

Proposed Rules

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This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Parts 401, 413, 415, 431, 435, 437, 440, 450, and 460

[Docket No.: FAA–2023–1656; Notice No. 23–11]

RIN 2120–AL19

U.S. Commercial Space Launch Competitiveness Act Incorporation

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This proposed rule would incorporate various changes required by the United States Commercial Space Launch Competitiveness Act of November 2015. This proposed rule would provide regulatory clarity to applicants seeking licenses for space flight operations involving government astronauts by adding two new subparts to the human space flight regulations containing requirements for operators with government astronauts with and without safety-critical roles on board vehicles. The proposed rule would also require an operator to demonstrate any government astronauts on board can perform their role in safety-critical tasks. This proposed requirement would maintain public safety by ensuring operators provide mission specific training on safety-critical tasks to government astronauts, as has been done in the NASA Commercial Crew Program. The proposed rule would also update definitions relating to commercial space launch and reentry vehicles and occupants to reflect current legislative definitions, expand applicability of permitted operations for reusable suborbital rockets to include reusable launch vehicles that will be launched into a suborbital trajectory or reentered from a suborbital trajectory, as well as implement clarifications to financial responsibility requirements in

accordance with the United States Commercial Space Launch Competitiveness Act. Finally, this proposed rule would move the templates for waiver of claims to an advisory circular.

DATES: Comments are due on or before October 17, 2023.

ADDRESSES: Send comments identified by docket number FAA–2023–1656 using any of the following methods:

- *Federal eRulemaking Portal:* Go to www.regulations.gov and follow the online instructions for sending your comments electronically.
- *Mail:* Send comments to Docket Operations, M–30; U.S. Department of Transportation (DOT), 1200 New Jersey Avenue SE, Room W12–140, West Building Ground Floor, Washington, DC 20590–0001.
- *Hand Delivery or Courier:* Take comments to Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- *Fax:* Fax comments to Docket Operations at (202) 493–2251.

Privacy: In accordance with 5 U.S.C. 553(c), DOT solicits comments from the public to better inform its rulemaking process. DOT posts these comments, without edits, including any personal information the commenter provides, to www.regulations.gov, as described in the system of records notice (DOT/ALL–14 FDMS), which can be reviewed at www.dot.gov/privacy.

Docket: Background documents or comments received may be read at www.regulations.gov at any time. Follow the online instructions for accessing the docket or go to the Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Charles Huet, Space Policy Division, Space Regulations and Standards Branch, ASZ–210, Federal Aviation Administration, 800 Independence Avenue SW, Washington, DC 20591; telephone (202) 306–9069; email charles.huet@faa.gov.

SUPPLEMENTARY INFORMATION:

Authority for This Rulemaking

The Commercial Space Launch Act of 1984, as amended and codified at 51 U.S.C. 50901–50923 (the Act), authorizes the Secretary of Transportation to oversee, license, and regulate commercial launch and reentry activities, and the operation of launch and reentry sites within the United States (U.S.) or as carried out by U.S. citizens. Section 50905 directs the Secretary to exercise this responsibility consistent with public health and safety, safety of property, and the national security and foreign policy interests of the U.S. In addition, section 50903 directs the Secretary to encourage, facilitate, and promote private sector commercial space launches and reentries. As codified in 49 CFR 1.83(b), the Secretary has delegated authority to the FAA Administrator to carry out these functions.

I. Overview

This proposed rule would amend title 14 of the Code of Federal Regulations (14 CFR) parts 401, 413, 415, 431, 435, 437, 440, 450, and 460 by incorporating statutory changes resulting from the United States Commercial Space Launch Competitiveness Act (CSLCA).¹ This rule proposes to add definitions for “Government astronaut,” “International partner astronaut,” and “International Space Station Intergovernmental Agreement” and would also revise other definitions required to address the addition of “Government astronaut.” This proposed rule would also: (1) expand applicability of permitted operations for suborbital rockets to suborbital launch and reentry vehicles (2) revise the human space flight sections of parts 415, 431, 435, 437, and 450 to include the term “human being” in order to incorporate government astronauts; (3) update the financial responsibility requirements in part 440 to exclude government astronauts from the definitions of “Third party” and “Government personnel” in part 440; (4) add space flight participants to the insurance requirements in § 440.9, and the reciprocal waiver of claims requirements in § 440.17; and (5) remove the templates for waiver of claims and assumption of responsibilities in appendices B through

¹ Public Law 114–90, sections 103, 104, 107, and 112.

E of part 440 from the regulations and place them in a separate advisory circular (AC). Finally, this rule would create two new subparts in 14 CFR part 460 to include proposed requirements for operators and applicants whose licensed or permitted operations involve government astronauts with and without safety-critical roles on board a vehicle.

II. Background

A. National Aeronautics and Space Administration's Commercial Crew Program

The National Aeronautics and Space Administration (NASA) Commercial Crew Program provides human transportation between the U.S. and the International Space Station (ISS) through the purchase of transportation services from American commercial launch providers. It has resulted in NASA astronauts flying on board licensed commercial vehicles to or from the ISS since 2020. A new generation of spacecraft and launch systems capable of carrying government astronauts to low-Earth orbit and the ISS provides expanded utility, additional research time, and broader opportunities for discovery on the ISS. The Commercial Crew Program represents a revolutionary approach to government and commercial collaborations for the advancement of space exploration.

NASA—including Johnson Space Center and Kennedy Space Center—and the FAA have previously discussed the statutory and regulatory definitions that apply to NASA astronauts riding on board Commercial Crew Program-provided spacecraft and the associated roles and responsibilities of both agencies. These discussions led NASA and the FAA to establish the NASA–FAA Joint Legal Working Group in January 2012. This working group eventually contributed to a series of recommendations NASA provided to Congress in proposed legislation. As detailed below, title 51 did not effectively accommodate NASA astronauts flying on commercially owned and operated spacecraft. NASA and the FAA jointly determined that the legal definitions for crew and space flight participants were insufficient to accommodate the role of government astronauts on board Commercial Crew missions. The agencies agreed that a change to legislation would be needed to support the success of its Commercial Crew Program and to support

commercial human space flight endeavors in general.²

B. Issues With Categorizing NASA Astronauts as “Space Flight Participants” or “Crew”

Before the passage of the CSLCA in 2015, title 51—and by extension FAA regulations codifying the statutes—only contemplated two categories of persons carried on board FAA-licensed launch and reentry vehicles: “crew” and “space flight participants.” These designations were problematic for NASA astronauts for several reasons. “Crew” was defined as any employee of a licensee or transferee, or of a contractor or subcontractor of a licensee or transferee, who performs activities in the course of that employment directly relating to the launch, reentry, or other operation of or in a launch vehicle or reentry vehicle that carries human beings.³ A “space flight participant” was defined as an individual, who is not crew, carried within a launch vehicle or reentry vehicle.⁴ FAA regulations mirror these two definitions.⁵ One of the NASA–FAA Joint Legal Working Group’s concerns in 2012 was that the professionally trained and experienced NASA astronauts could not be appropriately categorized either as “space flight participants” or “crew” as then defined in title 51.

Before passage of the CSLCA, government astronauts were categorized as space flight participants because they were not employees of the licensee or transferee or of a contractor or subcontractor of a licensee or transferee. The FAA could not categorize government astronauts as crew for the same reason. This categorization, however, presented multiple issues.

First, 51 U.S.C. 50914(b) requires space flight participants to sign waivers of claims against the U.S. Government for personal injury, death, or property damage when participating in FAA-licensed launches and reentries. On the other hand, in Legal Interpretation to Courtney B. Graham (December 23, 2013), the FAA explained that NASA astronauts may not sign reciprocal waivers of claims because doing so would conflict with various federal statutes, including the Federal Employees Compensation Act and the Military Personnel and Civilian Employees Claims Act.⁶

Second, NASA expressed concerns regarding the requirement in 51 U.S.C.

50905(b)(5) for operators to inform space flight participants of the risks of licensed activity and obtain written informed consent from space flight participants. However, unlike space flight participants, government astronauts are already familiar with the particular risks involved in space flight and should not need to provide informed consent. Nevertheless, because the informed consent requirements for space flight participants did not conflict with federal statutes, unlike reciprocal waivers of claims, the government astronauts would have been required to comply with the requirements. Accordingly, the FAA issued a legal interpretation stating that NASA and international partner astronauts are space flight participants and therefore must provide informed consent in accordance with the statute and 14 CFR 460.45;⁷ however, it was deemed not necessary when flying as a government astronaut.

Finally, NASA sought clarification on whether a government astronaut, as a space flight participant, could perform operational functions during a commercial space launch or reentry under license from the FAA.⁸ In 2013, the FAA issued a legal interpretation stating that, while the applicable statute and regulations did not limit a space flight participant’s conduct or operations during launch or reentry, the FAA was concerned with space flight participants interacting with a launch or reentry vehicle based on the possibility that space flight participants would not have the proper vehicle and mission-specific training.⁹ The interpretation noted, however, that NASA astronauts must meet rigorous medical and training requirements, which include training

⁷ Legal Interpretation to Courtney B. Graham (July 9, 2014) (requesting a legal interpretation on whether the holder of a license or permit under 51 U.S.C. Ch. 509 must obtain written informed consent from a space flight participant who is a NASA astronaut and a U.S. Government employee, either as a civil servant or a member of the U.S. armed forces; and whether a licensee or permittee must obtain informed consent from a space flight participant who is an astronaut employed by one of NASA’s international partners).

⁸ Whereas the definition of crew in title 51 expressly acknowledges a crew member’s ability to perform activities directly relating to operation of the vehicle, the definition of space flight participant contains no express authority to do so. See Legal Interpretation to Courtney B. Graham (Dec. 23, 2013) in which the FAA answers NASA questions regarding whether the space transportation regulations would restrict NASA astronauts from performing operational functions during a commercial space launch or reentry under license from the FAA.

⁹ Legal Interpretation to Courtney B. Graham (Dec. 2, 2013) (78 FR 72011).

² Interpretation Concerning Involvement of NASA Astronauts During a Licensed Launch or Reentry. 78 FR 72011 (2013).

³ 51 U.S.C. 50902 (2014).

⁴ Id.

⁵ 14 CFR 401.5 and 401.7.

specific to each mission, launch vehicle, and reentry vehicle.¹⁰

C. United States Commercial Space Launch Competitiveness Act

NASA and the FAA submitted a joint legislative request to Congress in 2013 to address the discussed above. In response, Congress passed the CSLCA in 2015 and included a definition of a new category of person on board an FAA-licensed launch or reentry vehicle: government astronaut. Under 51 U.S.C. 50902, government astronaut is defined as an individual who is designated by the National Aeronautics and Space Administration Administrator under section 51 U.S.C. 20113(n), is carried within a launch vehicle or reentry vehicle in the course of his or her employment, which may include performance of activities directly relating to the launch, reentry, or other operation of the launch vehicle or reentry vehicle, and is either an employee of the United States Government, including the uniformed services, engaged in the performance of a Federal function under authority of law or an Executive act, or an international partner astronaut. Per 51 U.S.C. 20113(n), for purposes of a license issued or transferred by the Secretary of Transportation under chapter 509 to launch a launch vehicle or to reenter a reentry vehicle carrying a government astronaut (as defined in section 50902), NASA designates a government astronaut in accordance with requirements prescribed by NASA.¹¹ The FAA accepts any NASA designation of government astronaut.

In addition to adding a new definition of government astronaut, the CSLCA added launch and reentry vehicles on a suborbital trajectory to permitted operations in 51 U.S.C. 50902.¹² The CSLCA also added space flight participants to the insurance requirements and reciprocal waiver of claims requirements in 51 U.S.C. 50914 and the paying claims exceeding liability insurance and financial responsibility requirements in 51 U.S.C. 50915.

III. Discussion of the Proposed Rule

A. Summary

In this rulemaking, the FAA proposes to add the statutory definition of “government astronaut” to its regulations to conform to the CSLCA. In addition to incorporating the title 51 definition of “government astronaut,”

this rulemaking would also create two new subparts to part 460 to address the varying responsibilities government astronauts might have during a launch or reentry. One subpart would address requirements for government astronauts whose actions have the ability to impact public safety because they perform a safety-critical role, and one subpart would address requirements for government astronauts that do not play a safety-critical role during licensed or permitted activity. The proposed rule is not intended to conflict with NASA vehicle certification and safety processes.

