

14 CFR Part 91 - Interpretation of the Special Rule for Model Aircraft; Final Rule

Docket No. FAA-2014-0396

79 Fed. Reg. 36172 (June 25, 2014)

Comments by Modovolate Aviation, LLC

Comments submitted electronically via Federal eRulemaking Portal,
<http://www.regulations.gov>

Introduction and summary

This comment supports the FAA's position that flight of model aircraft by FPV imagery – through goggles or flat-panel displays--presents unacceptable safety hazards to the National Airspace System..

The comment begins by explaining the interests of the commenter. It then argues that the present regulatory regime that distinguishes small Unmanned Aircraft Systems (“sUAS” or “microdrone”) operation for hobbyist purposes from operation for commercial purposes is not a viable approach to integrating microdrones into the National Airspace System (“NAS”), and that the FAA instead should issue a Notice of Proposed Rulemaking (“NPRM”) to regulate microdrones as consumer products by requiring them to incorporate technological limitations on their flight profiles.

Interests of the commenter

Modovolate Aviation, LLC (the “LLC” or “Movo Aviation”), is an Illinois limited liability company organized for the purpose of conducting microdrone research, experimentation, demonstration, and education. Modovolate Aviation, LLC, also is known as “Movo Aviation.”

The opportunities available to the LCC are extensive if it were allowed legally to engage in these activities in a commercial context. The LLC has the capability within its resources to contract with customers to operate commercial microdrones for demonstration purposes in a variety of practical mission environments. Because of legal

uncertainty in the absence of regulations or an NPRM from the FAA, the LLC is at a significant competitive disadvantage because of its knowledge of and commitment to comply with the Federal Aviation Rules.

Movo Aviation has applied for a Special Airworthiness Certificate under FAA Order 8130.34C. Even if the certificate is granted, however, the conditions imposed under such certificates will not allow Movo Aviation the flexibility to explore a wide range of potentially useful commercial applications of microdrones. Promulgation of a general rule for microdrone operation would enhance Movo Aviation's opportunities to pursue its business strategy.

The LLC was formed and is jointly owned by Henry H. Perritt, Jr. and Eliot O. Sprague.

Henry H. Perritt, Jr., the Managing Member of Movo Aviation, is a law professor and former dean at Chicago-Kent College of Law, the law school of Illinois Institute of Technology. Holding a bachelor of science degree in aeronautics and astronautics from MIT, a master of science degree in management from MIT's Sloan School, and a juris doctor degree from Georgetown University Law Center, Mr. Perritt has written dozens of law review articles and several books on how the law should adapt to technological innovation. He also is an expert on the federal regulatory process, having written many articles on the subject, having served as an official in the federal wage and price control program, as a member of the White House Staff, and as Deputy Under Secretary of Labor. As a consultant to the Administrative Conference of the United States he wrote reports on, among other things, the utility of negotiated rulemaking, in which affected interests and regulatory agencies collaborate in developing the content of new rules, and on the process for adjudicating civil penalties under the Federal Aviation Act. He is a private helicopter and airplane pilot.

Eliot O. Sprague is Director of Operations and Chief Pilot of Movo Aviation. He is a full-time news helicopter pilot, helicopter flight instructor, director of market development for a Chicago-area on-demand commercial helicopter operator, and a member of the board of directors of Midwest Helicopter Association. A graduate of Hillsboro flight school, he is intimately familiar with commercial aviation and familiar with the threats that unregulated microdrone flight present to the safety of himself, his coworkers, his passengers, and to persons and property on the ground. He holds

commercial helicopter and airplane, instrument helicopter, commercial flight instructor-rotary wing, and commercial flight instructor – instrument-rotary wing ratings.

Comment

We support the FAA's position that flight of model aircraft by FPV imagery – through goggles or flat-panel displays--presents unacceptable safety hazards to the National Airspace System. Many videos on YouTube illustrate model aircraft operators using this technology to fly model aircraft far beyond the operator's line of sight and far above 400 feet. See <http://www.youtube.com/watch?v=ar2lUhrFkLM> (video of FPV flight at 2,000 feet, 5 miles from operator); <http://www.youtube.com/watch?v=hpr7QXXw6OE> (showing FPV flight inside volcano in Hawaii); <http://www.youtube.com/watch?v=yAoSHxzEcT4> (showing Phantom 2 Vision flight above clouds).

