

Supporting Statement A
Federal Aviation Administration
Human Space Flight Requirements for Crew and Space Flight Participants
OMB Control Number 2120-0720

This is a renewal of the collection. There are no substantive changes. The hourly burden is expected to remain the same and the cost burden has been adjusted to reflect updated hourly rates.

1. Explain the circumstances that make the collection of information necessary. Identify any legal or administrative requirements that necessitate the collection.

The FAA has established requirements for human space flight of crew and space flight participants as required by the Commercial Space Launch Amendment Act of 2004 (CSLAA). On December 15, 2006, the FAA published a final rule (71 FR 75616) which established requirements for qualifications, training, and notification of crew, and training and informed consent requirements for space flight participants. The rulemaking also modified existing financial responsibility requirements to account for space flight participants and crew. The FAA conducted the rulemaking to fulfill its statutory responsibilities. The requirements were designed to achieve public safety and to notify participants of the risks they face from launch or reentry. The section of each statute and regulation mandating or authorizing the collection of information is presented below. In general, the information is provided by the operator proposing to conduct a launch or reentry with flight crew or space flight participants on board. However, in a few instances, a space flight participant or flight crew member is also involved in providing information, for example, when executing a reciprocal waiver of claims with the FAA in accordance with §§ 460.19 and 460.49.

The FAA receives information from the respondents in several ways. As required by 14 CFR §§ 415.8, 431.8, and 437.21(b)(3), an applicant must demonstrate in its application to the FAA compliance with §§ 460.5, 460.7, 460.11, 460.13, 460.15, 460.17, 460.51 and 460.53. Other information, required by §§ 460.9, 460.19, 460.45, 460.49, and 51 U.S.C. § 50914(b)(1) is received by the FAA after an applicant receives a launch license and conducts launch or reentry operations. When licensee conducts launch or reentry operations, the FAA performs safety inspections and requests, receives, and reviews certain documents from the licensee to ensure that the licensee is complying with the terms and conditions of its license. All these sections are discussed below.

Furthermore, the FAA gets originals of the reciprocal waiver of claims because the FAA executes them with the licensee, space flight participants, and flight crew members.

§ 460.5 Crew qualifications and training and § 460.7 Operator training of crew.

The CSLAA requires that each crew member receive training and satisfy medical or other standards as specified in a license or permit. 51 U.S.C. § 50905(b)(4)(A).

Furthermore, the CSLAA requires crew to comply with all requirements of the laws of the United States that apply to crew. 51 U.S.C. § 50905(b)(4)(C).

The FAA requires a training program to be continually updated to ensure that training accounts for lessons learned from both training and operational missions. This is accomplished with a documented system to track revisions and updates. The FAA requires a training program to capture, in writing, lessons learned as experience is gained. The FAA requires a licensee or permittee to document the training completed by each member of the flight crew and any remote operator and maintain the documentation for each active member of the flight crew and remote operator. The FAA requires an operator to ensure that all flight crew and remote operator qualifications are current before operating a vehicle with human participants.

The FAA found that operator maintenance of a current training and qualification program that incorporates lessons learned to facilitate continuous improvement and retention of associated documentation and crew certification records is customary and usual practice within the commercial space transportation industry.

§ 460.9 Informing crew of risk.

The CSLAA requires that an operator (holder of a license or permit) inform any individual serving as crew in writing, prior to executing any contract or other arrangement to employ that individual (or, in the case of an individual already employed as of the date of enactment of the CSLAA, as early as possible, but in any event prior to any launch in which the individual will participate as crew), that the United States Government has not certified the launch vehicle as safe for carrying flight crew or space flight participants. 51 U.S.C. § 50905(b)(4)(B). While this formality may be exercised voluntarily by an operator, it may not be customary and usual industry practice in all instances. The FAA estimates that a commercial entity expends as many as four person-hours to prepare the initial documentation conveying the required information for flight crew only (a one-time cost); one person-hour is incurred for each space flight mission to update and administer the document and maintain it as a record.

§ 460.17 Verification program.