Other changes proposed by this rulemaking would align various related definitions and regulations with the addition of “government astronaut,” such as replacing the terms “crew” and “space flight participant” with the term “human being” in order to encompass all three categories of persons carried on board a vehicle. The proposed addition of the “government astronaut” category would further require revisions to part 440 to exclude “government astronauts” from the definitions of “Third party” and “Government personnel.” Furthermore, this rulemaking proposes additional changes to the financial responsibility requirements in part 440 as required by the CSLCA. More specifically, this rulemaking would add space flight participants to the insurance requirements in § 440.9 and the reciprocal waiver of claims requirements in § 440.17. This rulemaking would remove the templates for waiver of claims and assumption of responsibilities in appendices B through E of part 440 from the regulations, which the Agency proposes to relocate in a separate AC.

B. Changes to Part 460—Human Space Flight Requirements

Current part 460 contains requirements for launches involving human space flight. Subpart A of part 460 contains requirements for launches and reentries with crew on board, including requirements for crew training, informing crew about risk, and waiver of claims against the U.S. Government. Subpart B of part 460 contains requirements for launches and reentries with human space flight participants on board, including requirements for informed consent, training space flight participants for an emergency scenario, security, and waiver of claims against the U.S. Government.

In this NPRM, the FAA proposes to add subparts C and D to part 460 to create requirements for operators conducting licensed or permitted

operations carrying government astronauts. Proposed subpart C of part 460 would contain operator requirements for licensed or permitted operations with government astronauts who perform a safety-critical role during launch or reentry. Consistent with the definition of “safety critical” in §§ 401.5 and 401.7, a role is safety-critical if it is essential to safe performance or operation.¹³ As the FAA regulates for public safety, a government astronaut performs a safety-critical role because of their ability to control in real time, a launch or reentry vehicle’s flight path during a phase of flight capable of endangering the public. Proposed subpart D of part 460 would contain operator requirements for licensed or permitted operations with government astronauts who do not perform a safety-critical role during launch or reentry.

1. Proposed Subpart C—Government Astronauts With Safety-Critical Roles

To protect public safety, the FAA is proposing to require operators to provide training and establish environmental controls for operations involving government astronauts with a safety-critical role. As with crew, the FAA finds that government astronauts likewise would need to be protected from atmospheric conditions and receive training that is necessary for the safety of members of the public, including those on the ground, in the air, and in space.¹⁴ Previously, the FAA has determined that in a piloted vehicle, the vehicle’s flight crew is an integral part of its flight safety system. This determination is based on the fact that they are in a position to respond to risk to the public, such as aborting the flight or maneuvering a vehicle away from populated areas.¹⁵ Similarly, government astronauts may be in a position to respond to risk to the public; therefore, the FAA is proposing a number of training requirements, not intended to duplicate, conflict with, or replace NASA’s training requirements for government astronauts, if they are

¹³ “Safety critical” for purposes of part 460 “means essential to safe performance or operation. A safety-critical system, subsystem, component, condition, event, operation, process, or item is one whose proper recognition, control, performance, or tolerance is essential to ensuring public safety. Something that is a safety-critical item creates a safety hazard or provides protection from a safety hazard.” 14 CFR 401.5.

¹⁴ As further discussed, the FAA proposes adding § 460.61 to require operators to provide an environment adequate to sustain life and consciousness for all inhabited areas within a vehicle that house a government astronaut with a safety-critical role.

¹⁵ Human Space Flight Requirements for Crew and Space Flight Participants, NPRM, 70 FR 77262, 77265 (Dec. 29, 2005).

¹⁰ *Id.*

¹¹ 51 U.S.C. 20113(n).

¹² Prior to the CSLCA, only reusable suborbital rockets qualified for a permit.

identified by the operator as having safety critical roles. Training provides government astronauts the knowledge and skill necessary to perform safety-critical tasks. Government astronauts with a safety-critical role would be required to be trained to successfully carry out their role on the vehicle.

The FAA proposes in § 460.57 to specify the groups to which subpart C would apply. Section 460.57(a) and (b) would state that subpart C would apply to an applicant for a license or permit and a licensed or permitted operator who intends to have a government astronaut with a safety-critical role on board a vehicle. In order to determine which government astronauts would need additional vehicle-specific training to meet the proposed requirements of subpart C, the operator would identify during the licensing process safety-critical tasks that require qualified personnel and whether a government astronaut would be performing any of those tasks.¹⁶ The operator would then be responsible for ensuring that those government astronauts identified as performing safety-critical tasks receive additional vehicle-specific training in accordance with proposed subpart C.

The FAA proposes in § 460.59(a)(1) to require an operator to train a government astronaut to carry out any safety-critical role on board so that the vehicle will not endanger the public. As stated above, the FAA is proposing this requirement because government astronauts with a safety-critical role can affect risk to the public. A government astronaut with a safety-critical role may have the ability to affect public safety, for example, through control of the trajectory of the vehicle, and must therefore be trained on how to carry out his or her mission-specific role on board the vehicle. Operators are in the best position to train government astronauts on particular aspects of the vehicle and mission that can affect public safety because they are most familiar with the vehicle and its operation. This training has been current practice on all Commercial Crew Program flights to date because NASA has required it from the operator through contract. The FAA proposes the following training requirements for those matters that affect public safety under its authority to issue regulations to license

¹⁶ In accordance with § 450.149, an applicant must identify safety-critical tasks that require qualified personnel, ensure that those personnel are trained, qualified, and capable of performing their safety-critical tasks, and provide internal training and currency requirements, or any other means for demonstrating compliance. Similar requirements can also be found in §§ 417.105, 417.311, and 415.113.

commercial space launch and reentry consistent with public safety.¹⁷

The FAA proposes to require an operator to provide government astronauts who perform safety-critical roles a training program similar to the training program required for crew. Because crew and government astronauts with a safety-critical role could be responsible for accomplishing the same tasks on board a vehicle, this rule would require the operator to provide them with similar training on the unique aspects of each vehicle and mission so they can successfully perform their roles on board.

While the requirements this rule proposes for government astronauts are similar to crew requirements, they are not identical. Current crew qualification and training requirements include a demonstration of the ability to withstand the stresses of space in sufficient condition to safely carry out his or her duties so that the vehicle will not harm the public.¹⁸ Each crew member with a safety-critical role is also required to possess and carry an FAA second-class medical certificate.¹⁹ The proposed rule would not require government astronauts with a safety-critical role to demonstrate an ability to withstand the stresses of space or to possess and carry an FAA medical certificate because the underlying concerns addressed by these crew requirements are satisfied by the NASA designation process for government astronauts.²⁰

The FAA proposes in § 460.59(a)(2) to require an operator to train government

¹⁷ The FAA notes that, while operators and NASA may establish mission-specific training of government astronauts through contract, the FAA has broader responsibility to issue regulations to protect public health and safety during licensed activity.

¹⁸ 14 CFR 460.5(b).

¹⁹ 14 CFR 460.5(e).

²⁰ For crew members to demonstrate a basic level of health within 12 months of launch or reentry, the FAA requires that each crew member with a safety-critical role must possess and carry an FAA second-class airman medical certificate. Human Space Flight Requirements for Crew and Space Flight Participants, Final Rule, 71 FR 75616, 75620 (Dec. 15, 2006). The FAA finds that such a requirement would be unnecessary for government astronauts because to achieve a government astronaut designation, NASA has verified a basic level of health during its training process. Additionally, any government astronaut designated by NASA has been trained by NASA to withstand the stresses of space flight while performing their duties. For example, Commercial Crew Transportation contractual requirements CCT-PLN-1120 section 6.3.1, and CCT-STD-1150 section 5.0 (Operations Training) ensure government astronauts can withstand the stresses of space flight while performing safety-critical tasks. See <https://ntrs.nasa.gov/api/citations/20150010760/downloads/20150010760.pdf>, <https://ntrs.nasa.gov/api/citations/20150010761/downloads/20150010761.pdf>.

astronauts (either directly or through another entity) with a safety-critical role on their roles in nominal and non-nominal conditions related to the launch or reentry vehicle, including abort scenarios and emergency operations, to the extent that performance of their role could endanger public safety. This vehicle-specific training has been current practice on all Commercial Crew Program flights to date, by contract between NASA and the operator. This requirement would be the same as the current crew training requirements in subpart A of part 460.²¹ In order to meet the proposed training requirement, the operator would be responsible for conducting a safety analysis in accordance with § 450.149 to identify which government astronaut tasks could endanger public safety.²² As previously mentioned, this analysis is necessary because government astronauts may be in a position to affect risk to the public and should be aware of and receive training on the tasks specific to their mission which could impact public safety. The operator would then need to ensure that the government astronaut is trained to successfully conduct those tasks. For missions where crew and government astronauts are on board, an operator may need to train government astronauts with crew as a team if safety-critical tasks require that government astronauts and crew work together. If a government astronaut does not have a role in nominal or non-nominal conditions to the extent that performance of their role could endanger public safety, then no additional training would be required.

The FAA proposes in § 460.59(b)(1) that an operator would ensure any government astronaut who has the ability to control, in real time, a launch or reentry vehicle's flight path during a phase of flight capable of endangering the public, receives vehicle specific training for each phase of flight capable

²¹ 14 CFR 460.5(a)(2).

²² Section 450.149 requires an operator to ensure that its safety-critical personnel are trained, qualified, and capable of performing their safety-critical tasks, and that their training is current. The FAA would consider any task that may have an effect on public safety and meets the definition of safety-critical found in § 401.5 subject to the requirements of § 450.149. These tasks would include, but are not limited to, operating and installing flight safety system hardware, operating safety support systems, monitoring vehicle performance, performing flight safety analysis, conducting launch operations, controlling public access, surveillance, and emergency response. With the many different kinds of operations currently underway, an operator is in the best position to identify the operations, personnel, and training needed for its operation. See Streamlined Launch and Reentry Licensing Requirements, NPRM, 84 FR 15332 (Apr. 15, 2019).

of endangering the public and over which the government astronaut has the ability to control the vehicle. Although government astronauts may have been trained on other vehicles, each vehicle has specific safety features that should be familiar to the person operating it. Under proposed § 460.59(b)(1), the training could be achieved by a method or device that simulates the flight, by an aircraft whose characteristics are similar to the vehicle or has similar phases of flight to the vehicle, by flight testing, or by an equivalent method of training approved by the FAA. The first three methods would ensure the government astronaut has familiarity with the vehicle and its operation by requiring means that are sufficiently similar to actual operations. The final method would provide flexibility and allow an operator to demonstrate that an alternative method would achieve the training objective. This familiarity would ensure the government astronaut is capable of operating the vehicle safely. This proposed requirement is the same as the requirement for crew in § 460.5(b)(3).

Proposed § 460.59(b)(2) would require an operator to train a government astronaut who can control the vehicle for each mode of control or propulsion, including any transition between modes, such that the government astronaut is able to control the vehicle in all phases of flight, including transitions between phases, that can endanger the public. This proposed requirement is the same as the requirement for crew in § 460.5(c)(5).²³

The training device fidelity requirement that the FAA proposes in § 460.59(c) would ensure that any government astronaut training device used to meet the training requirements realistically represents the vehicle's configuration and mission or the operator informs the government astronaut being trained of the differences between the training device and the vehicle's configuration and mission. This proposed requirement would be the same as the requirement in § 460.7(b) for crew.²⁴

²³ A pilot would have to undergo training in procedures that direct the vehicle away from the public in the event the flight crew had to abandon the vehicle during flight. The FAA emphasizes the importance of an operator training in each mode of control or propulsion, including any transition between modes, so that the pilot would be able to control the vehicle throughout the flight regime to protect the public. See Human Space Flight Requirements for Crew and Space Flight Participants, NPRM, 70 FR 77267 (Dec. 29, 2005).

²⁴ See Human Space Flight Requirements for Crew and Space Flight Participants, Final Rule, 71 FR 75621 (Dec. 15, 2006). Device fidelity speaks to the degree of realism achieved.

Because they have the ability to control a vehicle's flight path in real time, crew who are pilots²⁵ or remote operators²⁶ are also required to satisfy a number of additional requirements including requirements to possess and carry an FAA pilot certificate with an instrument rating and possess aeronautical knowledge, experience, and skills necessary to pilot and control the launch or reentry vehicle that will operate in the National Airspace System (NAS).²⁷ For those government astronauts who have the ability to control the vehicle's flight path, the FAA proposes in § 460.59(b)(3) to require operators to ensure that such government astronauts possess aeronautical knowledge, experience, and skills necessary to pilot and control the launch or reentry vehicle in the NAS. Aeronautical experience may include hours in flight, ratings, and training.²⁸ The FAA notes that this requirement would ensure that government astronauts with the ability to control a launch or reentry vehicle's flight path have the knowledge, experience, and skills to operate the vehicle safely in the NAS, which could potentially impact the public.

