

**Department of Transportation
Federal Aviation Administration**

**SUPPORTING STATEMENT
Operation of Small Unmanned Aircraft Systems over People
RIN 2120-AK85**

INTRODUCTION

The Department of Transportation (DOT) submits this draft Supporting Statement to the Office of Management and Budget (OMB) in preparation for requesting an approval for information collections related to the proposed rule titled “Operation of Small Unmanned Aircraft Systems over People.” DOT requests this information collection approval include information an applicant or manufacturer submits to receive acceptance from the Federal Aviation Administration (FAA) for a means of compliance or a Declaration of Compliance, both of which are critical components of the proposed rule’s framework for ensuring small unmanned aircraft systems (UAS) are constructed to fulfill the performance-based requirements of the FAA’s proposed rule. In addition, this supporting statement includes the items that a manufacturer must include or display with a small UAS that is eligible to operate over people; these include the label on the small unmanned aircraft and remote pilot operating instructions.

Part A. Justification:

1. Circumstances that make the collection of information necessary.

In 2012, Congress passed the FAA Modernization and Reform Act of 2012 (Public Law 112-95). Section 333 of Public Law 112-95 directed the Secretary to determine which types of unmanned aircraft systems (UAS), as a result of their size, weight, speed, operational capability, proximity to airports and populated areas, and operation within visual line of sight do not create a hazard to users of the national airspace system (NAS) or the public or pose a threat to national security. Based on this direction, DOT and the FAA promulgated 14 CFR part 107, which allows operations of small UAS. Operation and Certification of Small Unmanned Aircraft Systems, 81 FR 42063 (June 28, 2016). In 2018, Congress updated the authority basis for part 107, which is now codified at 49 U.S.C. 44807.

Part 107 currently prohibits operations of small UAS at night and over people, in the absence of a waiver that allows such an operation. See 14 CFR §§ 107.29 and 107.39. Based on the FAA's experience with the certification, exemption, and Certificate of Waiver or Authorization process, as well as research relevant to assessing the risks of operations of small UAS at night and over people, the FAA now proposes to permit such operations, pursuant to performance-based requirements. To ensure compliance with certain requirements, the FAA must review information from applicants who design, produce, or modify small UAS with the intention of receiving a determination from the FAA that the small UAS is eligible to operate over people. Without engaging in such information collections, the FAA would be unable to ensure compliance with the proposed performance-based requirements.

The information the FAA would review under the proposed rule includes applications requesting acceptance of means of compliance, as well as applications for acceptance of Declarations of Compliance that use an accepted means of compliance. These information collection requirements would apply only to small UAS that a person seeks to operate in accordance with Category 2 or Category 3 of the proposed rule.¹ For these categories, the proposed rule would require Declarations of Compliance include certain types of specific information. The FAA would only require the minimum amount of information necessary to ensure the FAA could identify an applicant and evaluate the small UAS on which the Declaration of Compliance is based.

In addition to requesting acceptance of Declarations of Compliance, manufacturers of small UAS that would be eligible for operations over people would be required to label the small unmanned aircraft with the appropriate category in which the small UAS would be eligible to operate. Such labeling would ensure the remote pilot in command who seeks to operate over people is informed of the category of operation in which the small unmanned aircraft is eligible to operate. The proposed rule would also require manufacturers to accompany each small UAS produced to operate over people with remote pilot in command operating instructions. These instructions would ensure the remote pilot in command is aware of conditions that may render the small UAS ineligible to operate over people; for example, when the FAA's acceptance of a Declaration of Compliance is contingent upon restricting certain types of payloads, the operating instructions would list such contingencies. Both labeling and remote pilot operating instructions would ensure compliance with the performance-based standards of the FAA's proposed rule.

¹ For Category 2 operations, the small unmanned aircraft must be designed, upon impact with a person, to not result in an injury equivalent to or more severe than the injury that would result from a transfer of 11 ft-lbs of kinetic energy from a rigid object. For Category 3 operations, the small unmanned aircraft must be designed, upon impact with a person, to not result in an injury equivalent to or more severe than the injury that would result from a transfer of 25 ft-lbs of kinetic energy from a rigid object. For both categories, the small unmanned aircraft used in the operation would be prohibited from having any exposed rotating parts that could lacerate human skin and from having safety defects.