In accordance with § 460.17, an operator must successfully verify the integrated performance of a vehicle's hardware and any software in an operational flight environment before allowing any space flight participant on board during a flight. Verification must include flight testing. The FAA believes that the requirements are consistent with common practice and presents no new requirements other than documenting the verification program for the FAA. The FAA estimates that a commercial entity expends as much as 160 person-hours to prepare the application material.

§ 460.19 Crew waiver of claims against U.S. Government.

The CSLAA requires that crew execute a reciprocal waiver of claims with the FAA. 51

U.S.C. § 50914(b)(2). Crew includes flight crew and any remote operator. The FAA estimates that a commercial entity expends as much as four person-hours to prepare the initial documentation required for crew (one-time cost); one person-hour is incurred for each space flight mission to administer the document and maintain it as a record.

§ 460.45 Operator informing space flight participant of risk.

The CSLAA requires that a licensed or permitted operator inform a space flight participant in writing about the risks of the launch and reentry, including the safety record of the launch or reentry vehicle type. 51 U.S.C. § 50905(b)(5)(A). Section 460.45 requires that an operator present this information in a manner that can be readily understood by a space flight participant with no specialized education or training. An operator must also inform each space flight participant that the United States government has not certified the launch vehicle and any reentry vehicle as safe for carrying crew or space flight participants, of the safety record of all launch or reentry vehicles that have carried one or more persons on board, including both U.S. government and private sector vehicles, and the safety record of its vehicle to each space flight participant.

The FAA found that developing much of the safety-related information has been industry practice (e.g., deriving risk probabilities from a fault tree or hazard analysis); however, certain aspects of this requirement were not, such as compiling industry-wide and government safety record information. Further, the FAA maintains that preparing a document to convey the requisite information in a manner that will be readily understood by a space flight participant who is not likely to have any formal space technology education or training (e.g., aerospace engineering) was not likely to be customary or usual practice. Therefore, the FAA estimated that a commercial entity expends as many as 120 person-hours to prepare the initial launch risk and consent form documents (a one-time cost); two person-hours are expended prior to each space flight mission updating and documenting the safety record information and maintaining a record of the signed consent form.

The FAA also requires each operator to provide each space flight participant with an opportunity to ask questions orally to better understand the risks of the mission. With or without this requirement, space flight participants are likely to ask questions to understand mission risks and the operator will respond so they won't lose a client. Therefore, the FAA does not attribute any costs to this requirement.

§ 460.49 Space flight participant waiver of claims against U.S. Government.

The CSLAA requires that each space flight participant executes a reciprocal waiver of claims with the FAA. 51 U.S.C. § 50914(b)(2). The FAA assumes that an operator expends the effort required to prepare and record the documentation on behalf of a space flight participant. The FAA estimates that a commercial entity expends as many as four person-hours to prepare the initial documentation required for a space flight participant (a one-time cost); one person-hour is incurred for each space flight mission

to administer the document and maintain it as a record, regardless of the number of space flight participants (i.e., passengers). A commercial operator ultimately passes these costs on to a space flight participant, as reflected in the price charged for the space flight. Accordingly, these costs are included in the direct compliance costs to a commercial operator for simplicity and conservatism.

§ 460.11, § 460.13, § 460.15, § 460.51, and § 460.53 (Other requirements related to public safety).

Under the FAA's public safety mandate, the FAA established requirements for the following areas: environmental control and life support system, smoke detection and fire suppression, human factors, space flight participant training, and security requirements. The FAA found that the requirements were consistent with previous practice and presented no new requirements that would impose costs.

Consistent with the FAA's safety goals, the principal benefit of the rule is to ensure that the human commercial space transportation industry understands and adheres to the previous practices that had worked to protect public safety and the environment. In so doing, the FAA maintains that the rule helps preserve the level of safety already achieved by commercial operators, recognizing that human commercial space flight experience is limited. Additionally, informing space flight participants of mission hazards and risks may help mitigate any behavior or reaction during space flight that would jeopardize mission success and consequently public safety. For example, a surprise noise or abrupt vehicle motion during flight could frighten an "uninformed" passenger, causing a space flight participant to behave or act (e.g., panic) in a manner that could adversely impact mission performance and jeopardize public safety resulting from a ground impact crash or falling debris from an airborne explosion.

§ 51 U.S.C. § 50914(b)(1) Space flight participant waiver of claims with licensee.