The FAA proposes in § 460.59(d) to require an operator to update government astronaut vehicle-specific training continually to ensure that the

²⁵ Section 401.5 defines "pilot" as a flight crew member who has the ability to control, in real time, a launch or reentry vehicle's flight path.

²⁶ Section 401.5 defines "remote operator" as a crew member who (1) has the ability to control, in real time, a launch or reentry vehicle's flight path, and (2) is not on board the controlled vehicle.

²⁷ Section 460.5(d) permits a pilot or a remote operator to demonstrate an equivalent level of safety to FAA airman certification through the license or permit process.

²⁸ The FAA explained that pilots and remote operators should hold a pilot certificate with an instrument rating because a pilot or remote operator should be educated in the rules of operating in the NAS and should demonstrate an appropriate level of instrument skills and competency to pilot various launch and reentry vehicles. Human Space Flight Requirements for Crew and Space Flight Participants, NPRM, 70 FR 77262, 77265 (Dec. 29, 2005). The proposed training requirements for government astronauts with a safety-critical role are tailored to ensure that an operator trains a government astronaut to successfully carry out his or her role. These proposed requirements include possessing the knowledge, experience, and skills necessary to pilot the vehicle in the NAS. The FAA is not proposing to require government astronauts to hold pilot certificates with an instrument rating because NASA astronaut requirements currently include at least two years of related professional experience obtained after degree completion or at least 1,000 hours pilot-in-command time on jet aircraft. *Astronaut Requirements*; March 4, 2020; www.nasa.gov/audience/forstudents/postsecondary/features/F_Astronaut_Requirements.html (last viewed 3/6/2023). These requirements effectively meet the equivalent level of safety provision crew are allowed to leverage in place of holding a pilot certificate under § 460.5(d).

training would incorporate lessons learned from training and operational launches and reentries. An operator would be required to track each revision, document the completed training for each government astronaut, and maintain the documentation for each active government astronaut who performs a safety-critical role. This proposed requirement is vital for maintaining proficiency of any government astronaut performing safety-critical roles and would be the same as the requirement in § 460.7(c) for crew. As with the crew requirement, this proposed requirement would incorporate events and anomalies into the training as they are experienced so that government astronauts are trained on how to respond going forward.

The FAA proposes in § 460.59(e) that an operator would be required to establish a recurrent training schedule and ensure that all training of government astronauts performing safety-critical roles is current before launch or reentry. This proposed requirement is vital for maintaining currency of any government astronaut performing safety-critical roles and would be the same as the requirement in § 460.7(d) for crew.²⁹ The FAA notes that, for such performance-based requirements, the operator must carry out the method of compliance chosen in its application because the method an operator describes in its application has the same legal effect as a prescriptive requirement.³⁰

In addition to the proposed training requirements, the FAA proposes in § 460.61 that an operator would be required to provide an environment that sustains life and prevents incapacitation for government astronauts because a failure to control the environment, even for a short duration, could lead to a loss of life or serious injury to members of the public. The proper functioning of government astronauts in safety critical roles is necessary for protection of the public. Therefore, it would be vital that the launch or reentry operator maintains an environment that supports life and consciousness. The environmental requirements proposed in § 460.61 would be the same as the requirements for crew in § 460.11.

The FAA proposes to add a reference to proposed §§ 460.59 and 450.61 to the application requirements for safety review and approval in § 450.45(e). As such, the FAA acknowledges that

²⁹ See Human Space Flight Requirements for Crew and Space Flight Participants, Final Rule, 71 FR 75621 (Dec. 15, 2006).

³⁰ See 14 CFR 450.5(b), 417.11(a), 431.9(b), and 437.83.

government astronaut training is part of the broader review to determine that licensed activity would not jeopardize public safety. To that end, the FAA would evaluate and determine whether the license applicant's training and environmental control and life support systems for government astronauts with safety-critical roles are sufficient to protect public safety.³¹

The FAA expects that a safety review of the training requirements under proposed § 460.59 would include an evaluation of the operator training program for government astronauts to verify that all personnel with safety-critical roles are adequately trained and fully capable of performing their mission specific safety critical duties. Furthermore, under § 450.149, an operator is already required to ensure safety-critical personnel are trained, qualified, and capable of performing their safety-critical tasks, and that their training is current. Additionally, § 450.149 requires an applicant to provide internal training and currency requirements, completion standards, or any other means of demonstrating compliance with the regulation and to describe the process for tracking currency.

2. Proposed Subpart D—Government Astronauts Without Safety-Critical Roles

Proposed § 460.65 would specify the groups to which subpart D would apply. Section 460.65 (a) and (b) would state that subpart D would apply to both an applicant for a license or permit and a licensed or permitted operator who proposes to have a government astronaut without a safety-critical role on board a vehicle.

³¹ If an operator met the contractual requirements in CCT-PLN-1120 and CCT-REQ-1130, or similar requirements for other NASA programs they would satisfy this proposed requirement. Therefore, the FAA would consider CCT-PLN-1120 and CCT-REQ-1130, and similar requirements applicable to other NASA programs, a means of compliance with this proposed requirement. CCT-PLN-1120 is the Joint Program Management Plan (PMP) between the National Aeronautics and Space Administration (NASA) Commercial Crew Program (CCP) and the Federal Aviation Administration (FAA) Office of Commercial Space Transportation (AST) and describes the partnership of these respective agencies for licensing the CCP missions for launch and reentry operations. The ISS Crew Transportation and Services Requirements Document (CCT-REQ-1130) contains all technical, safety, and crew health medical requirements that are mandatory for achieving a Crew Transportation System Certification that will allow for International Space Station delivery and return of NASA crew and limited cargo. The FAA defers to NASA as the expert on training government astronauts to perform their duties. Therefore, an operator should not be placing requirements on NASA. Rather, an operator would demonstrate adequate training for government astronauts by leveraging the training NASA requires through its contracts with commercial providers.

Proposed § 460.67 would require that an operator train each government astronaut without a safety-critical role on how to respond to emergency situations, including smoke, fire, loss of cabin pressure, and emergency exits. This would be the only proposed requirement for government astronauts without a safety-critical role, and it would be the same requirement currently levied on space flight participants in § 460.51. As with space flight participants, the FAA would require this training for government astronauts without a safety-critical role because, if a government astronaut did not receive this training, he or she might interfere with the ability of the crew and government astronauts with safety-critical roles to perform duties necessary to protect public safety.

The FAA considered requiring operators to impose security requirements on government astronauts that do not have a safety-critical role, similar to those in current § 460.53. However, the FAA determined that such a requirement would be unnecessary because government astronauts and international partner astronauts undergo extensive screening and training.³² Furthermore, the FAA expects that NASA's designation of government astronaut would include similar security requirements because NASA is responsible for the safety of the government astronauts and mission assurance.³³ Other requirements contained in subpart B of part 460, such as informed consent and waiver of claims, do not apply to government astronauts, as previously explained.

C. Changes to Part 401—Definitions

The FAA proposes to define the term “government astronaut” to align §§ 401.5 and 401.7 (Definitions) with the CSLCA's addition of the term “government astronaut” to 51 U.S.C. 50902. By defining the term in part 401, the definition will inform the use of the term throughout the FAA's commercial

³² To ensure mission success, NASA identifies the best qualified candidates who then undergo additional reviews through tests and two rounds of interviews, in addition to two years of basic astronaut training including robotics training, flight training, and extravehicular activities. NASA's Management of Its Astronaut Corps, Report No. IG-22-007 (Jan. 11, 2022).

³³ NASA is responsible for managing overall mission success by ensuring certification and astronaut safety requirements are being met. The FAA serves to protect the public health and safety, safety of property, and the national security and foreign policy interests of the U.S. during commercial launch and reentry activities. National Aeronautics and Space Administration and Federal Aviation Administration Joint Program Management Plan for the Commercial Crew Program, CCT-PLN-1020, section 3.0 Roles and Responsibilities (April 1, 2016).

space regulations, including part 460. The same definition of “Government astronaut” would be added to both sections because definitions in § 401.5 apply to parts 415, 417, 431, 435, 440, and 460, and definitions in § 401.7 apply to parts 440, 450, and 460.

Furthermore, the FAA proposes to revise the definition of “Space flight participant” in §§ 401.5 and 401.7 to align with the statutory definition by expressly excluding government astronauts from the category of space flight participant. As revised, “space flight participant” would be defined as “an individual, who is not crew or a government astronaut, carried within a launch vehicle or reentry vehicle.”

The FAA also proposes to amend § 401.5 by revising the definitions of “Human space flight incident,” “Launch,” “Launch accident,” “Reenter,” and “Reentry accident” by adding “government astronaut” to these definitions. A similar change is not being made in § 401.7 because the terms “Human space flight incident,” “Launch accident,” and “Reentry accident,” are not defined in § 401.7. Instead, these concepts are included in the § 401.7 “Mishap” definition, and this definition already includes the term “government astronauts.”

The FAA also proposes to add definitions for “International partner astronaut” and “International Space Station Intergovernmental Agreement” to §§ 401.5 and 401.7. The CSLCA added the terms “International partner astronaut” and “International Space Station Intergovernmental Agreement” to 51 U.S.C. 50902 and specifies that the NASA Administrator designates government astronauts, and that designation may include international partner astronauts. The CSLCA also allows the NASA Administrator to designate a foreign person as a government astronaut. The FAA proposes to define an “International partner astronaut” as an individual designated under Article 11 of the International Space Station Intergovernmental Agreement, by a partner to that agreement other than the U.S., as qualified to serve as an ISS crew member. This definition is taken directly from the CSLCA. Although the FAA does not otherwise use these terms in the commercial space regulations, the terms are used in the definition of government astronaut which is being added to §§ 401.5 and 401.7. The FAA is proposing to add them to §§ 401.5 and 401.7 to provide clarity to the definition of government astronaut.

D. Changes to Parts 415, 431, 435, and 437—License Application Procedures, Launch License, Launch and Reentry of a Reusable Launch Vehicle (RLV), and Reentry of a Reentry Vehicle Other Than an RLV

The FAA proposes to replace the terms “crew” and “space flight participant” with the term “human being” in §§ 415.8, 431.8, and 435.8 for applicants seeking a license for operations involving human space flight and that must demonstrate compliance with human space flight requirements. This change would accommodate the creation of the government astronaut category in part 460.

E. Changes to Parts 413 and 437—License Application Procedures and Experimental Permits

Section 50906 of title 51 provides the Secretary of Transportation with the authority to issue experimental permits consistent with the protection of the public health and safety, safety of property, and national security and foreign policy interests of the United States. The Secretary of Transportation delegated this authority to the FAA, which promulgated 14 CFR part 437 (Experimental permits).³⁴ An experimental permit provides an alternative to licensing for certain vehicles and operations.³⁵ The CSLCA expanded the scope of the Secretary’s authority to issue experimental permits from reusable suborbital rockets to also include reusable launch vehicles that will be launched into a suborbital trajectory or reentered under that permit.³⁶ This section discusses the changes made to 51 U.S.C. 50906 by the CLSCA as well as the associated proposed changes to part 437.

The FAA proposes to delete the definition of “permitted vehicle” in § 437.3 because the term does not appear in part 437. Section 437.3 currently defines “permitted vehicle” as a reusable suborbital rocket operated by a launch or reentry operator under an experimental permit. The FAA proposes to add a definition of “reusable suborbital vehicle” in § 437.3 that includes a reusable suborbital rocket or a reusable launch vehicle that is launched or reentered on a suborbital

trajectory. As mentioned above, section 104 (Launch License Flexibility) of the CSLCA revised 51 U.S.C. 50906(d) to authorize the Secretary of Transportation to issue experimental permits for reusable launch vehicles that will be launched into a suborbital trajectory or reentered, in addition to suborbital rockets. The proposed definition of “reusable suborbital vehicle” in § 437.3 reflects this change to 51 U.S.C. 50906(d). This proposed definition would expand the types of vehicles eligible for a permit, to include vehicles that are not rockets³⁷ but are launch vehicles that will be launched into a suborbital trajectory or reentered from a suborbital trajectory. This revision is necessary due to the development of technologies for suborbital launch vehicles that do not use rocket propulsion. Vehicles that do not use a rocket for propulsion are excluded from obtaining a permit under current regulations. The revision would allow an operator to research and develop new test designs, concepts, equipment, or operating techniques; show compliance with requirements as part of the process for obtaining a license; or train crews before they receive a license for launch or reentry on a larger group of launch vehicles.

