

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

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 Amendments 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 in order 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 the 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 a 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 of 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

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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 many 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 many as four person-hours to prepare

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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 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 execute 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

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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).

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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 this collection is mandatory. By statute, a license or permit is required for any person to launch a launch vehicle from or to reenter a reentry vehicle into the United States, and for a citizen of the United States to launch a launch vehicle or reenter a reentry vehicle outside the United States. In order to obtain and maintain a license or permit, a launch or reentry operator carrying crew or space flight participants must provide the information requested. The collection includes disclosure and reporting. The frequency of the collection is on occasion and depends on whether the information collection pertains to obtaining a license or permit, an individual launch or reentry, or hiring or contracting for a crewmember. The FAA would receive information on crew qualifications and training, operating training of crew, a verification program, and crew and space flight participant waiver of claims. The crew would receive information about how the United States government has not certified the launch vehicle as safe, and space flight participants would receive information about the risks of space flight.

The information is used by the FAA, a licensee or permittee, a space flight participant, or a crew member. The FAA uses the information to ensure that a launch or reentry operation with a human being on board will meet the risk criteria and requirements to ensure 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 jeopardizing public safety. A space flight participant and crew member uses information provided by a licensee or permittee to ensure that he or she understands the risks of the launch and reentry. A licensee or permittee 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, a licensee or permittee 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 the risks associated with participating in space launch or reentry activities, and that his or her presence on board the vehicle is voluntary. A licensee or permittee is responsible for ensuring that written, informed consent is received from a space flight participant before allowing a space flight participant to be on board a launch or reentry vehicle.

The 2004 CSLAA mandates that flight crew and space flight participants execute a reciprocal waiver of claims with the FAA. As noted earlier, the 2015 CSLCA mandates that space flight participants also execute a reciprocal waiver of claims with a licensee. Prior to a mission, the FAA ensures these reciprocal waiver of claims are executed.

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

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techniques or other forms of information technology.

In general, most of the information can be provided in an electronic format. An exception may be where a signature is required, such as the written informed consent that requires a signature from a space flight participant, and the execution of reciprocal waiver of claims that 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 has published a U.S. Human Space Flight Safety Record Data to aid licensees in complying with the informed consent requirements of 14 CFR § 460.45(c), which requires an operator to inform each space flight participant of the safety record of all launch or reentry vehicles that have carried one or more persons on board. This avoids individual operators from developing similar databases.

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

The FAA does not expect small businesses to operate human space flight vehicles.

6. Describe the consequence 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.

The frequency of collecting the 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.

If the collection of information, which involves reporting and disclosures, is not conducted, the FAA may not be able to make a license or permit determination and the requirements of the CSLAA would not be met. The same holds true for less frequent collections – the FAA cannot make license and permit determinations on partial information, and the frequency of informed consent is statutorily based.

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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,*

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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.*

Explain the need for any inconsistencies in your collection.

There are no special circumstances.

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 persons 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.

A Federal Register Notice published on June 12, 2019 (84 FR 27391) solicited public comment. One comment was received to this 60-day notice. However, the comment did not address the information collection. The comment instead suggested the use of a solar sail, nuclear power, or solar power on space missions beyond the moon.

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

There are no payments or gifts provided to respondents.

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

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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 of time 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.

There are no questions of a sensitive nature.

12. Provide estimates of the hour burden of the collection of information. The statement should:

Presented below are estimates of cost for each section, as appropriate. The FAA assumes that the industry loaded hourly cost is estimated to be \$75.00.¹ In addition, for purposes of this information collection supporting statement, the FAA examined two scenarios. The high mission estimate involves six commercial launch entities over 10 years, while the low mission estimate includes four commercial launch entities over 10 years. The high mission scenario estimated that there will be 2,000 launches over ten years, while the low mission scenario estimated 200 launches over ten years.

§ 460.9 Informing crew of launch risk.

14 CFR 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.

High estimate

This scenario requires 4 person-hours to prepare the initial documentation and one person-hour for each of 200 annual missions to update, administer, and maintain the document. Hence the estimated annual hour burden to comply with §460.9 is:

¹ Based on a review of the information and potential respondents, the FAA uses an average of an aerospace engineer mean hourly wage (<https://www.bls.gov/oes/current/oes172011.htm>) and a transportation manager mean hourly wage (<https://www.bls.gov/oes/current/oes113071.htm>) from the Bureau of Labor Statistics (BLS) data series for Occupational Employment and Wages, May 2018 report. This results in an average wage of about \$52.80. The FAA uses the percentage of private sector employer benefit compensation to adjust these wages to include benefits using the latest BLS data series report for Employer Costs for Employee Compensation (<https://www.bls.gov/news.release/pdf/ecec.pdf>; benefit employer costs for private industry workers accounted for about 30 percent in the 2018 report released on March 19, 2019). This results in a loaded industry hourly cost of about \$75.00.

