

New Drone Rules Show FAA Is Listening To The Industry

By **Jared Greenberg and Andrew Blythe** (February 4, 2021, 5:15 PM EST)

On Dec. 28, 2020, the Federal Aviation Administration released final rules regarding both the remote identification of unmanned aircraft and operations at night, over people and over moving vehicles. These rules were published in the Federal Register on Jan. 15.

The rules require that certain drones broadcast their identification and location during operation, and allow for commercial operations at night, over people and over moving vehicles under certain circumstances. The final rules demonstrate the FAA's attempt to balance the competing interest in the federal airspace between commercial operators, hobbyists, law enforcement and the general public.

This policy development is promising for the future of the commercial drone industry. It demonstrates that drone regulations are not static, but advancing, based on feedback and technology.

The FAA received significant feedback on the remote ID rules following its initial Dec. 31, 2019, notice of proposed rulemaking — with over 53,000 comments from manufacturers, organizations, state and local governments, and a significant number of individual recreational pilots.

In a departure from the original proposal, under the final rule, drones must broadcast the required remote ID information "using radio frequency spectrum compatible with personal wireless devices," rather than over the internet to a third-party service provider. The FAA received substantial feedback that internet connectivity would be expensive, and would require additional hardware and a data plan from a wireless carrier.

An internet-based remote ID system would also be inaccessible to pilots flying in locations without consistent wireless coverage. By requiring drones to broadcast over ranges that can be received by cell phones, the FAA has ensured that members of law enforcement and the general public will be able to receive the broadcasts and determine flight information about drones flying in their vicinity, without special receiving technology.

Under the remote ID rules, three types of drones are permitted: (1) drones using so-called standard remote ID technology; (2) drones retrofitted with broadcast modules; and (3) drones without remote ID



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operating recreationally in specified areas. The rules include an exception for drones weighing less than 0.55 pounds (250 grams), which are not subject to the remote ID rules if flown recreationally.

The primary form of compliance with the new rules is through the use of standard remote ID. This technology is built into a drone at the time of manufacturing, and tested for compliance via FAA-approved methods.

Standard remote ID requires the most robust broadcast, which includes the locations of both the drone and its operator, along with certain flight parameters, a unique ID assigned to the drone and registered by the operator, and an emergency status indication. Additionally, standard remote ID drones must be configured to prevent takeoff if the remote ID equipment is not functional.

The second form of compliance involves the installation on a drone of a remote ID broadcast module. Such modules allow drones not manufactured with standard remote ID — including those currently in use — to comply with the remote ID rules. A broadcast module's transmissions are similar to those of a standard remote ID drone, except that it broadcasts the takeoff location rather than the location of the operator, is not required to send an emergency status indication, and need not prevent the drone from taking off if the module is not functional.

A key difference between standard remote ID drones and those fitted with a remote ID broadcast module is that the latter are expressly limited to operation within visual line of sight. Thus, only standard remote ID drones will be compatible with any future rules authorizing operation beyond visual line of sight. Manufacturers must meet the remote ID standard in their production of drones starting on Sept. 16, 2022, and restrictions on operation take effect on Sept. 16, 2023.

Lastly, the new rules create FAA-recognized identification areas, or FRIAs, in which drones can be operated recreationally without complying with the remote ID rules. FRIAs are fixed locations where drones can be flown safely, thus preserving minimally regulated operations at hobbyist airfields, such as those maintained by the Academy of Model Aeronautics. In a departure from the rules in the notice of proposed rulemaking, potential FRIA applicants were expanded from community-based organizations to include educational institutions.

One challenge the commercial drone industry has faced is resistance by those concerned that drones will be operated in an unprofessional manner, or used by malicious individuals to obtain data for nefarious purposes. Law enforcement and government agencies have also shared concerns related to illegal operations, such as interference with manned aircraft.

The remote ID rules will help address those concerns, by allowing these organizations to identify the drone owner, or determine if the drone is not equipped with remote ID and not legally operating. Addressing these concerns will minimize some of the resistance the industry has faced.