Therefore, the FAA proposes to replace the term “reusable suborbital rocket” with “reusable suborbital vehicle” in §§ 437.3, 437.5, 437.7, 437.9, 437.21, 437.23, 437.25, 437.31, 437.33, 437.53, 437.59, 437.61, 437.71, 437.85, 437.91, and 437.95.

The proposed change to the definition of “permitted vehicle” would affect § 413.3(f), which references part 437. Part 413 addresses the application requirements for a license or experimental permit. Therefore, the FAA also proposes to replace the term “reusable suborbital rocket” in § 413.3(f) with the term “reusable suborbital vehicle” to align with the expanded scope.

Consistent with the changes to part 437, the FAA proposes to replace the term “reusable suborbital rocket” with “reusable suborbital vehicle” in § 440.3. This proposed change would allow inclusion of launch and reentry vehicles on a suborbital trajectory.

The FAA proposes a change to § 437.5(a) to be consistent with changes made to 51 U.S.C. 50906(d)(1) by the CSLCA. Section 437.5(a) currently states the FAA will issue an experimental

permit to a person to launch or reenter a reusable suborbital rocket only for research and development to test new design concepts, new equipment, or new operating techniques. These eligibility requirements for an experimental permit reflect the eligibility criteria in 51 U.S.C. 50906(d)(1). The CSLCA removed each use of the word “new” in 51 U.S.C. 50906(d)(1). Therefore, the FAA is proposing to make the same change to § 437.5(a). By removing the term “new” from § 437.5(a), the regulation would allow research and development of existing design concepts, equipment, or operating techniques, consistent with the CSLCA.

The FAA proposes two changes to § 437.21(b)(3) to accommodate changes necessitated by the CSLCA amendments. Current § 437.21(b)(3) references the applicable requirements for an applicant proposing launch or reentry with flight crew or a space flight participant on board a reusable suborbital rocket. The FAA proposes to replace the terms “flight crew” and “space flight participant” in § 437.21(b)(3) with the term “human being” to include the addition of government astronauts discussed previously. Furthermore, as discussed earlier, the FAA proposes to revise the application requirements in § 437.21(b)(3) to reference §§ 460.59, 460.61, and 460.67, which contain the proposed requirements in part 460 subparts C and D that would apply to launches and reentries with a government astronaut on board.

F. Changes to Part 440—Financial Responsibility

The CSLCA necessitates conforming changes to part 440, which governs financial responsibility requirements for title 51 activity. This proposal would make conforming changes to the definition of “government personnel” and “third party,” add space flight participants to the list of parties protected as additional insureds under a licensee or permittee’s liability insurance, require that licensees enter into a reciprocal waiver of claims with space flight participants, move the reciprocal waiver of claims templates from the appendices to an AC, and remove references to the appendices.

Prior to passage of the CSLCA, a licensee or transferee was required by 51 U.S.C. 50914(b) and 14 CFR 440.17 to make a reciprocal waiver of claims with its contractors, subcontractors, and customers, and contractors and subcontractors of the customers, involved in launch services or reentry services under which each party to the

³⁴ 72 FR 17019 (Apr. 6, 2007).

³⁵ Under 51 U.S.C. 50906(d), as revised by the CLSCA, the Secretary may issue an experimental permit solely for research and development to test design concepts, equipment, or operating techniques, showing compliance with requirements as part of the process for obtaining a license under Chapter 509, or crew training for a launch or reentry using the design of the rocket or vehicle for which the permit would be issued.

³⁶ Public Law 114–90, sec. 104.

³⁷ Suborbital rocket is defined as a vehicle, rocket-propelled in whole or in part, intended for flight on a suborbital trajectory, and the thrust of which is greater than its lift for the majority of the rocket-powered portion of its ascent. 51 U.S.C. 50902(24); 14 CFR 401.5 and 401.7.

waiver agrees to be responsible for property damage or loss it sustains, or for personal injury to, death of, or property damage or loss sustained by its own employees resulting from an activity carried out under the applicable license. Additionally, a licensee or permittee was required to obtain and maintain in effect a policy of liability insurance (or otherwise make a demonstration of financial responsibility) that protected certain persons as additional insureds to the extent of their respective potential liabilities against covered claims by a third party for bodily injury or property damage resulting from a licensed or permitted activity.³⁸ These persons included (1) the licensee or permittee, its customer, and their respective contractors and subcontractors, and the employees of each, involved in a licensed or permitted activity; (2) the United States, its agencies, and its contractors and subcontractors involved in a licensed or permitted activity; and (3) Government personnel.³⁹

The CSLCA made several changes that affect the financial responsibility requirements under title 51. The CSLCA, in section 112(j), amended the definition of “third party” in 51 U.S.C. 50902(26) to exclude government astronauts. The CSLCA, in section 103(a)(1)(A), also requires a licensee or permittee to protect space flight participants as additional insureds under a licensee or permittee’s liability insurance. This addition ceases to be effective September 30, 2025, in accordance with section 103(a)(1)(B) of the CSLCA. Finally, section 107 of the CSLCA amends 51 U.S.C. 50914(b)(1) such that it now requires a licensee or transferee to make a reciprocal waiver of claims with space flight participants 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. This provision ceases to be effective September 30, 2025, in accordance with section 107 of the CSLCA.

The FAA is proposing to conform the regulatory definition of “third party” with the statute by adding government astronauts to the list of exceptions in the definition of “third party.” Current 14 CFR 440.3 does not exclude government astronauts from the definition of third party and states that government personnel as defined in § 440.3 are third parties. The CSLCA states that

government astronauts are not third parties. The FAA, therefore, proposes to exclude government astronauts from the definition of “third party” in § 440.3 for the purposes of financial responsibility requirements. This proposal would also amend the definition of “government personnel” in § 440.3 to exclude government astronauts. This change is necessary because § 440.3 states that government personnel, as defined in that section, are third parties. While the proposal would exclude government astronauts from the definition of government personnel in § 440.3, the FAA notes that this exclusion narrowly applies only to 14 CFR part 440. Furthermore, the defined term “government personnel” only appears in § 440.9 for the purpose of identifying additional insureds. These changes would align the regulatory definitions in § 440.3 with the CSLCA.

The FAA additionally proposes to add space flight participants to the list of parties protected as additional insureds under a licensee or permittee’s liability insurance in § 440.9(b)(4), as required by the CSLCA in section 103(a)(1)(A). As a result of this proposed change, and in accordance with the statutory requirement, a licensee or permittee would be required by regulation to obtain and maintain in effect a policy or policies of liability insurance to protect space flight participants as additional insureds to the extent of their respective potential liabilities against covered claims by a third party for bodily injury or property damage resulting from a licensed or permitted activity. In other words, if an injured third party brings claims against any party participating in the launch or reentry, the insurance policy would protect involved space flight participants. To comply with this proposed requirement, an operator would have to ensure that its insurance policy covers space flight participants, if it does not currently do so. In accordance with section 103(a)(1)(B) of the CSLCA, the proposed regulatory change would also cease to be effective September 30, 2025. If Congress chooses to extend the September 30, 2025 date, proposed § 440.9(b)(4) would remain in effect in accordance with the extension.

This proposal would also re-designate § 440.17(f) to a new paragraph (g). Section 440.17(f) currently requires that any waiver, release, or other agreement to hold harmless and indemnify under the section does not apply to claims for bodily injury or property damage resulting from willful misconduct of any of the parties to the reciprocal waiver of claims. The FAA proposes to add new § 440.17(f), which would require a licensee or permittee to enter into a

reciprocal waiver of claims agreement with each of its space flight participants in accordance with section 107 of the CSLCA. The waivers under the proposed § 440.17(f) would solely be between a licensee or permittee and a single space flight participant. Proposed § 440.17(f) would not require space flight participants to enter into waivers against one another. This proposed addition is necessary because, as discussed earlier, the CSLCA added space flight participants to the list of entities with whom an operator must execute a reciprocal waiver of claim, which would prevent potential additional litigation between space flight participants and operators.

In accordance with 51 U.S.C. 50914(b) and by omission from the CSLCA, space flight participants would not be required to enter into reciprocal waiver of claims agreements with customers. Furthermore, space flight participants are already required to enter into a reciprocal waiver of claims agreement with the U.S. Government in accordance with § 440.17(d)(1). Proposed § 440.17(f) would remain in effect until September 30, 2025, as required by the CSLCA. If Congress chooses to extend the September 30, 2025, date, proposed § 440.17(f) would remain in effect in accordance with the extension.

While no change to regulatory text is needed, the FAA notes that under the CSLCA, government astronauts are not required to sign reciprocal waivers of claims because they are not considered space flight participants or crew, and because the FAA enters into these agreements on behalf of the government and its employees.⁴⁰

The FAA also proposes to remove the reciprocal waiver of claims templates in appendices B through E and place them in AC 440.17–1. The FAA originally included the appendices to provide operators with templates that meet the requirements in part 440. An operator is not required to use the templates provided in the appendices and can use alternate templates provided the alternate templates demonstrate compliance with the regulations. Moving these templates to an AC would allow the FAA to effectuate any needed changes more efficiently and would not require the FAA to undergo an additional rulemaking to provide

⁴⁰ While 51 U.S.C. 50904(b) requires space flight participants to waive claims against the U.S. Government, Congress did not require government astronauts to do the same. In fact, the requirement for space flight participants to waive claims against the U.S. Government predates the retirement of the U.S. Space Shuttle and the subsequent development of NASA’s Commercial Crew Program. Legal Interpretation to Courtney B. Graham (Dec. 23, 2013).

³⁸ 51 U.S.C. 50914(a)(4); 14 CFR 440.9(b).

³⁹ *Id.*

updated templates that meet the part 440 requirements. Because the templates are not regulatory and are only one means of satisfying the requirements in § 440.17, an AC is a more appropriate location than the CFR for the templates. The public can provide comment on any of the templates in the AC or propose a new template for consideration by emailing the Advisory Circular Feedback Form. (OMB control number 2120–0746) located at the end of the AC to ASTApplications@faa.gov.

The FAA would also add two new templates to its proposed AC. One proposed template would be for a reciprocal waiver of claims between the licensee, space flight participant, and the licensee’s contractors and subcontractors. The other proposed template would be for a waiver of claims between an operator and customers, government customers, the U.S., and each of their respective contractors and subcontractors. The FAA currently uses both templates. These templates were developed for situations where the existing templates in the appendices did not adequately address a proposed launch or reentry operation. The proposed AC containing these two new templates will be placed in the regulatory docket for this rule.

To conform to the proposed removal of the appendices, the FAA proposes to replace the references to Appendices B through E in § 440.17(c), (d), and (e) with language specifying that the required reciprocal waiver of claims must be in a form acceptable to the FAA Administrator. This proposed language would provide flexibility with providing a reciprocal waiver of claims under each paragraph, provided any proposed reciprocal waiver of claims is in a form acceptable to the FAA Administrator and complies with all applicable regulations. Finally, the proposed AC would contain language stating that the templates provided in AC 440.17–1 are one means of compliance but not the only means of compliance with requirements in § 440.45.

G. Changes to Part 450—Launch and Reentry License Requirements

The FAA proposes to add §§ 460.59, 460.61, and 460.67 to the list of regulations in § 450.45 with which applicants seeking a launch or reentry license for operations involving human space flight must demonstrate compliance. This change would accommodate the creation of the government astronaut category and ensure government astronaut requirements are addressed in the application.

IV. Regulatory Notices and Analyses

A. Regulatory Impact Analysis

Federal agencies consider impacts of regulatory actions under a variety of executive orders and other requirements. First, Executive Order 12866 and Executive Order 13563, as amended by Executive Order 14094 (“Modernizing Regulatory Review”), direct each Federal agency to propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 (Pub. L. 96–354) requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (Pub. L. 96–39) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. Fourth, the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that include a Federal mandate that may result in the expenditure by state, local, and tribal governments, in the aggregate, or by the private sector, of \$100,000,000 or more (adjusted annually for inflation) in any 1 year. The current threshold after adjustment for inflation is \$177,000,000 using the most current (2022) Implicit Price Deflator for the Gross Domestic Product. This portion of the preamble summarizes the FAA’s analysis of the economic impacts of this rule.

