to perform their professional duties, they need to be aware of the regulations and risks basic to the use of unmanned aerial systems.

Prior to the publication of the FAA’s final rules, Victor had Michael J. Corso, of the law firm of Henderson, Franklin, Starnes & Holt, P.A., present a paper on drone developments at Victor’s Annual Meeting of Invited Attorneys (now known as the Design Industry Risk Management Summit), a continuing education program for defense counsel. In it, Corso suggested a standard subcontract for employing a licensed drone operator. With his permission, Victor is providing the subcontract on page 5 for consideration by firms and their legal counsel.

OWNERSHIP OF DOCUMENTS

SUBCONSULTANT AGREEMENT ATTACHMENT “ _____ ” UAS ADDENDUM

The following terms are applicable to SUBCONSULTANT SERVICES that require use of an unmanned aerial system (“UAS”), including an unmanned aerial vehicle (“UAV”):

1. INSURANCE: In addition to the insurance specified in the Subconsultant Agreement or other form of agreement between (your name) and SUBCONSULTANT (“Agreement”), SUBCONSULTANT shall carry aircraft liability insurance or an equivalent UAS insurance policy covering loss or damage to the UAS (hull coverage), and liability arising from property damage or bodily injury to third parties, with limits of liability of no less than \$_____ Million per claim and in the aggregate. All other requirements applicable to SUBCONSULTANT’s general liability policies required in the Agreement shall apply equally to this policy.

2. INDEMNITY: In addition to the indemnity contained in the Agreement, SUBCONSULTANT shall, to the fullest extent permitted by law, indemnify, defend and hold (your name) (including their officers, directors and employees) thereof and the CLIENT (including their officers, directors and employees) thereof harmless from and against all claims, losses, damages, costs (including legal costs), actions and other proceedings made, sustained, brought or prosecuted in any manner (collectively “liability”) based upon, occasioned by or attributable to any personal injury, property damage, claim of trespass or invasion of privacy, violations of law, or regulatory fines levied, arising from operation of the UAS, excepting liability caused by the sole negligence of (your name) or the CLIENT.

3. WARRANTY AND PERMITS: SUBCONSULTANT warrants that it has obtained all permits or exemptions required by law to operate any UAS included in the SERVICES, and that its operators have completed the training, certifications and licensure as required by the applicable jurisdiction in which the UAV will be operated.

SUBCONSULTANT, prior to commencing any SERVICES under this Agreement which involve operation of a UAS, shall provide documentation to (your name) of legal operation of the UAS, including, to the extent applicable by law; a copy of the permit or exemption to operate the UAS(s); copy of operator licenses and certifications; and certificate(s) of authorization for required flight paths or special flight operating certificate (or related applicable government exemption for the foregoing).

The foregoing shall be in addition to all other terms and conditions of the Agreement.

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