

114TH CONGRESS } HOUSE OF REPRESENTATIVES { REPORT  
1st Session } { 114-

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SPURRING PRIVATE AEROSPACE COMPETITIVENESS AND  
ENTREPRENEURSHIP ACT OF 2015

<sup>18</sup>  
MAY --, 2015.—Committed to the Committee of the Whole House on the State of the  
Union and ordered to be printed

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Mr. SMITH of Texas, from the Committee on Science, Space, and  
Technology, submitted the following

R E P O R T

together with

*Minority* VIEWS

[To accompany H.R. 2262]

[Including cost estimate of the Congressional Budget Office]

The Committee on Science, Space, and Technology, to whom was referred the bill (H.R. 2262) to facilitate a pro-growth environment for the developing commercial space industry by encouraging private sector investment and creating more stable and predictable regulatory conditions, and for other purposes, having considered the same, reports favorably thereon with an amendment and recommends that the bill as amended do pass.

The amendment is as follows:

Strike all after the enacting clause and insert the following:

**SECTION 1. SHORT TITLE.**

This Act may be cited as the “Spurring Private Aerospace Competitiveness and Entrepreneurship Act of 2015” or the “SPACE Act of 2015”.

**SEC. 2. CONSENSUS STANDARDS.**

Section 50905(c) of title 51, United States Code, is amended—

(1) by striking paragraph (3);

(2) by redesignating paragraph (4) as paragraph (8); and

(3) by inserting after paragraph (2) the following:

“(3) INTERIM INDUSTRY VOLUNTARY CONSENSUS STANDARDS REPORT.—The Secretary, in consultation with the Commercial Space Transportation Advisory Committee, or its successor organization, shall provide a report to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate on the progress of the commercial space transportation industry in developing vol-

untary consensus standards or any other construction that promotes best practices to improve the industry. Such report shall include, at a minimum—

“(A) any voluntary industry consensus standards or any other construction that have been accepted by the industry at large;

“(B) the identification of areas that have the potential to become voluntary industry consensus standards or another potential construction that are currently under consideration by the industry at large;

“(C) an assessment from the Secretary on the general progress of the industry in adopting voluntary consensus standards or any other construction;

“(D) lessons learned about voluntary industry consensus standards or any other construction, best practices, and commercial space launch operations;

“(E) any lessons learned associated with the development, potential application, and acceptance of voluntary industry consensus standards or any other construction, best practices, and commercial space launch operations; and

“(F) recommendations, findings, or observations from the Commercial Space Transportation Advisory Committee, or its successor organization, on the progress of the industry in developing industry consensus standards or any other construction.

This report, with the appropriate updates in the intervening periods, shall be transmitted to such committees no later than December 31, 2016, December 31, 2018, December 31, 2020, and December 31, 2022. Each report shall describe and assess the progress achieved as of 6 months prior to the specified transmittal date.

“(4) INTERIM REPORT ON KNOWLEDGE AND OPERATIONAL EXPERIENCE.—The Secretary shall provide a report to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the of the Senate on the status of the knowledge and operational experience acquired by the industry while providing flight services for compensation or hire to support the development of a safety framework. Interim reports shall be transmitted to such committees no later than December 31, 2018, December 31, 2020, and December 31, 2022. Each report shall describe and assess the progress achieved as of 6 months prior to the specified transmittal date.

“(5) INDEPENDENT REVIEW.—No later than December 31, 2023, an independent, private systems engineering and technical assistance organization or standards development organization contracted by the Secretary shall provide to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate an assessment of the readiness of the commercial space industry and the Federal Government to transition to a safety framework that may include regulations. As part of the review, the contracted organization shall evaluate—

“(A) the progress of the commercial space industry in adopting industry voluntary standards or any other construction as reported by the Secretary in the interim assessments included in reports provided under paragraph (4); and

“(B) the knowledge and operational experience obtained by the commercial space industry while providing services for compensation or hire as reported by the Secretary in the interim knowledge and operational reports provided under paragraph (4).

“(6) LEARNING PERIOD.—Beginning on December 31, 2025, the Secretary may propose regulations under this subsection without regard to paragraph (2)(C) and (D). The development of any such regulations shall take into consideration the evolving standards of the commercial space flight industry as identified through the reports published under paragraphs (3) and (4).