We are concerned, however, that this prohibition, like the current prohibition on flight of similar vehicles for commercial purposes, is unenforceable as a practical matter. Small unmanned aircraft systems (sUAS), unlike traditional manned aircraft and helicopters that the FAA is experienced in regulating, are consumer products. They are available for a few hundred dollars from Amazon.com and other e-commerce vendors and are being sold by the hundreds or thousands to persons with no previous connection to the aviation community.

For these new purchasers, the traditional desire to protect operating certificates and airmen certificates and the safety culture of the aviation community, reinforced through rigorous training, are altogether absent. Non-compliance with traditional aircraft certification, airmen certification, and operating rules already is a serious problem, and it is getting worse.

Flights of these vehicles does not take place at airports or at places where model aircraft enthusiasts congregate. The multi-copter configurations do not require runways and can take off and land in anyone's backyard. The FAA will never have sufficient enforcement resources to monitor all the places where operations are likely. While state and local law-enforcement cooperation might be enlisted to enforce a ban on unsafe operation, the decentralized nature of state or local law enforcement makes the degree of cooperation and the level of resources that would be deployed in support of cooperation uncertain at best. Detecting violations and identifying violators is far more

difficult in the new context that in enforcing traditional aviation regulations or automobile safety regulations.

In addition, making the applicable regulatory regime turn on whether the same vehicle is operated for hobbyist or commercial purposes is unsustainable. The boundary between the two is vague, and the distinction largely arbitrary. To be sure, the 2012 statute prohibits the FAA from regulating model aircraft flown for hobbyist purposes, as the FAA's notice and request for comment explains. The difficulties in drawing a distinction between hobbyist and commercial objectives can be avoided through the proposed approach, because the limitations it imposes on model aircraft are outside the scope of the Congressional prohibition. In other words, the limitations would enforce the status of marketable aircraft as model aircraft, excluding their becoming something else.

To realize its statutorily mandated goal of promoting safety in air commerce, the FAA must take a different approach, not only with respect to model aircraft, but also with respect to all sUAS.

This new, more sustainable, approach would build on the success of agencies such as the Federal Communications Commission, the Consumer Product Safety Commission, and the National Highway Traffic Safety administration in regulating consumer products by prohibiting their sale unless they incorporate certain technological features. The FAA should prohibit the sale or lease of sUAS that do not have certain limitations built into them.

Proposed contents of the rule

The FAA should promulgate the following rule:

14 C.F.R. Aeronautics and Space

Subchapter C

Part 50

§ 50.101 Marketing of small Unmanned Aircraft Systems.

(a) Except as provided elsewhere in this section, no person shall sell or lease, or offer for sale or lease (including advertising for sale or lease), or import, ship, or distribute for the

purpose of selling or leasing or offering for sale or lease, any small Unmanned Aircraft System unless the System complies with the technical standards of subsection (b) and also complies with all applicable administrative (including verification of the equipment or authorization under a Declaration of Conformity, where required), technical, labelling and identification requirements specified in this chapter.

(b) Performance requirements

Each small Unmanned Aircraft System must have these limitations programmed into it, beyond the control of the operator to override the limitations:

- (1) Restricting flight to heights no greater than 400 feet above the surface;*
- (2) Restricting flight to horizontal distances no greater than 1,500 feet from the ground control station;*
- (3) Excluding flight in Class B, C, or D airspace; and*
- (4) Ensuring that the flight vehicle autonomously returns to its launching point if the control link is lost*

Justification

Implementation of this rule would not require the development of new technology; the technology already is available, and is offered in many of the products now on sale: autonomous hover, range and height limitations, exclusions from controlled airspace, and autonomous return to home. The latest version of the popular CJI Phantom 2 Vision Plus, for example, advertises a built-in range-limitation feature: “Exceeding the control range of the remote control will trigger ‘Return-to-Home’. The Phantom 2 Vision+ will automatically fly back to its takeoff point and land safely.”
<http://www.dji.com/product/phantom-2-vision-plus/feature>.

There may be concerns that the FAA lacks the statutory authority to prohibit the sale or lease of aircraft. The FAA's traditional approach to regulation has always addressed the use of aircraft *after* they have been sold.

Three approaches can mitigate this concern about statutory authority. The first is to craft an appropriate interpretation of the FAA's current statutory authority. The second approach would involve an agency request to the Congress that it be given

unambiguous authority to adopt the suggested rule. The third approach, not as dependent on congressional priorities, would involve a joint effort by the FAA and the Consumer Product Safety Commission to implement the proposal. The Consumer Product Safety Commission would use its undeniable authority to regulate the sale of consumer products to prohibit sale or lease of sUAS or model aircraft that do not meet FAA-promulgated standards for safe operation.

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