2. How, by whom, how frequently, and for what purpose the information is to be used.

The proposed rule would require applicants who seek FAA acceptance of means of compliance and Declarations of Compliance to submit applications to report requested information. In addition, manufacturers who produce small UAS in accordance with the proposed standards would be required to disclose information by labelling all small unmanned aircraft eligible to operate over people within two of the three categories the proposed rule would permit for such operations. Lastly, for two of the three categories of aircraft eligible to operate over people, manufacturers who obtain acceptance would be required to make available remote pilot operating instructions that describe the small UAS and the declared category or categories of eligibility, describe permissible modifications that would not change the ability of the small UAS to meet the requirements for the applicable category or categories; and, if applicable, instruct operators on how to verify and change the mode or configuration of the small UAS.

a. Declaration of Compliance and Means of Compliance

The FAA proposes to collect information to enable the FAA to determine whether a manufacturer's submission of the Declaration of Compliance establishes the small UAS would be eligible for operations under either Category 2 or Category 3 of the proposed rule. This proposed information collection would also include record retention requirements applicable to manufacturers upon the FAA's acceptance of a Declaration of Compliance for a small UAS.

Declarations of Compliance

The Declaration of Compliance would be required to include the following information:

- manufacturer's name, physical address, and email address;
- the small UAS make, model name, and serial number;
- indication of whether the Declaration of Compliance is an initial declaration or an amended declaration, and if amended, the reason for resubmittal;
- confirmation that the manufacturer has a process for notifying customers of conditions that could render the small UAS ineligible for operations over people; and

- certification that the manufacturer has demonstrated that the small unmanned aircraft satisfies the kinetic energy and exposed rotating parts standards through an accepted Means of Compliance.

The holder of an FAA-accepted Declaration of Compliance must store the detailed description of the means of compliance and justification, including any substantiating material, for two years after the cessation of production of the small unmanned aircraft system to support the Declaration of Compliance. In addition, the person who holds the Declaration must retain any accompanying data must contain detailed information on the type of means of compliance on which the Declaration would be based, and the results or justification used to demonstrate the small UAS meets the applicable performance-based requirements to establish eligibility.

Means of Compliance

Each Declaration of Compliance must identify the accepted means of compliance the manufacturer has used. Any applicant may apply to the FAA for acceptance of a means of compliance. Such applications must include a detailed description of the means of compliance and justification, including any substantiating material, showing the means of compliance establishes achievement of or equivalency to the safety level identified for small UAS eligibility pursuant to Category 2 or Category 3. Means of compliance must demonstrate the achievement of this safety level through test, analysis, or inspection that the small UAS is eligible for operations pursuant to Category 2 and/or Category 3.

All accepted means of compliance used to satisfy the performance-based requirements for eligibility must be stored for as long as the means of compliance is accepted by the FAA. If the means of compliance involved testing, the accompanying data or information must describe the test procedures that outline the test methodology, as well as justification showing the means of compliance establishes achievement of or equivalency to the safety level identified in the performance-based requirements.

The FAA would use the Declaration of Compliance and means of compliance to determine whether to accept the Declaration or means of compliance. This review of information to decide acceptability is a critical component of the proposed rule, as it is the mechanism for FAA oversight to ensure compliance with the standards.

The proposed rule would apply to any applicant who seeks acceptance of a means of compliance. It would also apply to any applicant who seeks acceptance of a Declaration of Compliance. While many applicants who seek acceptance of means of compliance may also seek to produce the small UAS and submit a Declaration of Compliance, the proposed rule would permit an applicant who seeks acceptance of a means of compliance to be distinct from the applicant who seeks acceptance of a Declaration of Compliance.

b. Labeling

Given that a small UAS could be qualified to conduct more than one category of operations, the proposed rule would require a manufacturer to label the small UAS to indicate each category of

operations the small UAS is qualified to conduct. For example, a small UAS qualified to conduct Category 2 operations may also be qualified to conduct Category 3 operations. The manufacturer would label such a small UAS with each category, as follows: “Cat. 2, 3” or “Category 2, 3”. The label could be painted onto, etched into, or affixed to the aircraft by some other permanent means.

