wiley

ALERT

FAA Releases Long-Anticipated Unmanned Aircraft System Rulemakings

January 15, 2019

On January 14, 2019, the Federal Aviation Administration (FAA) published a draft Notice of Proposed Rulemaking (draft NPRM) on the Operation of Small Unmanned Aircraft Systems over People and a draft advanced NPRM (draft ANPRM) on the Safe and Secure Operations of Small Unmanned Aircraft Systems. Comment deadlines for these proceedings will be announced when they are published in the Federal Register. The NPRM proposes rules that expand current regulations to enable commercial UAS operations:

(i) over people, with increasingly strict requirements depending on the risk of harm posed by the aircraft; and

(ii) at night, subject to pilot training and aircraft lighting requirements.

The ANPRM seeks input on a variety of issues aimed at "reducing risks to public safety and national security" associated with increased UAS operations in the national airspace.

A. Background

These documents are part of the FAA's broader strategy to integrate UAS into the national airspace through incremental rulemaking. In 2016, the FAA first authorized widespread commercial use of UAS through the adoption of its Part 107 rules.[1] Although commercial UAS operators can use Part 107 to conduct UAS operations without prior FAA approval, these operations are subject to significant limitations, including prohibitions on operations over people, night time operations, operations beyond visual line of sight, and simultaneous operation of multiple UAS, among others. While the FAA continues to expand operator flexibility through additional

Authors

Joshua S. Turner
Partner
202.719.4807
jturner@wiley.law

Sara M. Baxenberg
Partner
202.719.3755
sbaxenberg@wiley.law

Practice Areas

Telecom, Media & Technology
Uncrewed Aircraft Systems (UAS)

rulemakings, operators may obtain relief from many Part 107 limitations through an online waiver process.

The FAA first endeavored to publish an NPRM on flights over people in January 2017, but the publication was delayed following concerns raised by security stakeholders regarding a need for the ability to remotely identify UAS in flight (Remote ID).

B. Draft NPRM: The Operation of Small Unmanned Aircraft Systems Over People

The draft NPRM proposes to amend Part 107 of the FAA's rules to permit unmanned aircraft systems (UAS) operations over people and at night without first obtaining a waiver, under certain conditions. However, the FAA makes clear that it continues to view Remote ID as a necessary precursor to regulations permitting expanded UAS use. Specifically, "the FAA plans to finalize its policy concerning remote identification of small UAS—by way of rulemaking, standards development, or other activities that other federal agencies may propose—prior to finalizing the proposed changes in this rule that would permit operations of small UAS over people and operations at night."

The draft NPRM—building off of the 2016 report and recommendations of the Micro UAS Aviation Rulemaking Committee (ARC)—proposes a three-tier framework of categories for permissible UAS operations. Category 1 is the most permissive, applying only existing Section 107 requirements. Category 2—which authorizes larger UAS than Category 1—requires UAS to meet three "performance-based" requirements, designed to limit damage in the event of a collision with a person. Category 3 covers UAS that have the potential of causing more damage in the event of a collision than those in Category 2. For Category 3 UAS, operators must comply with strict operational limitations over people which are designed to manage the increased risk of injury from Category 3 UAS. The specific requirements for each category are discussed below.

Category 1 would simply allow operators to fly UAS weighing 0.55 pounds or less over people.

Category 2 would allow the operation of UAS weighing more than 0.55 pounds over people if (1) the aircraft, upon impact with a person, would "not result in an injury as severe as the injury that would result from a transfer of 11 ft-lbs of kinetic energy from a rigid object"; (2) the aircraft does not have exposed rotating parts that could lacerate human skin; and (3) the aircraft does not have an FAA-identified safety defect "that presents more than a low probability of causing a *casualty* when operating over people."

