



U.S. Department
of Transportation

**Federal Aviation
Administration**

Office of the Administrator

800 Independence Ave., SW.
Washington, DC 20591

July 16, 2020

The Honorable Roger F. Wicker
Chairman, Committee on Commerce,
Science, and Transportation
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

As required by Section 361 of the FAA Reauthorization Act of 2018, P.L. 115-254 (the Act), the Federal Aviation Administration (FAA) is pleased to provide the enclosed report on Unmanned Aircraft Systems (UAS) and Chemical Aerial Application.

Section 361 directs the FAA to submit a report evaluating which aviation safety requirements under part 137 of Title 14, Code of Federal Regulations, should apply to UAS operations engaged in aerial spraying of chemicals for agricultural purposes.

We have sent identical letters to Chairman DeFazio, Senator Cantwell, and Congressman Graves.

Sincerely,

A handwritten signature in black ink that reads "Steve Dickson". The signature is fluid and cursive, with the first letters of "Steve" and "Dickson" being capitalized and prominent.

Steve Dickson
Administrator

Enclosure



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The Honorable Peter A. DeFazio
Chairman, Committee on Transportation
and Infrastructure
House of Representatives
Washington, DC 20515

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Steve Dickson
Administrator

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July 16, 2020

The Honorable Maria Cantwell
Ranking Member
Committee on Commerce,
Science, and Transportation
United States Senate
Washington, DC 20510

Dear Senator Cantwell:

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July 16, 2020

The Honorable Sam Graves
Ranking Member
Committee on Transportation
and Infrastructure
House of Representatives
Washington, DC 20515

Dear Congressman Graves:

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Steve Dickson
Administrator

Enclosure



Report to Congress:
Unmanned Aircraft Systems and Chemical
Aerial Application

FAA Reauthorization Act of 2018,
Public Law 115-254,
Section 361

July 2020

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1.1 Statutory Requirement

The Federal Aviation Administration (FAA) submits the following report in response to the requirement in Section 361 of the FAA Reauthorization Act of 2018 (Pub. L. 115-254), which states the following:

Not later than 1 year after the date of enactment of this Act, the Administrator shall submit to the appropriate committees of Congress a report evaluating which aviation safety requirements under part 137 of title 14, Code of Federal Regulations, should apply to unmanned aircraft system operations engaged in aerial spraying of chemicals for agricultural purposes.

As of July 2020, there are 1,796 operators in the U.S. that possess an Agricultural Aircraft Operator Certificate (AAOC) to conduct operations under 14 C.F.R. part 137. Of these, 1,763 operators operate only manned aircraft; while 33 operators only utilize unmanned aircraft systems (UAS). One operator utilizes both manned aircraft and UAS. Seven UAS operators employ aircraft weighing more than 55 pounds, the heaviest being 273 pounds.¹

1.2 Evaluation of Regulations

The FAA issued the first AAOC for a UAS in November, 2015. To enable the operator's operations under that AAOC, the FAA also issued an exemption providing relief from specific regulatory requirements in 14 C.F.R. part 137. In issuing this exemption and other exemptions that followed it, the FAA assessed whether providing relief from certain regulations would adversely affect safety and whether such relief would be in the public interest. As a result of this assessment, the FAA has granted relief from the requirements of the following regulations in response to petitions for exemption that apply to agricultural aircraft operations conducted with UAS: 14 C.F.R. §§ 137.19(c) and (d); 137.19(e)(2)(ii), (iii), and (v); 137.31; 137.33; 137.41(c) and 137.42. The FAA analyzed the 23 grants of exemption, predicated on an analysis of relevant data and the risk of the proposed operations, to evaluate which of the aviation safety requirements codified in part 137 should apply to operations that occur with UAS.

1.3 Analysis

The regulatory structure of 14 C.F.R. part 137 consists of four subparts: A-General, B-Certification Rules, C-Operating Rules, and D-Records and Reports. The subparts include 153 regulatory requirements. Of those 153 requirements, the FAA has determined 82 should apply to agricultural aircraft operations conducted with UAS.