In 2015, the U.S. Commercial Space Launch Competitiveness Act (CSLCA) modified 51 U.S.C. § 50914(b)(1) by expanding the cross-waiver requirement to space flight participants. Specifically, U.S.C. § 50914(b)(1) requires a licensee to make a reciprocal waiver of claims with applicable parties involved in launch services or reentry services under which each party to the waiver agrees to be responsible for personal injury to, death of, or property damage or loss sustained by it or its own employees resulting from an activity carried out under the applicable license. With the change, which sunsets on September 30, 2025, applicable parties now include space flight participants. The FAA has not yet updated its regulations to incorporate this provision.

The FAA estimates that a commercial entity expends as many as four person-hours to prepare the initial documentation required for a space flight participant (a one-time cost); one person-hour is incurred for each space flight mission to administer the document and maintain it as a record, regardless of the number of space flight participants (i.e., passengers).

2. Indicate how, by whom, and for what purpose the information is to be used. Except for a new collection, indicate the actual use the agency has made of the information received from the current collection.

The information for the collection is mandatory. It requires reporting and disclosure, and the frequency of collecting this information is dependent on the number of launch or reentry applications, permit applications, missions (launch or reentry operations), and the number of crew and space flight participants. The information, described under section #1, is used by the FAA, a licensee or permittee, a space flight participant, or a crew member. The FAA uses information related to public safety to ensure that a launch or reentry operation involving a human participant will meet the risk criteria and requirements for ensuring public safety. For example, the FAA assesses crew qualifications and training, especially those of a pilot, to ensure that the pilot has the proper experience and skills to operate a launch or reentry vehicle without affecting public safety. A space flight participant and crew member use information provided by the operator to help decide on whether they voluntarily assume the risk. An operator must inform each crew member and space flight participant in writing that the U.S. Government has not certified the launch vehicle as safe for carrying flight crew or space flight participants. In addition, an operator must inform any space flight participant of the risks associated with launch and reentry activities. In turn, a space flight participant must provide written, informed consent as a way of showing that he or she understands and voluntarily accepts the risks associated with participating in space launch activities. An operator is the recipient of a written, informed consent from a space flight participant and is responsible for ensuring that one was received before allowing a space flight participant to be on board a launch or reentry vehicle.

The CSLAA requires that flight crew and space flight participants execute a reciprocal waiver of claims with the DOT/FAA. Prior to a mission, the FAA ensures that crew and space flight participants have executed a reciprocal waiver of claims with the DOT/FAA.

3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological collection techniques or other forms of information technology.

In general, 95% of the information can be provided in an electronic format via email. An exception may be the case where a signature is required such as for the written informed consent that requires a signature from a space flight participant and the execution of reciprocal waiver of claims, which requires signatures from a space flight participant or crew member and the FAA.

4. Describe efforts to identify duplication. Show specifically why any similar information already available cannot be used or modified for use for the purposes described in Item 2 above.

The FAA conducted an internet search and found a chronology on human space flight missions' accidents. A top-level description of the mission is provided, which includes

whether a mishap or accident occurred. Some of this publicly available information can be compiled to fulfill part of the CSLAA's requirement for the operator to inform a space flight participant in writing about the risks of the launch and reentry, including the safety record of the launch or reentry vehicle type.

5. If the collection of information involves small businesses or other small entities, describe the methods used to minimize burden.

N/A

6. Describe the consequences to Federal program or policy activities if the collection is not conducted or is conducted less frequently, as well as any technical or legal obstacles to reducing burden.

If the collection of information, which involves reporting, recordkeeping, and disclosures, is not conducted, the FAA may not be able to make a license or permit determination or the requirements of the CSLAA would not be met. The frequency of collecting information is contingent upon the number of—

- (a) launch or reentry applications,
- (b) permit applications,
- (c) missions (launch or reentry operations), and
- (d) crew and space flight participants.