The proposed labeling requirement would assist the remote pilot to know what category of operations his or her small UAS is eligible to conduct, and accordingly, provide awareness of any technical and operational limitations that apply to the operations. The proposed labeling requirement would also assist the FAA in its oversight role because it would provide an efficient means for an inspector to evaluate whether an operation is consistent with the category or categories of operation the small UAS may conduct. Because Category 3 operations would entail unique operating limitations, the label on small unmanned aircraft eligible to conduct Category 3 operations would indicate to the remote pilot that he or she must adhere to the applicable operating limitations.²

c. Remote Pilot Operating Instructions

The information collection would also include information dissemination in the form of remote pilot operating instructions for small UAS that are eligible to operate over people. As noted above, the remote pilot operating instructions must address, at a minimum:

- A system description that includes the required small UAS components, any system limitations, and the declared category or categories of operation;
- Modifications that will not change the ability of the small UAS to meet the requirements for the category or categories of operation the small UAS is eligible to conduct, and
- Instructions for how to verify and change the mode or configuration of the small UAS, if they are variable.

In order to operate a small UAS safely over people, the remote pilot would be responsible for knowing what category of operations his or her small UAS is eligible to conduct. The proposed rule would require any person who designs, produces, or modifies a small UAS in any manner that could affect the eligibility of the aircraft to operate over people to inform operators of any modifications would affect the eligibility of the small UAS to operate over people. Accordingly, to the proposed rule would require manufacturers to provide remote pilot operating instructions with product-specific information.

² The labeling requirement this rule proposes is not the sole means by which a remote pilot in command will be aware of the operating limitations applicable to Category 3 operations. Remote pilots in command must maintain awareness of updated regulations, as required by §§ 107.73(a) and 107.74(a).

The proposed rule would require the provision of these remote pilot operating instructions at the time of sale, transfer, or use of the aircraft by someone other than the manufacturer of the aircraft. In addition, the proposed rule would require the manufacturer ensure instructions remain up-to-date to account for any changes the manufacturer might make to the small UAS. The proposed rule would not require manufacturers to provide remote pilot operating instructions in a particular format. Manufacturers could include the operating instructions as part of the packaging of the small UAS, make them available electronically, or provide them in some other manner.

3. Extent of automated information collection.

The FAA would provide a sample Declaration of Compliance in a fillable form. The FAA's preferred method for receiving Declarations of Compliance would be electronically through an online interface. However, the FAA may permit the submission of the Declaration of Compliance through the use of a paper form for special circumstances. The FAA intends to incorporate the electronic submission of Declarations of Compliance through the FAA DroneZone interface to maintain consistency with other applications submitted to FAA associated with UAS operations. The FAA anticipates that it could accept some Declarations of Compliance using an automated review process; however, it is unlikely that the FAA could process *all* submissions in this manner. The FAA would maintain the Declarations of Compliance electronically in the FAA DroneZone system.

Similarly, respondents would also submit means of compliance electronically through the FAA DroneZone. Means of compliance, however, would not lend themselves to an automated review process, because each means of compliance would likely be based on unique, commercially valuable information. These means of compliance will also be maintained electronically in the FAA DroneZone system.

The proposed requirements for labeling and providing remote pilot operating instructions would consist of requirements regarding display of information and recordkeeping, rather than submission of information. As a result, the opportunity for automated collection could not exist for such information.

4. Efforts to identify duplication.

DOT has carefully analyzed existing information collection activities to ensure the proposed collection of information does not duplicate any other information collection in which the agency engages. Neither DOT nor the FAA presently collects information from small UAS manufacturers for complying with any other rule regarding operations of small UAS. As a result, the proposed information collection would not entail any duplicative information collection requirements.

5. Efforts to minimize the burden on small businesses.

The information collection would involve only the information that is necessary to ensure compliance with the proposed performance-based requirements. In addition, the information collection requirements would apply only to applicants who seek acceptance for two of the three proposed categories of eligibility for operations over people.

6. Impact of less frequent collection of information.

The proposed information collection would not affect any Federal program or policy activities.

7. Special circumstances.

No special circumstances would cause DOT to conduct the proposed information collection in a manner inconsistent with the Office of Management and Budget guidance on Paperwork Reduction Act compliance.

8. Compliance with 5 CFR 1320.8.

The proposed information collection activity will be the agency's first notification of the proposed collection, as stated in the Notice of Proposed Rulemaking, Operation of Small Unmanned Aircraft Systems over People, 84 Fed. Reg. 3856. DOT welcomes input from the public concerning the proposed information collections outlined in its Notice of Proposed Rulemaking.

9. Payments or gifts to respondents.

No provision or payments or gifts to respondents in exchange for submitting the information would occur.