“(7) COMMUNICATION AND TRANSPARENCY.—Nothing in this subsection shall be construed to limit the authority of the Secretary of Transportation to discuss potential approaches, potential performance standards, or any other topic related to this subsection with the commercial space industry including observations, findings, and recommendations from the Commercial Space Transportation Advisory Committee, or its successor organization, prior to the issuance of a notice of proposed rulemaking. Such discussions shall not be construed to permit the Secretary to promulgate industry regulations except as otherwise provided in this section.”.

**SEC. 3. INTERNATIONAL LAUNCH COMPETITIVENESS.**

(a) **PURPOSE.**—The purpose of this section is to provide for updating the methodology used to calculate the maximum probable loss from claims under section 50914 of title 51, United States Code, with a validated risk profile approach to provide reasonable maximum probable loss values associated with potential third party losses from commercially licensed launches. An appropriately updated methodology will help ensure that the Federal Government is not exposed to greater financial risks than intended and that launch companies are not required to purchase more insurance coverage than necessary.

(b) **MAXIMUM PROBABLE LOSS PLAN.**—Not later than 180 days after the date of enactment of this Act, the Secretary of Transportation shall provide to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a plan to update the methodology used to calculate maximum probable loss from claims under section 50914 of title 51, United States Code, through the use of a validated risk profile approach. Such plan shall include, at a minimum—

(1) an evaluation of the reasonableness of the current single casualty estimate and, if needed, the steps the Secretary will take to update such estimate;

(2) an evaluation, in consultation with the Administrator of the National Aeronautics and Space Administration and the heads of other relevant executive agencies, of the reasonableness of the dollar value of the insurance requirement required by the Secretary for launch providers to cover damage to Government property resulting from a commercially licensed space launch activity, and recommendations as to a reasonable calculation if, as determined by the Secretary, the current statutory threshold is insufficient;

(3) a schedule of when updates to the methodology and calculations for the totality of the Maximum Probable Loss will be implemented, and a detailed explanation of any changes to the current calculation; and

(4) consideration of the impact of the cost of its implementation on the licensing process, both in terms of the cost to industry of collecting and providing the requisite data and cost to the Government of analyzing the data.

(c) **INDEPENDENT ASSESSMENT.**—Not later than 270 days after transmittal of the plan under subsection (b), the Comptroller General shall provide to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate an assessment of—

(1) the conclusions and analysis provided by the Secretary of Transportation in the plan required under subsection (b);

(2) the implementation schedule proposed by the Secretary in such plan;

(3) the suitability of the plan for implementation; and

(4) any further actions needed to implement the plan or otherwise accomplish the purpose of this section.

(d) **LAUNCH LIABILITY EXTENSION.**—Section 50915(f) of title 51, United States Code, is amended by striking “December 31, 2016” and inserting “December 31, 2025”.

**SEC. 4. LAUNCH LICENSE FLEXIBILITY.**

Section 50906 of title 51, United States Code, is amended—

(1) in subsection (d), by striking “launched or reentered” and inserting “launched or reentered under that permit”;

(2) by amending subsection (d)(1) to read as follows:

“(1) research and development to test design concepts, equipment, or operating techniques;”;

(3) in subsection (d)(3), by striking “prior to obtaining a license”;

(4) in subsection (e)(1), by striking “suborbital rocket design” and inserting “suborbital rocket or rocket design”; and

(5) by amending subsection (g) to read as follows:

“(g) The Secretary may issue a permit under this section notwithstanding any license issued under this chapter. The issuance of a license under this chapter shall not invalidate a permit under this section.”.

**SEC. 5. GOVERNMENT ASTRONAUTS.**

(a) **DEFINITIONS.**—Section 50902 of title 51, United States Code, is amended—

(1) by redesignating paragraphs (4) through (22) as paragraphs (5) through (23), respectively;

(2) by inserting after paragraph (3) the following new paragraph:

“(4) ‘government astronaut’ means an individual designated as such by the Administrator of the National Aeronautics and Space Administration, pursuant requirements established by the Administrator, who—

“(A) is an employee of—

“(i) the United States Government, including the United States Armed Forces; or

“(ii) a foreign government that is a party to the Intergovernmental Agreement Among the Government of Canada, Governments of Member States of the European Space Agency, the Government of Japan, the Government of the Russian Federation, and the Government of the United States of America Concerning Cooperation on the Civil International Space Station, signed on January 29, 1998; and