Category 3 would allow the operation of UAS weighing more than 0.55 pounds over people if (1) the aircraft, upon impact with a person, would not result in an injury as severe as the injury that would result from a transfer of 25 ft-lbs of kinetic energy from a rigid object; (2) the aircraft does not have exposed rotating parts that could lacerate human skin; (3) the aircraft does not have an FAA-identified safety defect that presents "more than a low probability of causing a *fatality* when operating over people"; (4) the operation does not occur over any open-air assembly of people; and (5)(a) the operations are limited to a closed site and everyone in the site is notified that a small UAS may fly over him or her; *or* (b) for operations outside of a closed site, the UAS would transit but not hover over people.

Manufacturers will be required to demonstrate, to the FAA's satisfaction, that their aircraft meets the proposed requirements for Category 2 or 3 operations. The FAA will issue a Public Notice once it accepts a manufacturer's "Means of Compliance." Among other requirements, manufacturers also will have to provide remote pilot operating instructions addressing the types of permissible payloads and other information regarding eligibility of operating in accordance with Category 2 or 3 operations.

The FAA further proposes that UAS operated under any category would be subject to the existing requirements of Part 107, and all UAS would be prohibited from operating over people in moving vehicles. The FAA also proposes allowing UAS operations at night by a remote pilot if the remote pilot has completed all training requirements and the UAS contains an anti-collision light that is visible for 3 statute miles.[2] The draft NPRM further proposes to retain and expand upon the existing waiver system. To ensure compliance with its new proposals, the FAA proposes various procedures such as updating knowledge and training requirements.

The draft NPRM contains a detailed overview of the FAA's major proposed regulations, which is included as Table 1 at the end of this alert.

C. Draft ANPRM: The Safe and Secure Operations of Small Unmanned Aircraft Systems

In addition to the draft NPRM, the FAA also released a draft ANPRM "intended to gather information from the public to help inform the FAA's efforts to assess options for reducing risks to public safety and national security associated with further integration of UAS into the" National Airspace System (NAS). In particular, the draft ANPRM would seek comment on the following areas:

- Stand-off distances (i.e., "the amount of space between a small UAS and the closest person or object");
- Altitude, airspeed, and other performance limitations;
- Unmanned traffic management (UTM) operations (i.e., increasing structure and communications in the airspace);
- Payload restrictions;
- Small UAS critical system design requirements, including redundancy;
- A variety of administrative consultation requirements relevant to future rulemakings, including cost-benefit factors, effect on small businesses, and environmental impacts.

For further information on these issues, please contact any of the following authors listed on this alert.

Boyd Garriott, a Law Clerk in Wiley Rein's Telecom, Media, and Technology practice, contributed to this alert.

Table 1: Summary of Major Provisions in the NPRM

Issue

Proposed Regulation

Presentation of Certificate and Identification

Remote pilots in command must present their remote pilot certificate as well as identification to certain Federal, State, or local officials, upon request.

14 CFR 107.7(a)

Operations at Night

A remote pilot in command may operate a small UAS at night as long as: 1) The remote pilot has satisfactorily completed updated knowledge testing or training requirements; and 2) The small unmanned aircraft maintains an anti-collision light that remains lit throughout the flight.

14 CFR 107.29

Prohibition on Operation over Moving Vehicles

No operations over people located in moving vehicles.

14 CFR 107.105

Category 1 Remote Pilot Requirements

Ensure aircraft weighs 0.55 pounds or less.

14 CFR 107.110

Category 2 Remote Pilot Requirements

1) Use aircraft qualified and labeled for Category 2 operations;

14 CFR 107.115(a)

2) Ensure aircraft is labeled for Category 2 operations.

14 CFR 107.150

Category 3 Remote Pilot Requirements

1) Use aircraft qualified and labeled for Category 3 operations;

14 CFR 107.120(a)(1)

2) Ensure aircraft is labeled for Category 3 operations;

14 CFR 107.145

Remote pilots in command cannot conduct Category 3 operations over open air assemblies, and cannot conduct these operations unless the operation occurs:

1) Within or over a closed- or restricted-access site where all people accessing the site have notice; or

2) When the aircraft does not maintain sustained flight over people.

14 CFR 107.120(a)(2) and (3)

Eligibility Requirements for Category 1

No performance-based requirements (only a requirement that the small UAS weigh 0.55 pounds or less).