10. Assurance of confidentiality.

While no assurance of confidentiality to respondents would occur concerning the information respondents would submit in accordance with the proposed rule, the FAA would exercise care in handling any information that a submitter designates as proprietary. As stated in the Notice of Proposed Rulemaking, the FAA anticipates posting notices of availability to indicate the FAA's acceptance of means of compliance. In addition, the FAA may elect to post Declarations of Compliance online. However, the information that accompanies each application seeking FAA

acceptance may consist of information that is commercially valuable. The agency does not intend to make such accompanying information available to the public.

11. Justification for collection of sensitive information.

DOT would not request information of a sensitive nature from any respondent.

12. Estimate of burden hours for information requested.

Declaration of Compliance and Means of Compliance

The proposed rule would require the manufacturers of small UAS to provide a Declaration of Compliance to the FAA. Using the FAA small UAS aircraft registry, for the limited purpose of estimating the information collection burden associated with the FAA’s proposed rule, the agency assumes that the top 15 small UAS models weighing 4.4 pounds or less might be able to meet the requirements of this proposal. The agency assumes each of the manufacturers would apply for acceptance of a Declaration of Compliance. Similarly, DOT also assumes that in each subsequent year, manufacturers would introduce a comparable number of models that could also be subject to obtaining a Declaration of Compliance. DOT estimates that approximately five percent of documents initially submitted to the FAA would not be accepted until reworked and resubmitted by the applicant. The annual hourly burden equals the number of documents submitted (15.75) multiplied by the number of pages (50 pages), and lastly multiplied by the hours per page (one hour). The annual cost burden for the manufacturer to complete the Declaration of Compliance equals the number of hours multiplied by an hourly wage of \$72.91.³ The following table shows the total annual hourly burden and estimated costs for the means of compliance and Declaration of Compliance.

Table 1: Annual Burden Estimates for Means of Compliance and Declaration of Compliance

Year	Initial Submissions	Resubmissions	Pages Per Submission	Average Hours Per Page	Total Hours	Total Cost
1	15	0.75	50	1	787.5	\$57,417
2	15	0.75	50	1	787.5	\$57,417
3	15	0.75	50	1	787.5	\$57,417
Total	45	2.25	50	1	2,362.5	\$172,250

Row and column totals may not sum due to rounding.

³ Based on the Regulatory Evaluation of proposed rule titled “Operation of Small Unmanned Aircraft Systems over People”, the FAA assumes a technical expert performing this level of work in the private sector would earn an amount equivalent to that of an FAA Technical Subject Matter Expert at an upper-bound “J” Pay Band hourly wage of \$72.91 (in 2017 dollars).

We estimate the number of respondents to total 15 annually for a total of 47.25 responses over the three-year period. The hourly burden totals 787.5 hours per year for a total burden of 2,362.5 hours over the three-year period. The annual cost for the small UAS manufacturers to submit their declarations is \$57,417. Over the three-year analysis period, the total cost is \$172,250.

Remote Pilot Operating Instructions

The proposed rule would require the manufacturers to provide remote pilot operating instructions (RPOI). For a simple small UAS with no approved modifications or alternate configurations, the RPOI could be as few as two pages. For a more complex small UAS, we estimate the RPOI could be up to 10 pages. Each page could take the manufacturer between 10 and 40 hours to draft.⁴ For this analysis, the FAA uses an average of six pages ($(2 + 10) / 2 = 6$) and an average of 25 hours per page ($(10 + 40) / 2 = 25$). The annual cost burden for the manufacturer to develop and maintain the remote pilot operating instructions equals the number of hours multiplied by an hourly wage of \$72.91.⁵

Table 2: Annual Burden Estimates for Remote Pilot Operating Instructions

Year	Operating Instructions	Pages	Hours Per Page	Hourly Burden	Total Cost
1	15	6	25	2,250	\$164,047.5
2	15	6	25	2,250	\$164,047.5
3	15	6	25	2,250	\$164,047.5
Total	45	6	25	6,750	\$492,142.5

Row and column totals may not sum due to rounding.

We estimate the number of respondents to total 15 annually for a total of 45 responses over the three-year period. The hourly burden totals 2,250 hours per year for a total burden of 6,750 hours over the three-year period. For small UAS manufacturers to develop and maintain remote pilot operating instructions, an hourly wage of \$72.91 is multiplied by the annual hourly burden of 2,250 hours for an annual cost of \$164,048. Over the three-year analysis period, the estimated total cost is \$492,143.