“(B) 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.”;

(3) in paragraph (5), as so redesignated by paragraph (1) of this subsection, by inserting “government astronaut,” after “crew,”;

(4) in paragraph (7)(A), as so redesignated by paragraph (1) of this subsection, by inserting “government astronaut,” after “(including crew training),”;

(5) in paragraph (14), as so redesignated by paragraph (1) of this subsection, by inserting “government astronauts,” after “crew,”;

(6) in paragraph (15)(A), as so redesignated by paragraph (1) of this subsection, by inserting “government astronaut,” after “(including crew training),”;

(7) by amending paragraph (18), as so redesignated by paragraph (1) of this subsection, to read as follows:

“(18) ‘space flight participant’ means an individual, who is not crew or a government astronaut, carried within a launch vehicle or reentry vehicle.”; and

(8) in paragraph (22)(E), as so redesignated by paragraph (1) of this subsection, by inserting “, government astronauts,” after “crew”.

(b) RESTRICTIONS ON LAUNCHES, OPERATIONS, AND REENTRIES; SINGLE LICENSE OR PERMIT.—Section 50904(d) of title 51, United States Code, is amended by inserting “, government astronauts,” after “crew”.

(c) LICENSE APPLICATIONS AND REQUIREMENTS; APPLICATIONS.—Section 50905 of title 51, United States Code, is amended—

(1) in subsection (a)(2), by striking “crews and space flight participants” and inserting “crew, government astronauts, and space flight participants”;

(2) in subsection (b)(2)(D), by inserting “, government astronauts,” after “crew”; and

(3) in subsection (c)—

(A) in paragraph (1), by inserting “, government astronauts,” after “crew”; and

(B) in paragraph (2), by striking “to crew or space flight participants” each place it appears and inserting “to crew, government astronauts, or space flight participants”.

(d) MONITORING ACTIVITIES.—Section 50907(a) of title 51, United States Code, is amended by striking “crew or space flight participant training” and inserting “crew, government astronaut, or space flight participant training”.

(e) ADDITIONAL SUSPENSIONS.—Section 50908(d)(1) of title 51, United States Code, is amended by striking “to crew or space flight participants” each place it appears and inserting “to crew, government astronauts, or space flight participants”.

**SEC. 6. INDEMNIFICATION FOR SPACE FLIGHT PARTICIPANTS.**

Chapter 509 of title 51, United States Code, is amended—

(1) in section 50914(a)(4), by adding at the end the following:

“(E) space flight participants.”; and

(2) in section 50915(a)(1)—

(A) by striking “or a contractor” and inserting “a contractor”; and

(B) by striking “but not against” and inserting “or”.

**SEC. 7. FEDERAL JURISDICTION.**

Section 50914 of title 51, United States Code, is amended by adding at the end the following:

“(g) FEDERAL JURISDICTION.—Any action or tort arising from a licensed launch or reentry shall be the sole jurisdiction of the Federal courts and shall be decided under Federal law.”.

**SEC. 8. CROSS-WAIVERS.**

Section 50914(b)(1) of title 51, United States Code, is amended to read as follows: “(1) A launch or reentry license issued or transferred under this chapter shall contain a provision requiring the licensee or transferee to make a reciprocal waiver of claims with its contractors, subcontractors, and customers, the contractors and subcontractors of the customers, and any space flight participants, involved in launch services or reentry services or participating in a flight under which each party to the waiver agrees to be responsible for property damage or loss it or they sustain, 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.”.

**SEC. 9. ORBITAL TRAFFIC MANAGEMENT.**

(a) **SENSE OF CONGRESS.**—It is the sense of the Congress that, as none currently exists, there may be a need for a framework that addresses space traffic management of United States Government assets and United States private sector assets to minimize the proliferation of debris and decrease the congestion of the orbital environment.

(b) **STUDY REQUIRED.**—Not later than 90 days after the date of enactment of this Act, the Administrator of the National Aeronautics and Space Administration shall enter into an arrangement with an independent, private systems engineering and technical assistance organization to study frameworks for the management of space traffic and orbital activities. The study shall include the following:

(1) An assessment of current regulations, Government best practices, and industry standards that apply to space traffic management and orbital debris mitigation.