In conducting these analyses, the FAA has determined that this rule: would result in benefits that justify costs; is not

an economically “significant regulatory action” as defined in section 3(f) of Executive Order 12866, as amended; would not have a significant economic impact on a substantial number of small entities; would not create unnecessary obstacles to the foreign commerce of the United States; and would not impose an unfunded mandate on State, local, or tribal governments, or on the private sector.

This proposed rule would amend 14 CFR parts 401, 413, 415, 431, 435, 437, 440, 450, and 460 by incorporating statutory changes resulting from the CSLCA. This proposed rule would add a definition for “government astronaut” and would update other definitions to account for that addition. This proposed rule would also update financial responsibility requirements in part 440 to include government astronauts, and would move the templates for reciprocal waiver of claims agreements from part 440 appendices B through E to an AC. This proposed rule would also add two new subparts to part 460 to address operator requirements for government astronauts with safety critical and non-safety-critical roles during launches and reentries. This proposed rule would also add two new subparts to part 460 to address operator requirements for government astronauts with safety-critical and non-safety-critical roles during launches and reentries. In addition, the FAA proposes to replace the terms “crew” and “space flight participant” with the term “human being” in §§ 415.8, 431.8, and 435.8 for applicants seeking a license for operations involving human space flight and that must demonstrate compliance with human space flight requirements. This proposed change would accommodate the creation of the government astronaut category in part 460.

This proposed rule would affect all U.S. commercial space operators and launches and reentries licensed under title 14 of the Code of Federal Regulations (14 CFR) parts 401, 413, 415, 431, 435, 437, 440, 450, and 460 that will carry a government astronaut on board. Table 1 details the proposed changes in each part.

TABLE 1—PROPOSED CHANGES BY SECTION

Section	Change	Effect of change
§ 401.5 Definitions	Add definitions for “Government Astronaut,” “International partner astronaut,” and “International Space Station Intergovernmental Agreement.” Revising definitions for “Human space flight incident,” “Launch,” “Launch accident,” “Reenter,” “Reentry accident,” and “Space flight participant”.	None. The FAA has been applying these definitions in accordance with the statute since the CSLCA went into effect. This change would now provide regulatory clarity.

TABLE 1—PROPOSED CHANGES BY SECTION—Continued

Section	Change	Effect of change
§ 401.7 Definitions	Add definitions for “Government Astronaut,” “International partner astronaut,” and “International Space Station Intergovernmental Agreement.” Revising definition for “Space flight participant”.	None. The FAA has been applying these definitions in accordance with the statute since the CSLCA went into effect. This change would now provide regulatory clarity.
§ 413.3(f)	Replace the term “suborbital rocket” with the term “permitted vehicle” to align with the increase in scope from proposed § 437.3.	None. The FAA has been applying these definitions in accordance with the statute since the CSLCA went into effect. This change would now provide regulatory clarity.
§ 415.8 Human Space Flight in Part 415, LAUNCH LICENSE	Remove “crew” and “space flight participant” and add “human being” in their place, to include government astronaut, crew, and space flight participant categories. Add government astronaut requirements.	None. The FAA has been applying these definitions in accordance with the statute since the CSLCA went into effect. This change would now provide regulatory clarity.
§ 431.8 Human Space Flight in Part 431, LAUNCH AND REENTRY OF A REUSABLE LAUNCH VEHICLE (RLV).	Remove “crew” and “space flight participant” and add “human being” in their place, to include government astronaut, crew, and space flight participant categories. Add government astronaut requirements.	None. The FAA has been applying these definitions in accordance with the statute since the CSLCA went into effect. This change would now provide regulatory clarity.
§ 435.8 Human Space Flight in PART 435, REENTRY OF A REENTRY VEHICLE OTHER THAN A REUSABLE LAUNCH VEHICLE (RLV).	Remove “crew” and “space flight participant” and add “human being” in their place, to include government astronaut, crew, and space flight participant categories. Add government astronaut requirements.	None. The FAA has been applying these definitions in accordance with the statute since the CSLCA went into effect. This change would now provide regulatory clarity.
§ 437.3 Definitions in Part 437, EXPERIMENTAL PERMITS	Add a reusable launch vehicle that will be launched into a suborbital trajectory or reentered that is operated by a launch or reentry operator under an experimental permit to the definition of “permitted vehicle”.	None. The FAA has been applying these definitions in accordance with the statute since the CSLCA went into effect. This change would now provide regulatory clarity.
§§ 437.5, 437.7, 437.9, 437.21, 437.23, 437.25, 437.31, 437.33, 437.53, 437.57, 437.59, 437.61, 437.71, 437.85, 437.91, and 437.95.	Replace “suborbital rocket” with “permitted vehicle”.	None. The FAA has been applying these definitions in accordance with the statute since the CSLCA went into effect. This change would now provide regulatory clarity.
§ 437.5(a)	Remove “new” to allow research and development of existing design concepts, equipment, or operating techniques.	None. The FAA has been applying these definitions in accordance with the statute since the CSLCA went into effect. This change would now provide regulatory clarity.
§ 437.21 General	Remove “crew” and “space flight participant” and add “human being” in their place, to include government astronaut, crew, and space flight participant categories. Add government astronaut requirements.	None. The FAA has been applying these definitions in accordance with the statute since the CSLCA went into effect. This change would now provide regulatory clarity.
Move appendices B–E in PART 440, FINANCIAL RESPONSIBILITY, to an AC.	None.
§ 440.9(b)	Add space flight participants to the list in which a licensee or permittee must obtain and maintain in effect a policy or policies of liability insurance to protect their respective potential liabilities against covered claims by a third party for bodily injury or property damage resulting from a licensed or permitted activity.	None. The FAA has been applying these definitions in accordance with the statute since the CSLCA went into effect. This change would now provide regulatory clarity.
§ 440.9(f)	Add language to require the licensee or permittee to enter into a reciprocal waiver of claims agreement with each space flight participant.	None. The FAA has been applying these definitions in accordance with the statute since the CSLCA went into effect. This change would now provide regulatory clarity.
§ 450.45(e)(5)	Add requirements for government astronauts	None. The FAA has been applying these requirements in accordance with the statute since the CSLCA went into effect. This change would now provide regulatory clarity.
Add Subpart C, Launch and Reentry with a Government Astronaut with a Safety-Critical Role, after Subpart B in § 460 Scope, HUMAN SPACE FLIGHT REQUIREMENTS.	Add requirements applicable to government astronauts with a safety-critical role.	None. Operators have been training government astronauts in order to satisfy NASA contractual requirements. This change would make some of that training required by regulation.
Add Subpart D, Launch and Reentry with a Government Astronaut Without a Safety-Critical Role after Subpart C in § 460 Scope, HUMAN SPACE FLIGHT REQUIREMENTS.	Add requirements applicable to government astronauts without a safety-critical role.	None. Operators have been training government astronauts in order to satisfy NASA contractual requirements. This change would make some of that training required by regulation.

The proposed changes would have a minimal impact on licensed commercial space activity with government astronauts because the changes would align the regulations with the current

statutory requirements for crew, for space flight participants, and with current practices. The FAA has been applying the statutory changes since they went into effect in 2015.

B. Regulatory Flexibility Act

The Regulatory Flexibility Act of 1980 (Pub. L. 96–354) (RFA) establishes “as a principle of regulatory issuance that agencies shall endeavor, consistent with

the objectives of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the businesses, organizations, and governmental jurisdictions subject to regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure that such proposals are given serious consideration.” The RFA covers a wide range of small entities, including small businesses, not-for-profit organizations, and small governmental jurisdictions.

Agencies must perform a review to determine whether a proposed or final rule would have a significant economic impact on a substantial number of small entities. If the determination is that it would, the agency must prepare a regulatory flexibility analysis as described in the RFA.

This proposed rule would update definitions relating to commercial space launch and reentry vehicles and occupants to reflect current statutory definitions and requirements, as well as implement clarifications to financial responsibility requirements in accordance with the CSLCA. Therefore, the FAA believes that this proposed rule would not have a significant economic impact on small commercial space operators because it is current practice.

If an agency determines that a rulemaking would not result in a significant economic impact on a substantial number of small entities, the head of the agency may so certify under section 605(b) of the RFA. Therefore, as provided in section 605(b), the head of the FAA certifies that this proposed rulemaking would not result in a significant economic impact on a substantial number of small entities.

C. International Trade Impact Assessment

The Trade Agreements Act of 1979 (Pub. L. 96–39), as amended by the Uruguay Round Agreements Act (Pub. L. 103–465), prohibits Federal agencies from establishing standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Pursuant to these Acts, the establishment of standards is not considered an unnecessary obstacle to the foreign commerce of the U.S., if the standard has a legitimate domestic objective, such as the protection of safety, and does not operate in a manner that excludes imports that meet this objective. The statute also requires consideration of international standards and, where appropriate, that they serve as the basis for U.S. standards. The FAA

has assessed the potential effect of this proposed rule and determined that it will not create unnecessary obstacles to the foreign commerce of the United States.

D. Unfunded Mandates Assessment

Title II of the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final rule that may result in an expenditure of 100 million or more (in 1995 dollars) in any one year by State, local, and tribal governments, in the aggregate, or by the private sector; such a mandate is deemed to be a “significant regulatory action.” The threshold after adjustment for inflation is \$177 million using the most current annual (2022) Implicit Price Deflator for Gross Domestic Product from the U.S. Bureau of Economic Analysis. This proposed rule does not contain such a mandate; therefore, the requirements of title II of the Act do not apply.

E. Paperwork Reduction Act

The Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)) requires that the FAA consider the impact of paperwork and other information collection burdens imposed on the public. According to the 1995 amendments to the Paperwork Reduction Act (5 CFR 1320.8(b)(2)(vi)), an agency may not collect or sponsor the collection of information, nor may it impose an information collection requirement, unless it displays a currently valid Office of Management and Budget (OMB) control number.

The FAA has determined that there is no new requirement for information collection associated with this proposed rule.

F. Environmental Analysis

FAA Order 1050.1 identifies FAA actions that are categorically excluded from preparation of an environmental assessment or environmental impact statement under the National Environmental Policy Act in the absence of extraordinary circumstances. The FAA has determined this proposed rulemaking action qualifies for the categorical exclusion identified in paragraph 5–6.6f for regulations and involves no extraordinary circumstances.

V. Executive Order Determinations

A. Executive Order 13132, Federalism

The FAA has analyzed this proposed rule under the principles and criteria of Executive Order (E.O.) 13132, Federalism. The FAA has determined

that this action would not have a substantial direct effect on the States, or the relationship between the Federal Government and the States, or on the distribution of power and responsibilities among the various levels of government, and, therefore, would not have federalism implications.

B. Executive Order 13175, Consultation and Coordination With Indian Tribal Governments

Consistent with Executive Order 13175, Consultation and Coordination with Indian Tribal Governments,⁴¹ and FAA Order 1210.20, American Indian and Alaska Native Tribal Consultation Policy and Procedures,⁴² the FAA ensures that Federally Recognized Tribes (Tribes) are given the opportunity to provide meaningful and timely input regarding proposed Federal actions that have the potential to affect uniquely or significantly their respective Tribes. At this point, the FAA has not identified any unique or significant effects, environmental or otherwise, on tribes resulting from this proposed rule.

C. Executive Order 13211, Regulations That Significantly Affect Energy Supply, Distribution, or Use

The FAA analyzed this proposed rule under E.O. 13211, Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use (May 18, 2001). The FAA has determined that it would not be a “significant energy action” under the Executive order and would not be likely to have a significant adverse effect on the supply, distribution, or use of energy.

D. Executive Order 13609, Promoting International Regulatory Cooperation

Executive Order 13609, Promoting International Regulatory Cooperation, promotes international regulatory cooperation to meet shared challenges involving health, safety, labor, security, environmental, and other issues and to reduce, eliminate, or prevent unnecessary differences in regulatory requirements. The FAA has analyzed this action under the policies and agency responsibilities of E.O. 13609 and has determined that this action would have no effect on international regulatory cooperation.

⁴¹ 65 FR 67249 (Nov. 6, 2000).

⁴² FAA Order No. 1210.20 (Jan. 28, 2004), available at www.faa.gov/documentLibrary/media/1210.pdf.

