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FAA Proposes Framework of Regulations For Small-Scale Commercial Drones

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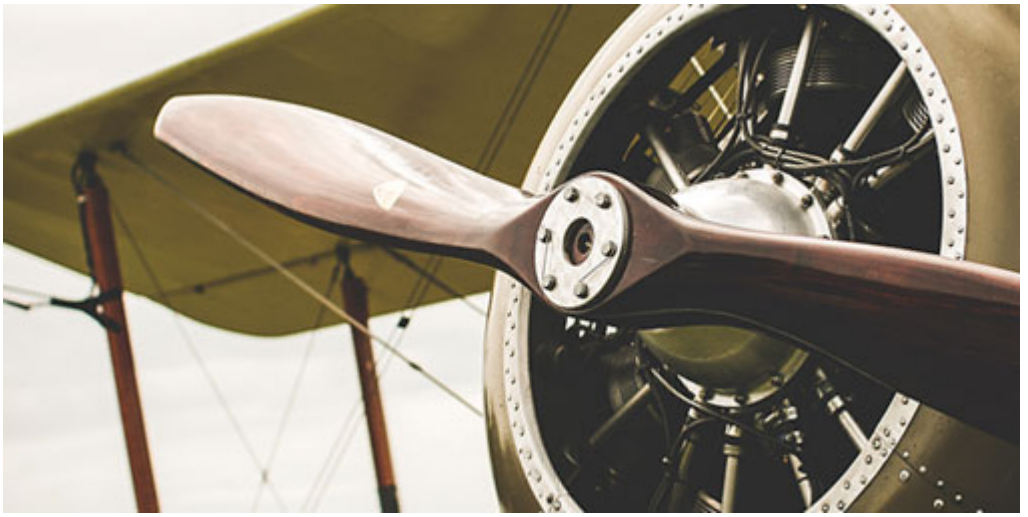

On Feb. 15 the Federal Aviation Administration released its long-awaited proposed framework for regulating small-scale commercial drones, which weigh less than 55 pounds.1 In its proposal, the FAA made explicitly clear that it views this framework as a first step in a larger scheme of regulations that will come over the next couple of years and that could touch on everything from micro-drones, larger commercial drones and possibly even the design and manufacture of recreational drones. This framework follows a patchwork of individual exceptions, including those for construction companies looking to monitor construction sites. The FAA is allowing comments on the proposal until April 24. **The Proposal: An Overview** The most important portion of the proposal is the limits that it would place on the operation of commercial drones. Some of the relevant provisions of the proposed rules are that they:

- Apply to drones that weigh less than 55 pounds.
- Require unaided visual line-of-sight operations.
- Allow daylight-only operations (from official sunrise to official sunset).

- Limit that no person may act as an operator for more than one drone at a time.

According to the FAA, the purpose of developing only a regulatory framework is to allow the commercial operation of small drones to start in a timely manner while accommodating the technological developments that are occurring in the industry at break-neck speeds. Drones weighing less than 55 pounds are viewed as posing the lowest risk. The FAA determined that allowing this size of drone to move forward into the national airspace system should not endanger the rest of the system. In addition, in the proposal, the FAA extensively discussed the possibility of even more flexibility for micro-drones (those weighing less than 4.4 pounds) and asked for comment on whether this classification should be included in the final rule. The proposed regulations follow months of speculation and a congressional mandate. Specifically, the FAA has been seeking to implement regulations allowing for the incorporation of small-scale drones into the national airspace system since 2008. Then, in 2012, Congress passed the FAA Modernization and Reform Act of 2012, which, among other things, directed the secretary of the Department of Transportation to determine whether drone operations that pose the least threat to the public, national security and the national airspace system could be safely operated. In addition, if the secretary was able to make this determination, he was required to establish the regulations to implement these low-risk drones before completing a comprehensive set of regulations for all commercial drones. **Visual Line-Of-Sight Requirement**

Of particular importance is that the proposed regulations would require an operator to have unaided visual line of sight of the drone at all times. Although the regulations would allow for a visual observer to *assist* the operator, the FAA has explicitly made clear that the proposed regulation prohibits a sort of "daisy-chain formation," or relay system, in which the operator can pass the drone off to different visual observers in order to expand its range. Thus, it is clear that a visual observer may be used to assist the operator, but the visual observer may not *take the place* of an operator for the visual line-of-sight requirement. The purpose of the visual line-of-sight requirement is to make sure that drone operations comply with current FAA regulations requiring a maintenance of vigilance "so as to see and avoid other aircraft." This requirement is also known simply as "see and avoid." Whereas an on-board pilot on manned aircraft meets the see-and-avoid requirement, this is not possible with a drone. Though some people had proposed that a first-person camera on-board the drone would satisfy this requirement, the FAA's proposal disagrees. The FAA notes that the current types of technology that could help to meet the see-and-avoid requirement are too cumbersome and heavy for use on-board small-scale drones. However, in the proposal, the FAA's language suggests that it could readdress this point in future regulation, particularly if ground-based radar and aircraft sensors capable of detecting reply signals of other aircraft in close proximity advance to the point that they could feasibly be utilized on commercial drones. **The Proposal: Operator Requirements**