(2) An assessment of current statutory authority granted to the Federal Communications Commission, the Federal Aviation Administration, and the National Oceanic and Atmospheric Administration and how those agencies utilize and coordinate those authorities.

(3) A review of all space traffic management and orbital debris requirements under treaties and other international agreements to which the United States is a signatory, and other nonbinding international arrangements in which the United States participates, and the manner in which the Federal Government complies with those requirements.

(4) An assessment of existing Federal Government assets used to conduct space traffic management and space situational awareness.

(5) An assessment of the risk associated with smallsats as well as any necessary Government coordination for their launch and utilization.

(6) An assessment of existing private sector information sharing activities associated with space situational awareness and space traffic management.

(7) Recommendations related to the framework for the protection of the health, safety, and welfare of the public and economic vitality of the space industry.

(c) **REPORT TO CONGRESS.**—Not later than 1 year after the date of enactment of this Act, the Administrator shall provide to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate the report required in subsection (b).

(d) **DEPARTMENT OF DEFENSE AUTHORITIES.**—Congress recognizes the vital and unique role played by the Department of Defense in protecting national security assets in space. Nothing in this section shall be construed to amend authorities granted to the Department of Defense to safeguard the national security.

**SEC. 10. STATE COMMERCIAL LAUNCH FACILITIES.**

It is the Sense of Congress that State involvement, development, ownership, and operation of launch facilities can help enable growth of the Nation's commercial sub-orbital and orbital space endeavors and support both commercial and Government space programs. It is further the sense of Congress that State launch facilities and the people and property within the affected launch areas of those State facilities are subject to risks if the commercial launch vehicle fails or experiences an anomaly. To ensure the success of the commercial launch industry and the safety of the people and property in the affected launch areas, it is the further sense of Congress that States and State launch facilities should seek to take proper measures to secure their investments and the safety of third parties from potential damages that could be suffered from commercial launch activities.

**SEC. 11. SPACE SUPPORT VEHICLES STUDY.**

Not less than 1 year after the date of enactment of this Act, the Comptroller General shall submit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate, a report on the use of space support vehicle services in the commercial space industry. This report shall include—

- (1) the extent to which launch providers rely on such services as part of their business models;
- (2) the statutory, regulatory, and market barriers to the use of such services; and
- (3) recommendations for legislative or regulatory action that may be needed to ensure reduced barriers to the use of such services if such use is a requirement of the industry.

**SEC. 12. STREAMLINE COMMERCIAL SPACE LAUNCH ACTIVITIES.**

(a) **SENSE OF CONGRESS.**—It is the sense of Congress that eliminating duplicative requirements and approvals for commercial launch and reentry operations will promote and encourage the development of the commercial space sector.

(b) **REAFFIRMATION OF POLICY.**—Congress reaffirms that the Secretary of Transportation, in overseeing and coordinating commercial launch and reentry operations, should—

- (1) promote commercial space launches and reentries by the private sector;
- (2) facilitate Government, State, and private sector involvement in enhancing U.S. launch sites and facilities;
- (3) protect public health and safety, safety of property, national security interests, and foreign policy interests of the United States; and
- (4) consult with the head of another executive agency, including the Secretary of Defense or the Administrator of the National Aeronautics and Space Administration, as necessary to provide consistent application of licensing requirements under chapter 509 of title 51, United States Code.

(c) **REQUIREMENTS.**—

(1) **IN GENERAL.**—The Secretary of Transportation under section 50918 of title 51, United States Code, and subject to section 50905(b)(2)(C) of that title, shall consult with the Secretary of Defense, the Administrator of the National Aeronautics and Space Administration, and the heads of other executive agencies, as appropriate—

(A) to identify all requirements that are imposed to protect the public health and safety, safety of property, national security interests, and foreign policy interests of the United States relevant to any commercial launch of a launch vehicle or commercial reentry of a reentry vehicle; and

(B) to evaluate the requirements identified in subparagraph (A) and, in coordination with the licensee or transferee and the heads of the relevant executive agencies—

(i) determine whether the satisfaction of a requirement of one agency could result in the satisfaction of a requirement of another agency; and

(ii) resolve any inconsistencies and remove any outmoded or duplicative requirements or approvals of the Federal Government relevant to any commercial launch of a launch vehicle or commercial reentry of a reentry vehicle.