VI. Additional Information

A. Comments Invited

The FAA invites interested persons to participate in this rulemaking by submitting written comments, data, or views. The FAA also invites comments relating to the economic, environmental, energy, or federalism impacts that might result from adopting the proposals in this document. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, commenters should submit only one time if comments are filed electronically, or commenters should send only one copy of written comments if comments are filed in writing.

The FAA will file in the docket all comments it receives, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking. Before acting on this proposal, the FAA will consider all comments it receives on or before the closing date for comments. The FAA will consider comments filed after the comment period has closed if it is possible to do so without incurring expense or delay. The FAA may change this proposal in light of the comments it receives.

B. Confidential Business Information

Confidential Business Information (CBI) is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as "PROPIN." The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to the person in the **FOR FURTHER INFORMATION CONTACT** section of this document. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

C. Electronic Access and Filing

A copy of this NPRM, all comments received, any final rule, and all background material may be viewed online at www.regulations.gov using the docket number listed above. A copy of this proposed rule will be placed in the docket. Electronic retrieval help and guidelines are available on the website. It is available 24 hours each day, 365 days each year. An electronic copy of this document may also be downloaded from the Office of the **Federal Register's** website at www.federalregister.gov and the Government Publishing Office's website at www.govinfo.gov. A copy may also be found at the FAA's Regulations and Policies website at www.faa.gov/regulations_policies.

Copies may also be obtained by sending a request to the Federal Aviation Administration, Office of Rulemaking, ARM-1, 800 Independence Avenue SW, Washington, DC 20591, or by calling (202) 267-9677. Commenters must identify the docket or notice number of this rulemaking.

All documents the FAA considered in developing this proposed rule, including economic analyses and technical reports, may be accessed in the electronic docket for this rulemaking.

D. Small Business Regulatory Enforcement Fairness Act

The Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996 requires the FAA to comply with small entity requests for information or advice about compliance with statutes and regulations within its jurisdiction. A small entity with questions regarding this document may contact its local FAA official, or the person listed under the **FOR FURTHER INFORMATION CONTACT** heading at the beginning of the preamble. To find out more about SBREFA on the internet, visit www.faa.gov/regulations_policies/rulemaking/sbre_act/.

1. Rulemaking Documents

An electronic copy of a rulemaking document may be obtained by using the internet—

1. Search the Federal eRulemaking Portal (www.regulations.gov);
2. Visit the FAA's Regulations and Policies web page at www.faa.gov/regulations_policies/; or
3. Access the Government Printing Office's web page at www.GovInfo.gov.

Copies may also be obtained by sending a request (identified by notice or docket number of this proposed rulemaking) to the Federal Aviation Administration, Office of Rulemaking,

ARM-1, 800 Independence Avenue SW, Washington, DC 20591, or by calling (202) 267-9680.

2. Comments Submitted to the Docket

Comments received may be viewed by going to www.regulations.gov and following the online instructions to search the docket number for this action. Anyone may search the electronic form of all comments received into any of the FAA's dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.).

3. Small Business Regulatory Enforcement Fairness Act

The Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996 requires the FAA to comply with small entity requests for information or advice about compliance with statutes and regulations within its jurisdiction. A small entity with questions regarding this document, may contact its local FAA official, or the person listed under the **FOR FURTHER INFORMATION CONTACT** heading at the beginning of the preamble. To find out more about SBREFA on the internet, visit www.faa.gov/regulations_policies/rulemaking/sbre_act/.

List of Subjects

14 CFR Part 401

Organization and functions (Government agencies), Space transportation and exploration.

14 CFR Part 413

Confidential business information, Space transportation and exploration.

14 CFR Part 415

Aviation safety, Environmental protection, Investigations, Reporting and recordkeeping requirements, Space transportation and exploration.

14 CFR Part 431

Launch and reentry safety, Aviation safety, Reporting and recordkeeping requirements, Rockets, Space transportation and exploration.

14 CFR Part 435

Launch and reentry safety, Aviation safety, Reporting and recordkeeping requirements, Rockets, Space transportation and exploration.

14 CFR Part 437

Aircraft, Aviation safety, Reporting and recordkeeping requirements, Space transportation and exploration.

14 CFR Part 440

Indemnity payments, Insurance, Reporting and recordkeeping requirements, Space transportation and exploration.

14 CFR Part 450

Aircraft, Aviation safety, Environmental protection, Investigations, Reporting and recordkeeping requirements, Space transportation and exploration.

14 CFR Part 460

Aircraft, Reporting and recordkeeping requirements, Space transportation and exploration.

The Proposed Amendments

In consideration of the foregoing, the Federal Aviation Administration proposes to amend chapter III of title 14, Code of Federal Regulations as follows:

PART 401—ORGANIZATION AND DEFINITIONS

■ 1. The authority citation for part 401 continues to read as follows:

Authority: 51 U.S.C. 50901–50923.

■ 2. Amend § 401.5 by—

■ a. Adding in alphabetical order a definition for “Government astronaut”;

■ b. Revising the definition of “Human space flight incident”;

■ c. Adding in alphabetical order definitions for “International partner astronaut”, and “International Space Station Intergovernmental Agreement”;

■ d. Revising the definitions of “Launch”, “Launch accident”, “Reenter; reentry”, “Reentry accident”, and “Space flight participant”;

The additions and revisions read as follows:

§ 401.5 Definitions.

* * * * *

Government astronaut means an individual who—

(1) Is designated by the National Aeronautics and Space Administration under Title 51, United States Code, Section 20113(n);

(2) Is carried within a launch vehicle or reentry vehicle in the course of their employment, which may include performance of activities directly relating to the launch, reentry, or other operation of the launch vehicle or reentry vehicle; and

(3) Is either—

(i) An employee of the United States Government, including the uniformed services, engaged in the performance of a Federal function under authority of law or an Executive act; or

(ii) An international partner astronaut.

* * * * *

Human space flight incident means an unplanned event that poses a high risk of causing a serious or fatal injury to a space flight participant, crew, or government astronaut.

* * * * *

International partner astronaut means an individual designated under Article 11 of the International Space Station Intergovernmental Agreement, by a partner to that agreement other than the United States, as qualified to serve as an International Space Station crew member.

International Space Station Intergovernmental Agreement means the Agreement Concerning Cooperation on the International Space Station, signed in Washington, DC, on January 29, 1998 (TIAS 12927).

* * * * *

Launch means to place or try to place a launch vehicle or reentry vehicle and any payload or human being from Earth in a suborbital trajectory, in Earth orbit in outer space, or otherwise in outer space, and includes preparing a launch vehicle for flight at a launch site in the United States. Launch includes the flight of a launch vehicle and includes pre- and post-flight ground operations as follows:

(1) Beginning of launch. (i) Under a license, launch begins with the arrival of a launch vehicle or payload at a U.S. launch site.

(ii) Under a permit, launch begins when any pre-flight ground operation at a U.S. launch site meets all of the following criteria:

(A) Is closely proximate in time to flight,

(B) Entails critical steps preparatory to initiating flight,

(C) Is unique to space launch, and

(D) Is inherently so hazardous as to warrant the FAA’s regulatory oversight.

(2) End of launch. (i) For launch of an orbital expendable launch vehicle (ELV), launch ends after the licensee’s last exercise of control over its launch vehicle.

(ii) For launch of an orbital reusable launch vehicle (RLV) with a payload, launch ends after deployment of the payload. For any other orbital RLV, launch ends upon completion of the first sustained, steady-state orbit of an RLV at its intended location.

(iii) For a suborbital ELV or RLV launch, launch ends after reaching apogee if the flight includes a reentry, or otherwise after vehicle landing or impact on Earth, and after activities necessary to return the vehicle to a safe condition on the ground.

Launch accident means—

(1) An event that causes a fatality or serious injury (as defined in 49 CFR 830.2) to any person who is not associated with the flight;

(2) An event that causes damage estimated to exceed \$25,000 to property not associated with the flight that is not located at the launch site or designated recovery area;

(3) An unplanned event occurring during the flight of a launch vehicle resulting in the impact of a launch vehicle, its payload or any component thereof:

(i) For an expendable launch vehicle, outside designated impact limit lines; and

(ii) For a reusable launch vehicle, outside a designated landing site.

(4) For a launch that takes place with a person on board, a fatality or serious injury to a space flight participant, crew, or government astronaut.

* * * * *

Reenter; reentry means to return or attempt to return, purposefully, a reentry vehicle and its payload or human being, if any, from Earth orbit or from outer space to Earth. The term “reenter; reentry” includes activities conducted in Earth orbit or outer space to determine reentry readiness and that are critical to ensuring public health and safety and the safety of property during reentry flight. The term “reenter; reentry” also includes activities conducted on the ground after vehicle landing on Earth to ensure the reentry vehicle does not pose a threat to public health and safety or the safety of property.

Reentry accident means—

(1) Any unplanned event occurring during the reentry of a reentry vehicle resulting in the impact of the reentry vehicle, its payload, or any component thereof, outside a designated reentry site;

(2) An event that causes a fatality or serious injury (as defined in 49 CFR 830.2) to any person who is not associated with the reentry;

(3) An event that causes damage estimated to exceed \$25,000 to property not associated with the reentry and not located within a designated reentry site; and

(4) For a reentry that takes place with a person on board, a fatality or serious injury to a space flight participant, crew, or government astronaut.

* * * * *

Space flight participant means an individual, who is not crew or a government astronaut, carried aboard a launch vehicle or reentry vehicle.

* * * * *

■ 3. Amend § 401.7 by—

■ a. Adding in alphabetical order definitions for “Government astronaut”, “International partner astronaut”, and “International Space Station Intergovernmental Agreement”; and

■ b. Revising the definition of “Space flight participant”.

The additions and revision read as follows:

§ 401.7 Definitions.

* * * * *

Government astronaut means an individual who—

(1) Is designated by the National Aeronautics and Space Administration under Title 51, United States Code, Section 20113(n);

(2) Is carried within a launch vehicle or reentry vehicle in the course of their employment, which may include performance of activities directly relating to the launch, reentry, or other operation of the launch vehicle or reentry vehicle; and

(3) Is either—

(i) An employee of the United States Government, including the uniformed services, engaged in the performance of a Federal function under authority of law or an Executive act; or

(ii) An international partner astronaut.

* * * * *

International partner astronaut means an individual designated under Article 11 of the International Space Station Intergovernmental Agreement, by a partner to that agreement other than the United States, as qualified to serve as an International Space Station crew member.

International Space Station Intergovernmental Agreement means the Agreement Concerning Cooperation on the International Space Station, signed in Washington, DC, on January 29, 1998 (TIAS 12927).

* * * * *

Space flight participant means an individual, who is not crew or a government astronaut, carried aboard a launch vehicle or reentry vehicle.

* * * * *

PART 413—LICENSE APPLICATION PROCEDURES

■ 4. The authority citation for part 413 continues to read as follows:

Authority: 51 U.S.C. 50901–50923.

■ 5. Amend § 413.3 by revising paragraph (f) to read as follows:

§ 413.3 Who must obtain a license or permit.

* * * * *

(f) A person, individual, or foreign entity otherwise requiring a license

under this section may instead obtain an experimental permit to launch or reenter a reusable suborbital vehicle under part 437 of this chapter.

PART 415—LAUNCH LICENSE

■ 6. The authority citation for part 415 continues to read as follows:

Authority: 51 U.S.C. 50901–50923.

■ 7. Revise § 415.8 to read as follows:

§ 415.8 Human space flight.

To obtain a launch license, an applicant proposing to conduct a launch with a human being on board must demonstrate compliance with §§ 460.5, 460.7, 460.11, 460.13, 460.15, 460.17, 460.51, 460.53, 460.59, 460.61, and 460.67 of this subchapter.

PART 431—LAUNCH AND REENTRY OF A REUSABLE LAUNCH VEHICLE (RLV)

■ 8. The authority citation for part 431 continues to read as follows:

Authority: 51 U.S.C. 50901–50923.

■ 9. Revise § 431.8 to read as follows:

§ 431.8 Human space flight.

To obtain a launch license, an applicant proposing to conduct a reusable launch vehicle mission with a human being on board must demonstrate compliance with §§ 460.5, 460.7, 460.11, 460.13, 460.15, 460.17, 460.51, 460.53, 460.59, 460.61, and 460.67 of this subchapter.