Subpart A—General

The FAA finds the following regulations applicable to UAS agricultural aircraft operations. These regulations describe the applicability of 14 C.F.R. part 137 and define relevant terms that apply to all operations of aircraft for the purposes of dispensing of economic poisons and any

¹ The FAA has derived the number of part 137 operators and the number and type of aircraft from the FAA's Web-based Operations Safety System, also known as the WebOPSS database.

other substances intended for plant nourishment, soil treatment, propagation of plant life, or pest control. In addition, these regulations describe the applicability of part 137 to dispensing activities directly affecting agriculture, horticulture, or forest preservation.

Section 137.1 Applicability.

Section 137.3 Definition of terms.

Subpart B – Certification Rules

The FAA finds the following regulations applicable to agricultural aircraft operations conducted with UAS because these regulations standardize certain requirements to provide FAA with oversight of agricultural aircraft operations. By setting forth the requirement to obtain an AAOC and other procedural requirements that apply to such certificates, the FAA requires operators to ensure safe handling and dispensing of economic poisons and other substances.

Section 137.11 Certificate required.

Section 137.15. Application for certificate.

Section 137.17. Amendment of certificate.

Section 137.19 Certification requirements. Paragraphs (a), (b), (c), (e)(1)(i)-(vi), and (e)(2)(i),(iv),(vi) of this section should apply.²

Section 137.21 Duration of certificate.

Section 137.23 Carriage of narcotic drugs, marihuana, and depressant or stimulant drugs or substances.

Subpart C-Operating Rules

The FAA finds that the following regulations apply to agricultural aircraft operations conducted with UAS because these regulations describe external load operations, as well as important safety requirements concerning the dispensing of economic poisons and other substances that are relevant to UAS operations. These regulations ensure applications of substances are consistent with applicable safety requirements. As a result, the following regulations establish performance capabilities and operating limitations that safeguard people and property on the ground.

Section 137.29 General.

Section 137.35 Limitations on private agricultural aircraft operator.

Section 137.37. Manner of dispensing.

Section 137.39. Economic poison dispensing.

Section 137.40 Employment of former FAA employees.

Section 137.41 Personnel. Paragraphs (a), (b), and (c)(1)-(2) of this section should apply.³

Section 137.43 Operations in controlled airspace designated for an airport.

Section 137.45 Nonobservance of airport traffic pattern.

Section 137.47 Operation without position lights.

Section 137.49 Operations over other than congested areas.

² The applicability of paragraphs (b) and (c) depend upon the type of agricultural aircraft operator certificate that the operator holds. The FAA has determined this framework is appropriate for agricultural aircraft operations in which operators use UAS.

³ The FAA finds paragraph (b) should apply to agricultural aircraft operations conducted with UAS; however, this paragraph should not apply in its entirety. As indicated in the regulation list under *Subpart B-Certification Rules*, the FAA does not find all knowledge and skill requirements under 14 C.F.R. § 137.19(e) should apply to agricultural aircraft operations conducted with UAS.

Section 137.51 Operation over congested areas: General. Paragraphs (a)(1)-(2), (b)(1)-(3), (b)(4)(i)(ii)(iii), and (b)(5)(iii) of this section should apply.

Section 137.55 Business name: Commercial agricultural aircraft operator.

Section 137.57 Availability of certificate.

Section 137.59 Inspection authority.

Subpart D-Records and Reports

The FAA finds that the following regulations concerning records and reports apply to agricultural aircraft operations conducted with UAS. Records and reports require documentation of the name and address for whom agricultural aircraft services were provided; the date of service; the name and quantity of material dispensed for each operation conducted; and the name, address, and certificate number of each pilot used in agricultural operations, along with the date on which each pilot met the necessary knowledge and skill requirements of § 137.19(e). The regulations also establish record retention times, change of address, and the requirement to surrender the AOC when operations cease.

Section 137.71 Records: Commercial agricultural aircraft operator.

Section 137.75 Change of address.

Section 137.77 Termination of operations.

1.4 Synopsis

Based on the FAA's analysis of relevant grants of exemption, which are predicated on analysis of pertinent data and assessment of the risks of agricultural aircraft operations conducted with UAS, the FAA concludes that the regulations listed in section 1.3 of this report apply to operations in which UAS engage in any agricultural aircraft operation, as defined in 14 C.F.R. § 137.3.