(2) **REPORTS.**—Not later than 180 days after the date of enactment of this Act, and annually thereafter until the Secretary of Transportation determines no outmoded or duplicative requirements or approvals of the Federal Government exist, the Secretary of Transportation, in consultation with the Secretary of Defense, the Administrator of the National Aeronautics and Space Administration, the commercial space sector, and the heads of other executive agencies, as appropriate, shall submit to the Committee on Commerce, Science, and Transportation of the Senate, the Committee on Science, Space, and Technology of the House of Representatives, and the congressional defense committees a report that includes the following:

(A) A description of the process for the application for and approval of a permit or license under chapter 509 of title 51, United States Code, for the commercial launch of a launch vehicle or commercial reentry of a reentry vehicle, including the identification of—

(i) any unique requirements for operating on a United States Government launch site, reentry site, or launch property; and

- (ii) any inconsistent, outmoded, or duplicative requirements or approvals.
  - (B) A description of current efforts, if any, to coordinate and work across executive agencies to define interagency processes and procedures for sharing information, avoiding duplication of effort, and resolving common agency requirements.
  - (C) Recommendations for legislation that may further—
    - (i) streamline requirements in order to improve efficiency, reduce unnecessary costs, resolve inconsistencies, remove duplication, and minimize unwarranted constraints; and
    - (ii) consolidate or modify requirements across affected agencies into a single application set that satisfies the requirements identified in paragraph (1)(A).
- (3) DEFINITIONS.—For purposes of this subsection—
- (A) any applicable definitions set forth in section 50902 of title 51, United States Code, shall apply;
  - (B) the terms “launch”, “reenter”, and “reentry” include landing of a launch vehicle or reentry vehicle; and
  - (C) the terms “United States Government launch site” and “United States Government reentry site” include any necessary facility, at that location, that is commercially operated on United States Government property.

**SEC. 13. SPACE LAUNCH SYSTEM UPDATE.**

(a) CHAPTER 701.—

(1) AMENDMENT.—The chapter heading of chapter 701 of title 51, United States Code, is amended by striking “**SPACE SHUTTLE**” and inserting “**SPACE LAUNCH SYSTEM**”.

(2) CONFORMING AMENDMENT.—The item relating to chapter 701 in the table of chapters at the beginning of title 51, United States Code, is amended by striking “Space Shuttle” and inserting “Space Launch System”.

(b) SECTION 70101.—

(1) AMENDMENTS.—Section 70101 of title 51, United States Code, is amended—

(A) in the section heading, by striking “**space shuttle**” and inserting “**Space Launch System**”; and

(B) by striking “space shuttle” and inserting “Space Launch System”.

(2) CONFORMING AMENDMENT.—The item relating section 70101 in the table of sections for chapter 701 of title 51, United States Code is amended by striking “space shuttle” and inserting “Space Launch System”.

(c) SECTION 70102.—

(1) AMENDMENTS.—Section 70102 of title 51, United States Code, is amended—

(A) in the section heading, by striking “**Space shuttle**” and inserting “**Space Launch System**”;

(B) in subsection (a)(1)(A), by striking “space shuttle” both places it appears and inserting “Space Launch System”;

(C) in subsection (a)(1)(A)(i), by inserting “directly to cis-lunar space and the regions of space beyond low-Earth orbit” after “human presence”;

(D) in subsection (a)(1)(B), by striking “a shuttle launch” and inserting “a launch of the Space Launch System”;

(E) in subsection (a)(2), by striking “a space shuttle mission” and inserting “a mission of the Space Launch System”;

(F) in subsection (b)—

(i) by striking “space shuttle” each place it appears and inserting “Space Launch System”; and

(ii) by striking “from the shuttle” and inserting “from the Space Launch System”;

(G) in subsection (c), by striking “space shuttle” and inserting “Space Launch System”; and

(H) by adding at the end the following new subsection:

“(d) DEFINITION.—In this section, the term ‘Space Launch System’ means the Space Launch System authorized under section 302 of the National Aeronautics and Space Administration Authorization Act of 2010.”

(2) CONFORMING AMENDMENT.—The item relating section 70102 in the table of sections for chapter 701 of title 51, United States Code is amended by striking “Space shuttle” and inserting “Space Launch System”.

(d) SECTION 70103.—

(1) AMENDMENTS.—Section 70103 of title 51, United States Code, is amended—

(A) in the section heading, by striking “**space shuttle**” and inserting “**Space Launch System**”; and

(B) by striking “space shuttle” each place it appears and inserting “Space Launch System”.