7. Explain any special circumstances that would cause an information collection to be conducted in a manner:

- *requiring respondents to report information to the agency more often than quarterly.*
- *requiring respondents to prepare a written response to a collection of information in fewer than 30 days after receipt of it.*
- *requiring respondents to submit more than an original and two copies of any document; requiring respondents to retain records, other than health, medical, government contract, grant-in-aid, or tax records, for more than three years.*
- *in connection with a statistical survey, that is not designed to produce valid and reliable results that can be generalized to the universe of study.*
- *requiring the use of a statistical data classification that has not been reviewed and approved by OMB.*
- *that includes a pledge of confidentiality that is not supported by authority established in statute or regulation, that is not supported by disclosure and data security policies that are consistent with the pledge, or which*

unnecessarily impedes sharing of data with other agencies for compatible confidential use; or

- *requiring respondents to submit proprietary trade secrets, or other confidential information unless the agency can demonstrate that it has instituted procedures to protect the information's confidentiality to the extent permitted by law.*

This requirement follows the guideline in 5 CFR 1320.5(d)(2).

8. Provide information on the PRA Federal Register Notice that solicited public comments on the information collection prior to this submission. Summarize the public comments received in response to that notice and describe the actions taken by the agency in response to those comments. Describe the efforts to consult with people outside the agency to obtain their views on the availability of data, frequency of collection, the clarity of instructions and recordkeeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported.

FAA published a 60-day notice for public comments in the Federal Register on March 23, 2026, 91 FR 13928. No comments were received. No additional communication will be provided to the stakeholders outside of collecting this information.

9. Explain any decisions to provide payments or gifts to respondents, other than remuneration of contractors or grantees.

No decision was made to provide any payment or gift to respondents.

10. Describe any assurance of confidentiality provided to respondents and the basis for assurance in statute, regulation, or agency policy.

Information collected, including company proprietary information, is protected in accordance with the Freedom of Information Act. Furthermore, in accordance with § 413.9, any person furnishing information or data to the FAA may request in writing that trade secrets or proprietary commercial or financial data be treated as confidential. The request must be made at the time the information or data is submitted and state the period for which confidential treatment is desired.

11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private.

No sensitive information is required.

12. Provide estimates of the hour burden of the collection of information.

Presented below are estimates of cost for each section, as appropriate. The FAA is using flight data from the last three years to estimate the number of flights in the next three years. There were 15 flights in the last three years and the FAA estimates that number to remain the same in the next three years. The industry hourly rate (\$67.88)¹ is the mean hourly wage for aerospace engineering personnel involved in gathering, reviewing, and formatting the information required in each license application. The industry hourly rate is based on aerospace engineering personnel only; it does not include rates for executive or managerial personnel. We multiplied the hourly wage rate by a fringe benefit rate of 30.03 percent.² Resulting in a fully loaded rate of \$88.26.

§ 460.9 Informing crew of launch risk.

14 CFR Part 460.9 requires an operator to inform in writing any individual serving as crew that the United States Government has not certified the launch vehicle as safe for carrying flight crew or space flight participants.

Estimate

The FAA estimates 22.4 hours for each respondent to prepare the initial documentation and update it as necessary. Hence the estimated annual hour burden to comply with §460.9 is:

¹ U.S. Bureau of Labor Statistics, Aerospace Engineers, \$ mean hourly wage rate, <https://www.bls.gov/oes/current/oes172011.htm>

² Source: Professional and related percentage of total compensation of 30.03% in table 4 of the Employer Costs for Employee compensation for private industry workers by occupation and industry (<https://www.bls.gov/news.release/pdf/ecec.pdf>).

Annual Hour Burden - $22.4 \times 5 = 112$

The estimated average annual cost for companies to inform flight crew in writing that the Government has not certified the launch vehicle as safe is:

Annual Cost Burden - $\$88.26 \times 112 = \$9,885$

Summary (Annual numbers)	Reportin g	Recordkeepin g	Disclosur e
# Of Respondents	0	0	5
# Of Responses per respondent	0	0	1
Time per Response	0	0	22.4
Total # of responses	0	0	5
Total burden (hours)	0	0	112

§ 460.17 Verification program.

In accordance with § 460.17, an operator must successfully verify the integrated performance of a vehicle's hardware and any software in an operational flight environment before allowing any space flight participant on board during a flight. Verification must include flight testing.