14 CFR 107.110

Eligibility Requirements for Category 2

1) Meet performance-based requirements by showing the small unmanned aircraft:

- will not, upon impact with a person, result in an injury more severe than the injury that would result from a transfer of 11 ft-lbs of kinetic energy from a rigid object;
- does not contain any exposed rotating parts that could lacerate human skin upon impact with a person; and
- does not contain any safety defects identified by the Administrator.

2) Display a label indicating eligibility for Category 2;

3) Have remote pilot operating instructions;

4) Be subject to a product notification process; and

5) Operate only after the FAA has accepted a Declaration of Compliance for that make/model.

14 CFR 107.115(b)

Eligibility Requirements for Category 3

1) Meet performance-based requirements showing the small unmanned aircraft:

- will not, upon impact with a person, result in an injury more severe than the injury that would result from a transfer of 25 ft-lbs of kinetic energy from a rigid object;
- Does not contain any exposed rotating parts that could lacerate human skin upon impact with a person; and
- Does not contain any safety defects identified by the Administrator.

2) Display a label indicating eligibility for Category 3;

3) Have remote pilot operating instructions;

4) Be subject to a product notification process; and

5) Operate only after the FAA has accepted a Declaration of Compliance for that make/model.

14 CFR 107.120(b)

Previously Manufactured Small UAS

A small UAS manufactured prior to the effective date of a final rule implementing these regulations may be operated over people if:

It weighs 0.55 pounds or less; or the make/model complies with the impact kinetic energy and exposed rotating parts requirements to render it eligible for operations pursuant to Category 2 or Category 3; and

1) The manufacturer has submitted a Declaration of Compliance for that make/model;

2) The FAA has accepted the Declaration of Compliance; and

3) The aircraft has a label appropriate for the category of operations for which it is eligible to operate.

14 CFR 107.140

Requirements for a Means of Compliance

For small UAS manufactured to be eligible for Category 2 or Category 3 operations, the small UAS must comply with the requirements of § 107.115(b)(1) or § 107.120(b)(1), as shown by test, analysis, or inspection, or any combination of these options that the Administrator has determined is acceptable. Requests for FAA acceptance of means of compliance must contain:

1) Detailed description of the means of compliance; and

2) Justification, including any substantiating material, showing the means of compliance fulfills the safety level set forth in § 107.115(b)(1) or § 107.120(b)(1).

14 CFR 107.125

Required Information for Declaration of Compliance

1) Applicant's name;

2) Applicant's physical address;

3) Applicant's email address;

4) Small UAS make/model name;

5) Small UAS serial number or range of serial numbers;

6) Whether the Declaration of Compliance is an initial or amended declaration;

7) If amended, the reasons for the re-submittal of the Declaration of Compliance;

8) Certification that the small UAS satisfies the impact kinetic energy and exposed rotating parts standards of that category through an accepted means of compliance;

9) Certification that the manufacturer has a product support and notification process;

10) Certification that the Administrator will be allowed to inspect the manufacturer's facilities, technical data, and any manufactured small UAS and witness any tests necessary to determine compliance with this subpart; and

11) Other information as required by the Administrator.

14 CFR 107.135

Rescinding a Declaration of Compliance

The FAA may rescind a Declaration of Compliance if:

1) The make/model is no longer compliant with the impact kinetic energy requirements of the category for which it is declared;

2) The make/model is no longer compliant with the exposed rotating parts limitation; or

3) The Administrator identifies a safety defect.

14 CFR 107.135

Recurrent Knowledge Training

A person may only operate a small UAS if that person has completed the following in a manner acceptable to the Administrator within the past 24 months:

1) Passed an initial aeronautical knowledge test covering the areas of knowledge specified in § 107.73;

2) Completed recurrent training covering the areas of knowledge specified in § 107.73; or

3) If a person holds a pilot certificate (other than a student pilot certificate) issued under part 61 and meets the flight review requirements specified in § 61.56, completed training covering the areas of knowledge specified in § 107.74.

14 CFR 107.65

[1] 14 C.F.R. part 107.

[2] A statute mile is 5,280 feet.