(2) CONFORMING AMENDMENT.—The item relating section 70103 in the table of sections for chapter 701 of title 51, United States Code is amended by striking “space shuttle” and inserting “Space Launch System”.



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## COMMITTEE STATEMENT AND VIEWS

### Purpose and Summary

The purpose of H.R. 2262, the “SPACE Act of 2015,” is to facilitate a pro-growth environment for the developing commercial space industry by encouraging private sector investment, creating more stable and predictable regulatory conditions, and improving safety.

### Background and Need for Legislation

The commercial human space flight industry is still in its infancy, but has grown significantly since the Commercial Space Launch Amendments Act of 2004 (CSLAA). Entrepreneurial companies have raised billions of dollars with the hopes of taking customers to space. Other companies are investing and developing the technical capability to explore and utilize outer space resources. Still others are investing in space-based remote sensing technologies, an industry which is experiencing unprecedented growth.

The safety framework that will govern the commercial human spaceflight industry is, as yet, undetermined. Absent a clear and balanced safety framework for commercial human spaceflight, the industry cannot effectively plan for its future, nor can it compete with international providers of similar services.

Currently, any individual or private entity wishing to conduct a commercial space launch or reentry in the United States or operate a launch or reentry site in the United States must obtain a license from the Federal Aviation Administration (FAA) to do so. Furthermore, citizens of the United States must obtain authorization from the FAA to conduct commercial space launches or reentries or to operate launch or reentry sites anywhere in the world. The Department of Transportation derives its authority over commercial space transportation from the Commercial Space Launch Act (CSLA) and has delegated that authority to the FAA's Office of the Associate Administrator for Commercial Space Transportation (AST). AST has the dual mandate of regulating and promoting the commercial space transportation industry in the United States.

In 1988, Congress amended the CSLA to indemnify the commercial space launch industry against successful claims by uninvolved third parties. The CSLA requires that private launch companies purchase sufficient liability insurance to cover potential losses in the event of an accident. This amount is determined by the FAA on a case-by-case basis depending on its calculation of the ‘maximum probable loss’ (MPL) from potential claims by a third party. MPL calculations are capped at \$500 million for coverage against suits by private entities. Any loss incurred between \$500 million and \$1.5 billion is covered by the federal government.

Since its enactment, the CSLA's indemnification regime has been subject to an expiration date. Congress has extended the expiration date on several occasions. At present, FAA-licensed launch operators are offered indemnification under the statutorily prescribed procedures through December 31, 2016.

H.R. 2262 is necessary to achieve several goals that will promote the development of the emerging commercial human space flight industry. First, the bill preserves FAA’s ability to regulate commercial human spaceflight in order to protect the uninvolved public, national security, public health and safety, safety of property, and foreign policy. Second, the bill extends the learning period to 2025 to allow the FAA to gain data to inform framework safety framework that may include future regulations, and calls for a progress report on the status of the knowledge the industry and FAA have gained. The Act also allows for industry to develop consensus

standards in the interim and coordinate those efforts with the FAA. Third, the bill extends indemnification to 2025 and requires an update to how the FAA calculates MPL. Fourth, the bill closes a statutory loophole that would have negated an experimental permit once a launch license was issued for the same vehicle design. Fifth, the bill adds “government astronaut” as a category of individuals carried within a spacecraft. Sixth, the bill includes spaceflight participants in indemnification coverage and cross waiver requirements. Seventh, the bill ensures that federal courts review lawsuits resulting from accidents since the federal government is ultimately the responsible party as a result of the Launch Liability Convention. Eighth, the bill requires a report on the current roles and responsibilities within the government, private sector, and international community related to space situational awareness, orbital traffic management, and orbital debris mitigation measures.

The bill also makes changes to laws affecting the exploration and utilization of space resources by establishing a legal framework to govern property rights of resources obtained from asteroids. It provides civil action for relief from harmful interference to asteroid utilization operations subject to certain conditions, directs the President to facilitate commercial utilization, discourage government barriers, promote the right of United States commercial entities to explore outer space and utilize space resources, and submit to Congress a report containing recommendations on regulatory uncertainty and authorizations necessary to meet the international obligations of the U.S.