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Annual Hour Burden - $(6 \times 4)/10 + (200 \times 1) = 202.4$

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 - $\$75.00 \times 202.4 = \$15,180$

Low Estimate

This scenario requires 4 person-hours to prepare the initial documentation and one person-hour for each of 20 annual missions to update, administer, and maintain the document. Hence the estimated hour burden is:

Annual Hour Burden - $(4 \times 4)/10 + (20 \times 1) = 21.6$

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 - $\$75.00 \times 21.6 = \$1,620$

§ 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.

High Estimate:

This scenario requires 160 person-hours to prepare the application material for each vehicle:

Annual Hour Burden - $(6 \times 160)/10 = 96$

The estimated average annual cost for companies to verify the integrated performance of a vehicle's hardware and any software in an operational flight environment is:

Annual Cost Burden - $\$75.00 \times 96 = \$7,200$

Low Estimate

This scenario requires 160 person-hours to prepare the application material for

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each vehicle:

$$\text{Annual Hour Burden} - (4 \times 160)/10 = 64$$

The estimated average annual cost for companies to verify the integrated performance of a vehicle's hardware and any software in an operational flight environment is:

$$\text{Annual Cost Burden} - \$75.00 \times 64 = \$4,800$$

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

14 CFR 460.19 requires each member of a flight crew to execute a reciprocal waiver of claims with the FAA in accordance with Part 440.

High Estimate:

This scenario requires 4 person-hours to prepare the initial documentation and one person-hour for each of 200 annual missions to administer the document and maintain it as a record. Hence the estimated annual hour burden for §460.19 is:

$$\text{Annual Hour Burden} - (6 \times 4)/10 + (200 \times 1) = 202.4$$

The estimated average annual cost for companies to prepare the paperwork for crew members to execute a reciprocal waiver of claims with the FAA is:

$$\text{Annual Cost Burden} - \$75.00 \times 202.4 = \$15,180$$

Low Estimate:

This scenario requires 4 person-hours to prepare the initial documentation and one person-hour for each of 20 annual missions to administer the document and maintain it as a record. Hence, the estimated hour burden is:

$$\text{Annual Hour Burden} - (4 \times 4)/10 + (20 \times 1) = 21.6$$

The estimated average annual cost for companies to prepare the paperwork for crew members to execute a reciprocal waiver of claims with the FAA is:

$$\text{Annual Cost Burden} - \$75.00 \times 21.6 = \$1,620$$

§ 460.45 Operator informing space flight participant of risks.

14 CFR 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

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understandable to the space flight participant. The space flight participant must provide written informed consent.

High Estimate:

This scenario requires 120 person-hours to prepare the initial launch risk and consent form documents. We estimate that two person-hours are expended for each of the 200 annual missions carrying space flight participants to update and document safety record information and to maintain a record of the signed consent form. Hence, the estimated annual hour burden for §460.45 is:

$$\text{Annual Hour Burden} - (6 \times 120)/10 + (200 \times 2) = 472$$

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:

$$\text{Annual Cost Burden} - \$75.00 \times 472 = \$35,400$$

Low Estimate

This scenario requires 120 person-hours to prepare the initial launch risk and consent form documents. We estimate that two person-hours are expended for each of the 20 annual missions carrying space flight participants to update and document safety record information and to maintain a record of the signed consent form. Hence the estimated annual hour burden for §460.45 is:

$$\text{Annual Hour Burden} - (4 \times 120)/10 + (20 \times 2) = 88$$

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:

$$\text{Annual Cost Burden} - \$75.00 \times 88 = \$6,600$$

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

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

High Estimate:

This scenario requires 4 person-hours to prepare the initial documentation for the space flight participant and one person-hour will be incurred for each of the 200 annual

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missions carrying space flight participants to administer the document and maintain it as a record. Hence, the estimated annual hour burden for §460.49 is:

$$\text{Annual Hour Burden} - (6 \times 4)/10 + (200 \times 1) = 202.4$$

The estimated average annual cost for companies to prepare the initial documentation for the space flight participant's reciprocal waiver and to administer the document and maintain it as a record is:

$$\text{Annual Cost Burden} - \$75.00 \times 202.4 = \$15,180$$

Low Estimate:

This scenario requires 4 person-hours to prepare initial documentation for the space flight participant and one person-hour will be incurred for each of the 20 annual missions carrying space flight participants to administer the document and maintain it as a record. Hence the estimated annual hour burden for §460.49 is:

$$\text{Annual Hour Burden} - (4 \times 4)/10 + (20 \times 1) = 21.6$$

The estimated average annual cost for companies to prepare initial documentation for the space flight participant and to administer the document and maintain it as a record is:

$$\text{Annual Cost Burden} - \$75.00 \times 21.6 = \$1,620$$

§ 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.