Further, remote ID helps lay a foundation for an ecosystem in which tens of thousands of drones operate autonomously, beyond visual line of sight, on a daily basis. Although the current rules and technology will develop, transmitting basic identification and location information will be a pillar of future large-scale autonomous operations. These rules are only one step in a path to an integrated regime for regulating a rapidly growing body of unmanned aeronautical operations.

In addition to remote ID rules, the FAA also recently released final rules impacting drone operations at night, over people and over moving vehicles. Prior to these rules, commercial drone operations under

Part 107 of the FAA regulations could only proceed at night, or over people or moving vehicles if the operator obtained waivers from the FAA. This significantly hampered the types of commercial operations readily available.

In early 2019, the FAA and the U.S. Department of Transportation shared a notice of proposed rulemaking that suggested alterations to Part 107, to make operation of small unmanned aircraft over people and at night legal, under certain circumstances, without a waiver. On Jan. 15, the final rule was published in the Federal Register, and it will become effective on Sept. 16.

The new rule permits commercial drone operations over people under certain conditions based on four categories of drones operating under Part 107. Category one is the most lenient category, and is based on the weight of the drone — under 0.55 pounds — and cannot have any exposed rotating parts that would cause lacerations.

Due to the weight restrictions, drones in this category will most likely initially be limited to photography and videography. But manufacturers may innovate lightweight sensors to allow for expanded operations within category one.

Categories two and three cover drones greater than 0.55 pounds and less than 55 pounds. These categories allow drones to be flown over people only if the manufacturer has proven that a resulting injury to a person would be under a specified severity threshold.

Category two aircraft will need to demonstrate a certain injury threshold, and category three aircraft will have a higher injury threshold with additional operating limitations. Category three drones can only operate over people (1) in a restricted access site in which all individuals on the ground have notice, or (2) without maintaining any sustained flight over people unless they are participating in the operations or protected by a structure.

The new rules also created a fourth category that was not included under the proposed rules. The rules for this category state that specific drones for which the FAA has issued an airworthiness certificate under Part 21 can conduct operations over people unless prohibited under their operating limitations. Category one, two and four drones must be compliant with remote ID rules to have sustained flight over open-air assemblies, but category three drones may never operate over open-air assemblies.

Although the proposed rule did not allow operations over moving vehicles, the final rule does allow such operations under two circumstances: (1) if in a restricted access site and the people in the vehicle are on notice, and (2) when the drone does not maintain sustained flight over moving vehicles. This addition is a welcome change for all drone operators who no longer have to cancel, delay or change an operation due to an unexpected vehicle or nearby traffic.

The rule also allows operations at night under two conditions: (1) The remote pilot in command must complete an updated initial knowledge test or online recurrent training, and (2) the drone must have proper anti-collision lighting that is visible for at least three statute miles. This, too, is a welcome change for operators, and removes the need for nighttime waivers and the delays associated with obtaining such waivers.

The Part 107 changes are steps in the right direction for increased commercial use of drones. Clearance for operating over people, moving vehicles and at night expands the applications and timing available to commercial operators. The additions to the proposed rules — such as operations over moving vehicles

— are an indication that the FAA is listening to the drone community and working to advance this industry.

The new rules do not address some of the most challenging legal issues that remain for the commercial drone industry, such as the ownership and control of low altitude airspace. Clarity on this vital issue will likely take years, and be decided by the federal courts. While the FAA claims it controls the airspace from the ground up, many local governments and property owners do not agree with the FAA's interpretation.

The starting point of federal airspace has many implications for the commercial drone industry. To date, this boundary has not been directly addressed by a court in the context of drones. The closest that federal courts have come to addressing this issue was in July 2016, when U.S. District Judge Jeffrey Meyer, of the U.S. District Court for the District of Connecticut, provided dicta in his opinion in *Huerta v. Haughwout*.

In that case, Judge Meyer questioned the FAA's position: "[T]he FAA believes it has regulatory sovereignty over every cubic inch of outdoor air in the United States [T]hat ambition may be difficult to reconcile with the terms of the FAA's statute that refer to 'navigable airspace.'" The dicta addressed the question of where the FAA's authority begins, but noted that the "case does not yet require an answer to that question."

In time, a case will require such an answer. This legal uncertainty remains one of the most significant barriers to large-scale commercial operations.

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