The bill provides metrics to inform the workload affecting the Department of Commerce, informs Congress about the Department’s ability to meet the statutory deadline for adjudicating license applications, strengthens Congressional oversight to ensure the Department continues to monitor licensee operations to protect national security throughout the lifetime of the license, requires Congressional notification of violations of license conditions, and aids Congress in updating the existing statute at a future point to reflect the current state of the art for remote sensing technologies. Moreover, the bill reinforces Congress’ expectation that the federal government balance national security with maintaining U.S. private-sector leadership in the field.

Finally, the bill renames the Office of Space Commercialization the Office of Space Commerce and updates the functions of this Office so the Office can more effectively foster the conditions of economic growth and technological advancement of the U.S. commercial space industry.

## COMMERCIAL SPACE LAUNCH

Title I facilitates a pro-growth environment for the developing commercial space industry by encouraging private sector investment, creating more stable and predictable regulatory conditions, and improving safety. This Title will ensure American leadership in space and foster the development of advanced space technologies. The Title amends Chapter 509, Title 51, United States Code.

### *Sec. 101. Consensus standards.*

In 2004, Congress passed the Commercial Space Launch Amendments Act of 2004 (P.L. 108-492) to promote the emerging commercial human spaceflight industry following the successful suborbital flights of SpaceShipOne. This legislation included a “regulatory learning period,” (51 USC 50905(c)(3)). During floor debate on the Act, the bill’s author, Rep. Dana Rohrabacher, made clear that the learning period was included to ensure that the Secretary of Transportation (the Secretary) would not overregulate the industry before it had the opportunity to grow. Without launching and operating commercial human spaceflights, industry and regulators have limited data to inform safety regulations, which could lead to uninformed or unnecessary regulations that would stifle the growing industry.

The 2004 Act included a sunset for the learning period which ended in 2012. However, recognizing there was still a great deal of testing and data to gather on these human launch systems, Congress extended the period to October 1, 2015 in the FAA Modernization and Reform Act of 2012 (Sec. 827 of P.L. 112-95).

Under the CSLA, launch providers are required to provide informed consent for spaceflight participants, that “the United States Government has not certified the launch vehicle as safe for carrying crew or space flight participants,”(51 USC 50905(4)(b)). This informed consent mechanism is meant to ensure transparency and full disclosure for the participant that there is an inherent risk in spaceflight and that the Secretary has not certified the vehicle as safe for the general public.

The Secretary is obliged to enact only those regulations which restrict design features or operating practices that (1) protect the public health and safety, safety of property, national security interests, and foreign policy interests of the United States (51 USC 50905(c)(4)); (2) have resulted in a serious or fatal injury(51 USC 50905 (c)(2)(C)(i)); or (3) contributed to an unplanned event or series of events during a licensed or permitted commercial human space flight that posed a high risk of causing a serious or fatal injury (51 USC 50905 (c)(2)(C)(ii)). This section does not alter those authorities.

The Committee has added clarifying language to 50905(c) that makes it clear to the Secretary that communication and transparency are critical to the success of the development of a safety framework that protects spaceflight participants and encourages, facilitates, and promotes a vibrant commercial space industry. The Secretary is not limited, either by statute or congressional intent, from discussing potential approaches, potential performance standards, or any other topic related to the development of safety standards and regulations after the expiration of the learning period. The Committee encourages the Secretary to have open and transparent dialogue with the industry during the learning period that will facilitate and promote a culture of safety and cooperation with the Federal Government.

In past extensions of the learning period, Congress chose to extend the sunset provision of 50905(c) absent benchmarking requirements to assess the development of the industry. As the industry continues to grow, arbitrary extensions of the learning period will be unhelpful to the formulation of policy as it pertains to the culture of safety and the maturity of safety systems in the industry. Given this, the Committee included three new benchmarking tools in the learning period extension that are unique to this bill and will assist the Committee in the development of future legislation.

The first benchmarking tool is an amendment to 50905(c)(3) which creates a series of “Interim Industry Voluntary Consensus Standards Reports” to be issued biennially by the Secretary in consultation with the Commercial Space Transportation Advisory Committee (COMSTAC). It is the intent of the Committee that this report be a collaborative work product between the Secretary and COMSTAC. Reports issued to Congress under this section which are not collaborative will be viewed as in noncompliance with this section. Sections (D) and (E) of this report offer similar, yet distinct, data points for the Committee. While section (D) will tell the committee what has been learned about the voluntary industry consensus standards or any other construction, best practices, and commercial space operations, Section (E) will describe the lessons learned about the development, application, and acceptance of these voluntary industry consensus standards or any other construction, best practices, and commercial space launch operations.