Estimate:

The FAA estimates 16 hours for each respondent to prepare the initial documentation and update it as necessary. Hence the estimated annual hour burden to comply with §460.49 is:

Annual Hour Burden - $16 \times 5 = 80$

The estimated average annual cost for companies to execute space flight participants waiver of claims against the licensee is:

Annual Cost Burden - $\$88.26 \times 80 = \$7,061$

Summary (Annual numbers)	Reportin g	Recordkeepin g	Disclosur e
# Of Respondents	5	0	0
# Of Responses per respondent	1	0	0
Time per Response	16	0	0
Total # of responses	5	0	0
Total burden (hours)	80	0	0

§ 460.19 Crew waiver of claims against U.S. Government.

14 CFR Part 460.19 requires each member of a flight crew and any remote operator to execute a reciprocal waiver of claims with the Federal Aviation Administration of the Department of Transportation in accordance with the requirements of part 440.

The FAA estimates 22.4 hours for each respondent to prepare the initial documentation and update it as necessary. Hence the estimated annual hour burden to comply with §460.19 is:

Annual Hour Burden - $22.4 \times 5 = 112$

The estimated average annual cost for companies to execute crew waiver of claims against the U.S. Government is:

Annual Cost Burden - $\$88.26 \times 112 = \$9,885$

Summary (Annual numbers)	Reportin g	Recordkeepin g	Disclosur e
# Of Respondents	5	0	0
# Of Responses per respondent	1	0	0
Time per Response	22.4	0	0
Total # of responses	5	0	0
Total burden (hours)	112	0	0

§ 460.45 Operator informing space flight participants of risks.

14 CFR Part 460.45 requires an operator to inform each space flight participant in writing about the risks of the launch and reentry, including the safety record of the launch or reentry vehicle type. The operator must present this information in a manner that is understandable to the space flight participant. The space flight participant must provide written informed consent. We assume the operator prepares the informed consent documents and obtains signatures from the space flight participant.

Estimate:

The FAA estimates 56 hours for each respondent to prepare the initial documentation and update it as necessary. Hence the estimated annual hour burden to comply with §460.45 is:

Annual Hour Burden - $(56 \times 5) = 280$

The estimated average annual cost for companies to inform each space flight participant in writing about the risks of the launch and reentry, including the safety record of the launch or reentry vehicle type, is:

Annual Cost Burden - $\$88.26 \times 280 = \$24,713$

Summary (Annual numbers)	Reportin g	Recordkeepin g	Disclosur e
# Of Respondents	0	0	5
# Of Responses per respondent	0	0	1
Time per Response	0	0	56
Total # of responses	0	0	5
Total burden (hours)	0	0	280

§ 460.49 Space flight participant waiver of claims against U.S. Government:

14 CFR Part 460.49 requires that each space flight participant executes a reciprocal waiver of claims with the FAA.

Estimate:

The FAA estimates 22.4 hours for each respondent to prepare the initial documentation and update it as necessary. Hence the estimated annual hour burden to comply with §460.49 is:

Annual Hour Burden - $22.4 \times 5 = 112$

The estimated average annual cost for companies to execute space flight participants waiver of claims against the U.S. Government is:

Annual Cost Burden - $\$88.26 \times 112 = \$9,885$

Summary (Annual numbers)	Reportin g	Recordkeepin g	Disclosur e
# Of Respondents	5	0	0
# Of Responses per respondent	1	0	0
Time per Response	22.4	0	0
Total # of responses	5	0	0
Total burden (hours)	112	0	0

§ 51 U.S.C. § 50914(b)(1) Space flight participant waiver of claims with licensee:

§ 51 U.S.C. § 50914(b)(1) requires a licensee to make a reciprocal waiver of claims with each space flight participant.