The FAA also proposed requirements and certification for drone pilots. A careful review of the proposed regulations indicates that the FAA may have been hesitant about these requirements, but since drones fit within the statutory definition of "air commerce," drones are technically covered by a statutory scheme requiring registration of the aircraft, airworthiness certification and certification of

the airman operating the aircraft. Under the FAA's proposal, drone pilots would be called "operators" and would be required to:

- Pass an FAA-prepared test and the Transportation Security Administration's vetting.
- Obtain a drone operator certificate (which would never expire).
- Pass a recurring knowledge test every four months.
- Be at least 17 years old.

The Proposal: Drone Requirements

The FAA did not propose any requirements regarding FAA certification of airworthiness of the drones themselves. However, it did propose a requirement that drones be registered with the FAA, as well as a requirement that drones to be marked in the same manner as all other aircraft, with the markings displayed in the largest practicable manner possible. These markings include information such as the model designation, the serial number, any applicable certificate numbers and any applicable ratings. In its proposal, the FAA noted that it currently takes approximately three to five years before an aircraft obtains a certificate of airworthiness. When dealing with rapidly advancing forms of technology such as drones, this process would have the function of preventing the newest technological advancements from being used commercially until after a long delay. It seems the FAA did not want to impose such a requirement. **The Proposal: Its Prospective Applications**

For many industries, the FAA's action brings a welcome sigh of relief. Until this point, an individual company could only approve the operation of commercial drones by gaining a specific approval from the FAA. This was done through various mechanisms, including special airworthiness certificates, exemptions and certificates of waiver or authorization. The FAA has only issued a few dozen exemptions from the current regulatory framework, which forbids commercial use of drones. Industries covered by these exemptions include construction, real estate, oil and film. In the proposal, the FAA indicated that it envisions an opportunity to substitute small-scale commercial operations for higher-risk manned flights in activities such as inspecting towers, bridges or other structures. The use of drones could reduce the potential of fatalities and injuries among inspectors and damage to the aircraft that are currently being used for these very high-risk activities. Since the FAA does not feel that it has sufficient data to consider these costs and benefits at this time, it expressly invited persons who are commenting on the proposal to provide it with these data for consideration. The FAA listed the following prospective uses for small-scale commercial drones under the proposed regulations:

- Crop monitoring and inspection.
- Research and development.
- Education.

- Power line and pipeline inspection in hilly or mountainous terrain.
- Antenna inspections.
- Assistance with certain rescue operations, such as locating snow avalanche victims.
- Bridge inspections.
- Aerial photography.
- Evaluations of wildlife nesting areas.

There is extensive potential for the use of commercial drones, far and beyond those listed by the FAA in its proposal. One need only look at the exemptions granted by the FAA to this point and the companies that have been using drones, without exemptions, prior to the proposed regulations. For instance, the author of a Feb. 19 Wall Street Journal article reported that these companies had been doing so through a variety of methods, including claiming that they were testing the devices or outsourcing the drone operations to companies seizing upon perceived loopholes in the current system. The broad swath of industries already using drones indicates just how prominent the use of drones may be once regulations are finalized. In fact, the FAA projects that 30,000 drones will be in operation by 2030, though many of these drones may be larger-scale devices. **The Proposal: Just That — A Proposal**

It is important to note that the FAA's proposed rules are only that — a proposal. After it receives comments at the end of April, the FAA may still take a few months to issue final rules. In addition, the FAA's proposal is limited to small-scale commercial drones that weigh less than 55 pounds; this leaves much of the potential market still to be regulated. However, the FAA indicated that it will continue working to integrate drones that pose greater amounts of risk into the national airspace system in time. This shows that although this proposal is a much-needed step, it is only a first step that may be followed by many more. **Conclusion**

The FAA proposal signals a boon to the projected multibillion-dollar drone industry and the developments that will come with it. For instance, insurance companies may opt to develop specialty products to cover drone usage, much in the way that aviation insurance is highly specialized. Many institutions that train commercial pilots may decide to create programs that will help operators achieve their certification. Cybersecurity firms may be able to develop products that will protect drones from potential hacks and hijackings. The opportunities are endless. Many of the drones that will be in the air by the time that the entire regulatory framework is in place have not even been envisioned yet. It may be years before the entire regulatory framework is in place, but the FAA's progress with this rulemaking is vital to allowing the drone technology and industry to continue to develop in the United States.

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