Labeling of Small Unmanned Aircraft

The proposed rule would require a manufacturer label the small UAS with each category of operations the small UAS is qualified to conduct. Some small UAS could be qualified to conduct more than one category of operation. For example, a small UAS qualified to conduct

⁴ The range in time of 10 to 40 hours is inclusive of all activities required to draft and review the remote pilot operating instructions.

⁵ Based on the Regulatory Evaluation of proposed rule titled “Operation of Small Unmanned Aircraft Systems over People”, the FAA assumes a technical expert performing this level of work in the private sector would earn an amount equivalent to that of an FAA Technical Subject Matter Expert at an upper-bound “J” Pay Band hourly wage of \$72.91 (in 2017 dollars).

Category 2 operations may also be qualified to conduct Category 3 operations; in such a case, the label on the small unmanned aircraft would list both Category 2 and Category 3. The label could be painted onto, etched into, or affixed to the aircraft by some other permanent means. A manufacturer would likely redesign an existing label already affixed to the aircraft, and that the label redesign would take a maximum of two hours at an hourly wage of \$72.91⁶

Table 3: Annual Burden Estimates for Labeling Unmanned Aircraft

Year	Number of Platforms	Hours Per Redesign	Hourly Burden	Total Cost
1	15	2	30	\$2,187
2	15	2	30	\$2,187
3	15	2	30	\$2,187
Total	45		90	\$6,562

Row and column totals may not sum due to rounding.

We estimate the number of respondents to total 15 annually for a total of 45 responses over the three-year period. The hourly burden totals 30 hours per year for a total burden of 90 hours over the three-year period at an annual cost of \$2,187. Over the 3-year analysis period, the total cost is approximately \$6,562.

13. Estimate of total annual costs to respondents.

There are no additional start-up costs associated with this collection not already included in item number 12.

14. Estimate of cost to the Federal government.

The agency estimates the number of hours for the agency to review the Declaration of Compliance and means of compliance and notify an applicant as to whether the means of compliance or Declaration of Compliance has been accepted to be three hours. The hourly wage for a FAA subject matter expert to review the submission is \$72.91 per hour⁷ for an annual cost of \$3,445 and a total cost of \$10,335 over the three-year analysis period.

Table 4: Annual Hourly Burden and Cost for FAA Review of Manufacturer Means of Compliance and Declaration of Compliance

⁶ See footnote 3.

⁷ Based on the analysis in Regulatory Evaluation of proposed rule titled “Operation of Small Unmanned Aircraft Systems over People”, an FAA Technical Subject Matter Expert performing this review would earn an upper-bound “J” Pay Band hourly wage of \$72.91 (in 2017 dollars).

Year	Initial Submissions	Resubmissions	Average FAA Review Time (Hours)	Total Hours	Total Cost
1	15	0.75	3	47.25	\$3,445
2	15	0.75	3	47.25	\$3,445
3	15	0.75	3	47.25	\$3,445
Total	45	2.25	3	141.75	\$10,335

Row and column totals may not sum due to rounding.

The agency does not expect to incur any costs related to the labeling of the small unmanned aircraft eligible for operations over people or regarding the requirement for manufacturers to provide remote pilot operating instructions. Declarations of Compliance will request a statement in which manufacturers affirm the small UAS will be subject to remote pilot operating instructions. The above estimate for reviewing Declarations of Compliance reflects the FAA's review of this required statement.

15. Explanation of program changes or adjustments.

DOT proposes to collect this information in accordance with its proposed rule to permit operations of small UAS over people. The FAA would use the information it collects to ensure compliance with the performance-based requirements of the proposed rule. No current program that would collect such information exists.

16. Publication of results of data collection.

No requirement exists that would obligate DOT to publish for statistical use any information collected in accordance with this collection. The proposed rule, however, notifies the public of the FAA's intent to post notices of availability indicating the FAA's acceptance of means of compliance. The FAA also intends to post Declarations of Compliance online. However, the FAA does not intend to post the information on which these decisions of acceptance are based.

17. Approval for not displaying the expiration date of OMB approval.

DOT does not seek approval to refrain from displaying the expiration date of OMB approval of this proposed information collection.

18. Exceptions to certification statement.

DOT has not identified any exceptions in Item 19, OMB Form 83-I.