High Estimate:

This scenario requires 4 person-hours to prepare the initial documentation for the space flight participant and one person-hour will be incurred for each of the 200 annual missions carrying space flight participants to administer the document and maintain it as a record. Hence, the estimated annual hour burden for 51 U.S.C. § 50914(b)(1) is:

$$\text{Annual Hour Burden} - (6 \times 4)/10 + (200 \times 1) = 202.4$$

The estimated average annual cost for companies to prepare the initial documentation for the space flight participant's reciprocal waiver and to administer the document and maintain it as a record is:

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Annual Cost Burden - $\$75.00 \times 202.4 = \$15,180$

Low Estimate:

This scenario requires 4 person-hours to prepare initial documentation for the space flight participant and one person-hour will be incurred for each of the 20 annual missions carrying space flight participants to administer the document and maintain it as a record. Hence the estimated annual hour burden for 51 U.S.C. § 50914(b)(1) is:

Annual Hour Burden - $(4 \times 4)/10 + (20 \times 1) = 21.6$

The estimated average annual cost for companies to prepare initial documentation for the space flight participant and to administer the document and maintain it as a record is:

Annual Cost Burden - $\$75.00 \times 21.6 = \$1,620$

High Estimate Annual Cost Summary

<u>Section</u>	<u>Hours</u>	<u>Hourly Rate</u>	<u>Total</u>
460.9	202.4	\$75.00	\$15,180
460.17	96	\$75.00	\$7,200
460.19	202.4	\$75.00	\$15,180
460.45	472	\$75.00	\$35,400
460.49	202.4	\$75.00	\$15,180
51 USC 50914(b)(1)	202.4	\$75.00	\$15,180
<u>Total</u>	1,377.6	\$75.00	\$103,320

Low Estimate Annual Cost Summary

<u>Section</u>	<u>Hours</u>	<u>Hourly Rate</u>	<u>Total</u>
460.9	21.6	\$75.00	\$1,620
460.17	64	\$75.00	\$4,800
460.19	21.6	\$75.00	\$1,620
460.45	88	\$75.00	\$6,600
460.49	21.6	\$75.00	\$1,620
51 USC 50914(b)(1)	21.6	\$75.00	\$1,620
<u>Total</u>	238.4	\$75.00	\$17,880

The FAA estimates an average annual hourly burden of 808 hours. This is the average between the high and low estimates.

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The FAA estimates the annual cost burden as \$60,600. This is the average of the annual cost under the high mission scenario (\$103,320) and the annual cost under the low mission scenario (\$17,880).

Summary (Annual numbers) ²	Reporting	Recordkeeping	Disclosure
# of Respondents	5		5
# of Responses per respondent	1 per IC		1 per IC
Time per Response (Hours)			
460.9			112
460.17	80		
460.19	112		
460.45			280
460.49	112		
51 USC	112		
Total # of responses	20		10
Total burden (hours)	416		392

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 estimated.

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 expense that would not have been incurred without this collection of information.

²This table represents the average of the high and low estimates described in the response to question 12 for each of the six ICs (14 CFR §§ 460.9, 460.17, 460.19, 460.45, 460.49, 51 USC) in this Statement.

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The FAA finds that much of its application review practices under the rule is consistent with previously-established practice. However, the rule or statute contains five new requirements that result in the need for the FAA to review 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 \$70.14 for this work.³

Rule	Title	Potential Effect
§ 460.9	Informing Flight Crew of Launch Risk	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 USC 50914(b)(1)	Space Flight Participants Waiver of Claims With Licensee	Review records

High 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 200 missions per year.

Annual Hour Burden – $2 \times 200 = 400$

This results in an estimated annual cost of \$28,056.

Annual Cost Burden - $\$70.14 \times 400 = \$28,056$

Low 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 20 missions per year.

Annual Hour Burden – $2 \times 20 = 40$

³ GS-13, Step 5 hourly wage of about \$51.48 then adjusted for a Federal fringe benefit factor of 36.25 percent for a loaded wage of about \$70.14.

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This results in an estimated annual cost of \$2,805.6.

Annual Cost Burden - $\$70.14 \times 40 = \$2,805.6$

Note: The FAA estimates the annual cost burden as \$15,430.8. This is the average of the annual cost under the high mission scenario (\$28,056) and the annual cost under the low mission scenario (\$2,805.6).

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

With the exception of adding an hourly burden for providing the FAA with verification data per 14 CFR § 460.17 and adding an hourly burden for the CSLAA's cross-waiver requirement, the hourly burden estimates remain the same. Based on the current state of the industry, the projected flight rate over a ten year period has been reduced from 3,017 to 2,000 for a high scenario, and from 1,669 to 200 for a low scenario. In addition, the high mission estimate involves six instead of seven commercial launch entities over 10 years, while the low mission estimate includes four instead of five commercial launch entities over 10 years.

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.

The FAA does not intend to publish information furnished by applicants or licensees.

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.