PART 435—REENTRY OF A REENTRY VEHICLE OTHER THAN A REUSABLE LAUNCH VEHICLE (RLV)

■ 10. The authority citation for part 435 continues to read as follows:

Authority: 51 U.S.C. 50901–50923.

■ 11. Revise § 435.8 to read as follows:

§ 435.8 Human space flight.

To obtain a reentry license, an applicant proposing to conduct a reentry with a human being on board the vehicle must demonstrate compliance with §§ 460.5, 460.7, 460.11, 460.13, 460.15, 460.17, 460.51, 460.53, 460.59, 460.61, and 460.67 of this subchapter.

PART 437—EXPERIMENTAL PERMITS

■ 12. The authority citation for part 437 continues to read as follows:

Authority: 51 U.S.C. 50901–50923.

■ 13. Revise § 437.3 to read as follows:

§ 437.3 Definitions.

Envelope expansion means any portion of a flight where planned

operations will subject a reusable suborbital vehicle to the effects of altitude, velocity, acceleration, or burn duration that exceed a level or duration successfully verified during an earlier flight.

Exclusion area means an area, within an operating area, that a reusable suborbital vehicle’s instantaneous impact point may not traverse.

Operating area means a three-dimensional region where permitted flights may take place.

Permitted vehicle means a reusable suborbital rocket or a reusable launch vehicle that will be launched into a suborbital trajectory or reentered that is operated by a launch or reentry operator under an experimental permit.

Reentry impact point means the location of a reusable suborbital vehicle’s instantaneous impact point during its unpowered exoatmospheric suborbital flight.

■ 14. Revise § 437.5 to read as follows:

§ 437.5 Eligibility for an experimental permit.

The FAA will issue an experimental permit to a person to launch or reenter a reusable suborbital vehicle only for—

(a) Research and development to test design concepts, equipment, or operating techniques;

(b) A showing of compliance with requirements for obtaining a license under this subchapter; or

(c) Crew training for a launch or reentry using the design of the reusable suborbital vehicle for which the permit would be issued.

■ 15. Amend § 437.7 by revising the introductory text and paragraph (b) to read as follows:

§ 437.7 Scope of an experimental permit.

An experimental permit authorizes launch or reentry of a reusable suborbital vehicle. The authorization includes pre- and post-flight ground operations as defined in this section.

* * * * *

(b) A post-flight ground operation includes each operation necessary to return the reusable suborbital vehicle to a safe condition after it lands or impacts.

■ 16. Revise § 437.9 to read as follows:

§ 437.9 Issuance of an experimental permit.

The FAA issues an experimental permit authorizing an unlimited number of launches or reentries for a reusable suborbital vehicle design for the uses described in § 437.5.

■ 17. Amend § 437.21 by revising paragraphs (b)(1)(i) and (iv), (b)(3), (c), and (d) to read as follows:

§ 437.21 General.

* * * * *

(b) * * *

(1) * * *

(i) General. The FAA is responsible for complying with the procedures and policies of the National Environmental Policy Act (NEPA) and other applicable environmental laws, regulations, and Executive Orders to consider and document the potential environmental effects associated with proposed reusable suborbital vehicle launches or reentries. An applicant must provide the FAA with information needed to comply with such requirements. The FAA will consider and document the potential environmental effects associated with proposed reusable suborbital vehicle launches or reentries.

* * * * *

(iv) Information requirements. An application must include an approved FAA Environmental Assessment, Environmental Impact Statement, categorical exclusion determination, or written re-evaluation covering all planned permitted activities in compliance with NEPA and the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA.

* * * * *

(3) Human space flight. An applicant proposing to conduct a permitted operation with a human being on board a reusable suborbital vehicle must demonstrate compliance with §§ 460.5, 460.7, 460.11, 460.13, 460.15, 460.17, 460.51, 460.53, 460.59, 460.61, and 460.67 of this subchapter.

(c) Use of a safety element approval. If an applicant proposes to use any reusable suborbital vehicle, safety system, process, service, or personnel for which the FAA has issued a safety element approval under part 414 of this chapter, the FAA will not reevaluate that safety element to the extent its use is within its approved scope. As part of the application process, the FAA will evaluate the integration of that safety element into vehicle systems or operations.

(d) Inspection before issuing a permit. Before the FAA issues an experimental permit, an applicant must make each reusable suborbital vehicle planned to be flown available to the FAA for inspection. The FAA will determine whether each reusable suborbital vehicle is built as represented in the application.

* * * * *

■ 18. Amend § 437.23 by revising paragraphs (a) and (b) to read as follows:

§ 437.23 Program description.

(a) An applicant must provide—

(1) Dimensioned three-view drawings or photographs of the reusable suborbital vehicle; and

(2) Gross liftoff weight and thrust profile of the reusable suborbital vehicle.

(b) An applicant must describe—

(1) All reusable suborbital vehicle systems, including any structural, flight control, thermal, pneumatic, hydraulic, propulsion, electrical, environmental control, software and computing systems, avionics, and guidance systems used in the reusable suborbital vehicle;

(2) The types and quantities of all propellants used in the reusable suborbital vehicle;

(3) The types and quantities of any hazardous materials used in the reusable suborbital vehicle;

(4) The purpose for which a reusable suborbital vehicle is to be flown; and

* * * * *

■ 19. Amend § 437.25 by revising paragraph (c) to read as follows:

§ 437.25 Flight test plan.

* * * * *

(c) For each operating area, provide the planned maximum altitude of the reusable suborbital vehicle.

■ 20. Amend § 437.31 by revising paragraphs (a) introductory text, (a)(1), and (b), to read as follows:

§ 437.31 Verification of operating area containment and key flight-safety event limitations.

(a) An applicant must identify, describe, and provide verification evidence of the methods and systems used to meet the requirement of § 437.57(a) to contain its reusable suborbital vehicle's instantaneous impact point within an operating area and outside any exclusion area. The description must include, at a minimum—

(1) Proof of physical limits on the ability of the reusable suborbital vehicle to leave the operating area; or

* * * * *

(b) An applicant must identify, describe, and provide verification evidence of the methods and systems used to meet the requirements of § 437.59 to conduct any key flight-safety event so that the reusable suborbital vehicle's instantaneous impact point, including its expected dispersions, is over unpopulated or sparsely populated areas, and to conduct each reusable suborbital vehicle flight so that the reentry impact point does not loiter over a populated area.

■ 21. Revise § 437.33 to read as follows:

§ 437.33 Landing and impact locations.

An applicant must demonstrate that each location for nominal landing or

any contingency abort landing of the reusable suborbital vehicle, and each location for any nominal or contingency impact or landing of a component of that reusable suborbital vehicle, satisfies § 437.61.

■ 22. Amend § 437.53 by revising the introductory text to read as follows:

§ 437.53 Pre-flight and post-flight operations.

A permittee must protect the public from adverse effects of hazardous operations and systems in preparing a reusable suborbital vehicle for flight at a launch site in the United States and returning the reusable suborbital vehicle and any support equipment to a safe condition after flight. At a minimum, a permittee must—

* * * * *

■ 23. Amend § 437.57 by revising paragraphs (a) and (c) to read as follows:

§ 437.57 Operating area containment.

(a) During each permitted flight, a permittee must contain its reusable suborbital vehicle's instantaneous impact point within an operating area determined in accordance with paragraph (b) and outside any exclusion area defined by the FAA in accordance with paragraph (c) of this section.

* * * * *

(c) The FAA may prohibit a reusable suborbital vehicle's instantaneous impact point from traversing certain areas within an operating area by designating one or more areas as exclusion areas, if necessary to protect public health and safety, safety of property, or foreign policy or national security interests of the United States. An exclusion area may be confined to a specific phase of flight.

■ 24. Amend § 437.59 by revising paragraph (a) introductory text and (b) to read as follows:

§ 437.59 Key flight-safety event limitations.

(a) A permittee must conduct any key flight-safety event so that the reusable suborbital vehicle's instantaneous impact point, including its expected dispersion, is over an unpopulated or sparsely populated area. At a minimum, a key flight-safety event includes:

* * * * *

(b) A permittee must conduct each reusable suborbital vehicle flight so that the reentry impact point does not loiter over a populated area.

■ 25. Amend § 437.61 by revising the introductory text to read as follows:

§ 437.61 Landing and impact locations.

For a nominal or any contingency abort landing of a reusable suborbital vehicle, or for any nominal or

contingency impact or landing of a component of that reusable suborbital vehicle, a permittee must use a location that—

* * * * *

■ 26. Amend § 437.71 by revising paragraphs (a), (c), (d), and (e) to read as follows:

§ 437.71 Flight rules.

(a) Before initiating flight, a permittee must confirm that all systems and operations necessary to ensure that safety measures derived from §§ 437.55, 437.57, 437.59, 437.61, 437.63, 437.65, 437.67, and 437.69 are within acceptable limits.

* * * * *

(c) A permittee may not operate a reusable suborbital vehicle in a careless or reckless manner that would endanger any member of the public during any phase of flight.

(d) A permittee may not operate a reusable suborbital vehicle in areas designated in a Notice to Airmen under 14 CFR 91.137, 91.138, 91.141, or 91.145, unless authorized by:

- (1) Air Traffic Control; or
- (2) A Flight Standards Certificate of Waiver or Authorization.

(e) For any phase of flight where a permittee operates a reusable suborbital vehicle like an aircraft in the National Airspace System, a permittee must comply with the provisions of 14 CFR part 91 specified in an experimental permit issued under this part.

■ 27. Amend § 437.85 by revising paragraph (a) to read as follows:

§ 437.85 Allowable design changes; modification of an experimental permit.

(a) The FAA will identify in the experimental permit the type of changes that the permittee may make to the reusable suborbital vehicle design without invalidating the permit.

* * * * *

■ 28. Revise § 437.91 to read as follows:

§ 437.91 For hire prohibition.

No permittee may carry any property or human being for compensation or hire on a reusable suborbital vehicle.

■ 29. Revise § 437.95 to read as follows:

§ 437.95 Inspection of additional reusable suborbital vehicles.

A permittee may launch or reenter additional reusable suborbital vehicles of the same design under the permit after the FAA inspects each additional reusable suborbital vehicle.

PART 440—FINANCIAL RESPONSIBILITY

■ 30. The authority citation for part 440 continues to read as follows:

Authority: 51 U.S.C. 50901–50923.

■ 31. Amend § 440.3 by revising the definitions of “Government personnel”, “Permit”, “Permitted activity”, and “Third party” to read as follows:

§ 440.3 Definitions.

* * * * *

Government personnel means employees of the United States, its agencies, and its contractors and subcontractors, involved in launch or reentry services for an activity authorized by an FAA license or permit. Employees of the United States include members of the Armed Forces of the United States. Government personnel exclude government astronauts.

* * * * *

Permit means an authorization the FAA issues under this subchapter for the launch or reentry of a reusable suborbital vehicle.

Permitted activity means the launch or reentry of a reusable suborbital vehicle conducted under a permit issued by the FAA.

* * * * *

Third party means—

(1) Any person other than:

- (i) The United States, any of its agencies, and its contractors and subcontractors involved in launch or reentry services for a licensed or permitted activity;
 - (ii) A licensee, permittee, and its contractors and subcontractors involved in launch or reentry services for a licensed or permitted activity;
 - (iii) A customer and its contractors and subcontractors involved in launch or reentry services for a licensed or permitted activity;
 - (iv) A member of a crew;
 - (v) A space flight participant; and
 - (vi) A government astronaut.
- (2) Government personnel, as defined in this section, are third parties.

* * * * *

■ 32. Amend § 440.9 by revising paragraph (b)(2), (3), and (4) to read as follows:

§ 440.9 Insurance requirements for licensed or permitted activities.

* * * * *

(b) * * *

(2) The United States, its agencies, and its contractors and subcontractors involved in a licensed or permitted activity;

(3) Government personnel; and

(4) Space flight participants. This paragraph (b)(4) shall cease to be effective on September 30, 2025, unless public law modifies the limitation in section 50914 of Title 51 of the U.S. Code.

* * * * *

■ 33. Amend § 440.17 by revising paragraphs (c) introductory text, (d) introductory text, (e) introductory text, and (f) and adding paragraph (g) to read as follows:

§ 440.17 Reciprocal waiver of claims requirements.