Estimate:

The FAA estimates 22.4 hours for each respondent to prepare the initial documentation and update it as necessary. Hence the estimated annual hour burden to comply with §50914 (b)(1) is:

Annual Hour Burden - $22.4 \times 5 = 112$

The estimated average annual cost for companies to execute space flight participants waiver of claims against the licensee is:

Annual Cost Burden - $\$88.26 \times 112 = \$9,885$

<i>Summary (Annual numbers)</i>	<i>Reporti ng</i>	<i>Recordkeep ing</i>	<i>Disclos ure</i>
# Of Responde nts	5	0	0
# Of Response s per responde nt	1	0	0
Time per Response	22.4	0	0
Total # of responses	5	0	0
Total burden (hours)	112	0	0

Estimated Annual Cost Summary

<u>Part</u>	<u>Hour</u> <u>s</u>	<u>Hourly</u> <u>Rat</u> <u>e</u>	<u>Subtotals</u>
460.9	112	\$88.26	\$9,885
460.17	80	\$88.26	\$7,061
460.19	112	\$88.26	\$9,885
460.45	280	\$88.26	\$24,713
460.49	112	\$88.26	\$9,885
<u>§ 51 U.S.C. §</u> <u>50914(b)</u> <u>(1)</u>	112	\$88.26	\$9,885
<u>Total</u>	808		\$71,314

The FAA estimates an annual hourly burden of 808 hours.

The FAA estimates the annual cost burden is \$71,314

13. Provide an estimate for the total annual cost burden to respondents or record keepers resulting from the collection of information.

Total estimated cost of the rule is presented in item #12 above. No additional costs are required. Other costs incurred by a respondent or recordkeeper, such as obtaining the services of contractors or acquiring additional electronic media or equipment, are at their discretion and are optional and voluntary.

14. Provide estimates of annualized costs to the Federal government. Also, provide a description of the method used to estimate cost, which should include quantification of hours, operational expenses (such as equipment, overhead, printing, and support staff), and any other expenses that would not have been incurred without this collection of information.

The FAA finds that much of its application review practices under the rule are consistent with previously established practice. However, the rule contains six discrete sections having requirements that resulted in six new requirements that cause the FAA to make additional effort in reviewing records pertaining to these sections as summarized in the table below. The FAA estimates that collectively these requirements cause the FAA to expend as much as two person-hours to review each mission and ascertain compliance during oversight activities (e.g., inspection) at commercial operator facilities. The FAA expects to use GS-13 step 5 level personnel with a loaded hourly rate of \$66.11 for this work.

Rule	Title	Potential Effect
§ 460.9	Informing Flight Crew of Launch Risk	Review records
§ 460.17	Reciprocal Waiver of Claims Requirements	Review records
§ 460.19	Flight Crew Waiver of Claims Against U.S. Government	Review records
§ 460.45	Operator Informing Space Flight Participants of Risks	Review records
§ 460.49	Space Flight Participants Waiver of Claims Against U.S. Government	Review records
§ 51 U.S.C. § 50914(b)(1)	Space flight participant waiver of claims with licensee	Review records

Estimate

We estimate that the Federal government expends two person hours to review each mission and ascertain compliance during oversight activities at commercial operator facilities at an average of 5 missions per year. The cost for the government employee is based on the 2026 GS 13 Step 5 wage³. The government hourly rate (\$66.36) is multiplied by 1.381 to account for a fringe benefits rate of 38.1 percent, resulting in a fully loaded hour rate of \$91.64.

Annual Hour Burden – $2 \times 5 = 10$

This results in an estimated annual cost of \$916

15. Explain the reasons for any program changes or adjustments.

³3. SALARY TABLE 2026-DCB FOR THE LOCALITY PAY AREA OF WASHINGTON-BALTIMORE-ARLINGTON, DC-MD-VA-WV-PA
Source: OPM, <https://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/2026/general-schedule>.

Estimates were updated based on actual missions with humans on board over the last three years. The FAA estimates the number of launches with humans on board to remain the same as the past three years and may even be less than the past 3 years. Costs were updated to match the sources as of 2026.

16. For collections of information whose results will be published, outline plans for tabulation and publication. Address any complex analytical techniques that will be used. Provide the time schedule for the entire project, including beginning and ending dates of the collection of information, completion of report, publication dates, and other actions.

In general, the FAA/AST does not intend to publish this information. An exception would be the “publication” of the safety record of launch or reentry vehicles that have carried one or more participants, including both U.S. government and private sector vehicles. Publication would be in terms of making this information available on AST’s website if the FAA chooses this option.

17. If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons why display would be inappropriate.

No approval is sought.

18. Explain each exception to the topics of the certification statement identified in “Certification for Paperwork Reduction Act Submissions.”

There are no exceptions.