* * * * *

(c) For each licensed or permitted activity in which the United States, or its contractors and subcontractors, is involved or where property insurance is required under § 440.9(d), the Federal Aviation Administration of the Department of Transportation, the licensee or permittee, and each first-tier customer must enter into a reciprocal waiver of claims agreement. The reciprocal waiver of claims must be in a form acceptable to the Administrator and must provide that:

* * * * *

(d) For each licensed or permitted activity in which the United States or its contractors and subcontractors are involved, the Federal Aviation Administration of the Department of Transportation and each space flight participant must enter into or have in place a reciprocal waiver of claims agreement. The reciprocal waiver of claims must be in a form acceptable to the Administrator.

* * * * *

(e) For each licensed or permitted activity in which the United States or its contractors and subcontractors is involved, the Federal Aviation Administration of the Department of Transportation and each crew member must enter into or have in place a reciprocal waiver of claims agreement. The reciprocal waiver of claims must be in a form acceptable to the Administrator.

* * * * *

(f) The licensee or permittee and each space flight participant must enter into a reciprocal waiver of claims agreement under which each party waives and releases claims against the other party to the waiver, and agrees to assume financial responsibility for property damage it sustains and for bodily injury or property damage, and to hold harmless and indemnify each other from bodily injury or property damage, resulting from a licensed or permitted activity, regardless of fault. This paragraph (f) shall cease to be effective as of September 30, 2025, unless public law modifies the limitation in section 50914 of Title 51 of the U.S. Code.

(g) Any waiver, release, assumption of responsibility or agreement to hold harmless and indemnify pursuant to this section does not apply to claims for

bodily injury or property damage resulting from willful misconduct of any of the parties to the reciprocal waiver of claims, the contractors and subcontractors of any of the parties to the reciprocal waiver of claims, and in the case of licensee or permittee and customers and the contractors and subcontractors of each of them, the directors, officers, agents and employees of any of the foregoing, and in the case of the United States, its agents.

Appendix B Through E to Part 440— [Removed]

- 34. Remove appendices B through E to part 440.

PART 450—LAUNCH AND REENTRY LICENSE REQUIREMENTS

- 35. The authority citation for part 450 continues to read as follows:

Authority: 51 U.S.C. 50901–50923.

- 36. Amend § 450.45 by revising paragraphs (e)(3)(ii)(E) and (e)(5) to read as follows:

§ 450.45 Safety review and approval.

* * * * *

(e) * * *

(3) * * *

(ii) * * *

(E) For an unguided suborbital launch vehicle, the location of the vehicle’s center of pressure in relation to its center of gravity for the entire flight profile.

* * * * *

(5) *Human space flight.* For a proposed launch or reentry with a human being on board a vehicle, an applicant must demonstrate compliance with §§ 460.5, 460.7, 460.11, 460.13, 460.15, 460.17, 460.51, 460.53, 460.59, 460.61, and 460.67 of this chapter.

* * * * *

PART 460—HUMAN SPACE FLIGHT REQUIREMENTS

- 37. The authority citation for part 460 continues to read as follows:

Authority: 51 U.S.C. 50901–50923.

- 38. Add subpart C to read as follows:

Subpart C—Launch and Reentry With a Government Astronaut With a Safety-Critical Role

Sec.

460.55 Scope.

460.57 Applicability.

460.59 Operator training of government astronauts with a safety-critical role.

460.61 Environmental control and life support systems.

Subpart C—Launch and Reentry With a Government Astronaut With a Safety-Critical Role

§ 460.55 Scope.

This subpart establishes requirements for operators and applicants whose licensed or permitted operations involve government astronauts on board a vehicle.

§ 460.57 Applicability.

This subpart applies to:

(a) An applicant for a license or permit under this chapter who proposes to have a government astronaut with a safety-critical role on board a vehicle.

(b) An operator licensed or permitted under this chapter who has a government astronaut without a safety-critical role on board a vehicle.

§ 460.59 Operator training of government astronauts with a safety-critical role.

(a) An operator must train each government astronaut with a safety-critical role on—

(1) How to carry out their safety-critical role on board or on the ground so that the vehicle will not harm the public; and

(2) Their role in nominal and non-nominal conditions, including abort scenarios and emergency operations, to the extent that performance of their role could impact public safety.

(b) An operator must ensure any government astronaut who has the ability to control, in real time, a launch or reentry vehicle’s flight path during a phase of flight capable of endangering the public:

(1) Receives vehicle and mission-specific training for each phase of flight capable of endangering the public and over which the government astronaut has the ability to control the vehicle by using one or more of the following:

(i) A method or device that simulates the flight;

(ii) An aircraft whose characteristics are similar to the vehicle or that has similar phases of flight to the vehicle;

(iii) Flight testing; or

(iv) An equivalent method of training approved by the FAA through the license process.

(2) Trains for each mode of control or propulsion, including any transition between modes, such that the government astronaut is able to control the vehicle.

(3) Possesses aeronautical knowledge, experience, and skills necessary to pilot and control the launch or reentry vehicle that will operate in the National Airspace System (NAS). Aeronautical experience may include hours in flight, ratings, and training.

(c) With respect to training device fidelity, an operator must:

(1) Ensure that any government astronaut training device used to meet the training requirements realistically represents the vehicle’s configuration and mission; or,

(2) Inform the government astronaut being trained of the differences between the training device and the vehicle’s configuration and mission.

(d) An operator must update the government astronaut training continually to ensure that the training incorporates lessons learned from training and operational missions including—

(1) Tracking each revision and updating in writing; and

(2) Documenting the completed training for each government astronaut and maintaining the documentation for each active government astronaut.

(e) An operator must establish a recurrent training schedule and ensure that all training of government astronauts performing safety-critical roles is current before launch or reentry.

§ 460.61 Environmental control and life support systems.

(a) An operator must provide atmospheric conditions adequate to sustain life and consciousness for all inhabited areas within a vehicle that house a government astronaut. The operator must monitor and control the following atmospheric conditions in the inhabited areas or demonstrate through the license or permit process that an alternate means provides an equivalent level of safety—

(1) Composition of the atmosphere, which includes oxygen and carbon dioxide, and any revitalization;

(2) Pressure, temperature and humidity;

(3) Contaminants that include particulates and any harmful or hazardous concentrations of gases, or vapors; and

(4) Ventilation and circulation.

(b) An operator must provide an adequate redundant or secondary oxygen supply for any government astronaut with a safety-critical role.

(c) An operator must provide a redundant means of preventing cabin depressurization; or prevent incapacitation of any government astronaut with a safety-critical role in the event of loss of cabin pressure.

- 39. Add subpart D to read as follows:

Subpart D—Launch and Reentry With a Government Astronaut Without a Safety-Critical Role

Sec.

460.63 Scope.

460.65 Applicability.

460.67 Operator training of government astronauts without a safety-critical role.

Subpart D—Launch and Reentry With a Government Astronaut Without a Safety-Critical Role

§ 460.63 Scope.

This subpart establishes requirements for operators and applicants whose licensed or permitted operations involve government astronauts on board a vehicle without a safety-critical role.

§ 460.65 Applicability.

This subpart applies to:

(a) An applicant for a license or permit under this chapter who proposes to have a government astronaut without a safety-critical role on board a vehicle.

(b) An operator licensed or permitted under this chapter who has a government astronaut without a safety-critical role on board a vehicle.

§ 460.67 Operator training of government astronauts without a safety-critical role.

An operator must train each government astronaut without a safety-critical role on how to respond to emergency situations, including smoke, fire, loss of cabin pressure, and emergency exit.

Issued under authority provided by 49 U.S.C. 106(f) and 51 U.S.C. Chapter 509 in Washington, DC.

Kelvin B. Coleman,

Associate Administrator, Office of Commercial Space Transportation.

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BILLING CODE 4910-13-P

PENSION BENEFIT GUARANTY CORPORATION

29 CFR Parts 4022, 4044, 4050, 4262 and 4281

RIN 1212-AA55

Valuation Assumptions and Methods

AGENCY: Pension Benefit Guaranty Corporation.

ACTION: Proposed rule.

SUMMARY: This proposed rule would update the interest, mortality, and expense assumptions used to determine the present value of benefits for a single-employer pension plan under subpart B of the Pension Benefit Guaranty Corporation's regulation on Allocation of Assets in Single-Employer Plans, to determine components of mass withdrawal liability for a multiemployer pension plan, and for other purposes.

DATES: Comments must be submitted on or before October 17, 2023 to be assured of consideration.

ADDRESSES: Comments may be submitted by any of the following methods:

• *Federal eRulemaking Portal:* <https://www.regulations.gov>. Follow the instructions for sending comments.

• *Email:* reg.comments@pbgc.gov. Refer to RIN 1212-AA55 in the subject line.

• *Mail or Hand Delivery:* Regulatory Affairs Division, Office of the General Counsel, Pension Benefit Guaranty Corporation, 445 12th Street SW, Washington, DC 20024-2101.

Commenters are strongly encouraged to submit comments electronically. Commenters who submit comments on paper by mail should allow sufficient time for mailed comments to be received before the close of the comment period. All submissions must include the agency's name (Pension Benefit Guaranty Corporation or PBGC), the title for this rulemaking (Valuation Assumptions and Methods), and the Regulation Identifier Number for this rulemaking (RIN 1212-AA55). Comments received will be posted without change to PBGC's website, www.pbgc.gov, including any personal information provided. Do not submit comments that include any personally identifiable information or confidential business information.

Copies of comments may also be obtained by writing to Disclosure Division, Office of the General Counsel, Pension Benefit Guaranty Corporation, 445 12th Street SW, Washington, DC 20024-2101, or calling 202-326-4040 during normal business hours. If you are deaf or hard of hearing, or have a speech disability, please dial 7-1-1 to access telecommunications relay services.

FOR FURTHER INFORMATION CONTACT:

Gregory M. Katz (katz.gregory@pbgc.gov), Attorney, Regulatory Affairs Division, Office of the General Counsel, Pension Benefit Guaranty Corporation, 445 12th Street SW, Washington, DC 20024-2101; 202-229-3829. If you are deaf or hard of hearing, or have a speech disability, please dial 7-1-1 to access telecommunications relay services.

SUPPLEMENTARY INFORMATION:

Executive Summary

Purpose and Authority

This proposed rule would update the actuarial assumptions used to determine the present value of a single-employer plan's benefits when it terminates in a distress or involuntary termination, to determine the present value of multiemployer plan benefits in certain withdrawal liability calculations, and for other purposes.

Legal authority for this action comes from section 4002(b)(3) of the Employee Retirement Income Security Act of 1974 (ERISA), which authorizes the Pension Benefit Guaranty Corporation (PBGC) to issue regulations to carry out the purposes of title IV of ERISA; section 4044 of ERISA (Allocation of Assets); section 4010 of ERISA (Authority to Require Certain Information); section 4022 of ERISA (Single-Employer Plan Benefits Guaranteed); section 4041 of ERISA (Termination of Single-Employer Plans); section 4041A of ERISA (Termination of Multiemployer Plans); section 4043 of ERISA (Reportable Events); section 4062 of ERISA (Liability for Termination of Single-Employer Plans Under a Distress Termination or a Termination by Corporation); section 4050 of ERISA (Missing Participants); section 4219 of ERISA (Notice, Collection, Etc., of Withdrawal Liability); section 4262 of ERISA (Special Financial Assistance by the Corporation); and section 4281 of ERISA (Benefits Under Certain Terminated Plans).

Major Provisions

This proposed rule would modify the interest, mortality, and expense assumptions for valuing benefits under subpart B to PBGC's regulation on Allocation of Assets in Single-Employer Plans ("benefits valuation regulation") (29 CFR part 4044) to:

- Modernize the interest assumption structure by adopting a yield curve approach;
- Enable the use of market interest rates as of the date of liability measurement (*i.e.*, the valuation date) as the basis for the interest assumption;
- Increase transparency by using a procedure based on publicly available yield curves as of the valuation date;
- Adopt a more recent mortality table along with a generational mortality improvement projection; and
- Simplify the expense assumption.

Because the assumptions for valuing benefits are incorporated by reference in other regulations, the changes to these assumptions would affect PBGC's regulations on Notice, Collection, and Redetermination of Withdrawal Liability (29 CFR part 4219); Special Financial Assistance by PBGC (29 CFR part 4262); Duties of Plan Sponsor Following Mass Withdrawal (29 CFR part 4281); Annual Financial and Actuarial Information Reporting (29 CFR part 4010); Missing Participants (29 CFR part 4050); and other regulations.

Background

The Pension Benefit Guaranty Corporation (PBGC) administers two