The Committee also included an “Interim Report on Knowledge and Operational Experience” to be provided to the Committee biennially in parallel with the “Interim Industry Voluntary

Consensus Standards Reports.” As the Committee evaluates the development of the industry throughout the ten year extension of the learning period, it will be necessary to benchmark what was learned by both industry and the Secretary. Although the United States has over 50 years of government spaceflight experience regulated under NASA’s tightly prescribed standards and management style, the Secretary has nearly no experience regulated for-profit space companies developing human spaceflight systems. As the industry changes during the learning period, the Committee must have a sense of how both commercial space companies and the Secretary are infusing “lessons learned” into the development of a sustainable safety framework.

Finally, the Committee included a capstone report called the “Independent Review.” This report is meant to evaluate the totality of the progress made by both the industry and the Secretary to develop industry consensus standards and assess the body of knowledge that was gained during the learning period. The independent review is critical to the Committee as a final benchmarking tool to assist in the formulation of either a statutory extension of the learning period or the construction of a safety framework that may include regulations. The Committee expects that the COMSTAC and the Secretary will work together with the independent contractor chosen for this review, to provide a transparent and definitive assessment of the progress that has been made.

### *Sec. 102. International launch competitiveness.*

The Commercial Space Launch Act Amendments of 1988 (P.L. 100-657) established a tiered risk-sharing regime for third-party liabilities associated with commercial space launch (Section 5(a)). The purpose of the regime is to limit the liability of launch companies for claims made by the uninvolved public. As the federal government is responsible for the licensure and range control of launches, the government also shares in the liabilities associated with the inherently risky activity of space launch.

There are three tiers to the regime. The first tier is the responsibility of the launch provider. Congress required that, as part of the licensure process for the launch, the provider must purchase insurance that covers third parties, including the government, for injury, loss or damage. The amount of this coverage is determined by the Secretary as the maximum probable loss (MPL). While the MPL could theoretically exceed it, the statute caps this liability at \$500 million (51 USC 50914).

The second tier is the ‘indemnification’ portion of the regime. If a successful claim were to be in excess of the maximum probable loss, the government is authorized to pay, subject to appropriation, an amount up to a total of \$1.5 billion in claims over the first tier. This ceiling is adjusted for inflation and, according to a report by the Comptroller General, represents approximately \$2.7 billion as of 2012.

The final tier is the responsibility of the launch provider. The company or legally responsible party is liable for claims in excess of the maximum probable loss and the authorized \$2.7 billion indemnification.

The creation of the third-party liability regime in the CSLAA was debated extensively in the House Committee on Science, Space, and Technology as well as the House floor. When the Shuttle’s involvement in commercial satellite launches ended, there were 44 satellite companies that had launch services agreements with NASA. Following the *Challenger* accident and the aggressive campaigns of the Europeans, Japanese, Chinese, and Soviets to launch those commercial satellites, Congress passed the CSLAA in 1988 in an attempt to give a backstop to a fledgling industry in hopes of growing domestic U.S. capabilities and keeping those launches and economic activities. Today, the major launching states-China, France, and Russia-all provide unlimited indemnification beyond the first-tier insurance requirement. Although the first tier

varies between each regime, the fact remains that international competitors offer attractive indemnification incentives to launching entities.

On October 10, 1967, the United States became a signatory to the Outer Space Treaty. Each signatory of the treaty is liable under Article VII for third-party damage “to another State Party to the Treaty or to its natural or juridical persons by such object or its component parts on the Earth, in air space or in outer space, including the moon and other celestial bodies.”

Additionally, the Liability Convention of 1974 obligates the United States to cover these damages whether the launch is private or government acquired.

The use of the risk-sharing regime to satisfy treaty obligations is a necessary precaution under both documents. Whether the regime was in place or not, the United States would be subject to possible liability and restitution to the injured nation. However, it is unlikely that damages paid to a foreign country would exceed the MPL given the position of our launching facilities and that the early stages of launch are typically the most dangerous. It is likely that any damage would be covered by the first tier of the regime.

The original legislation included a sunset provision to the launch liability regime which expired five years after passage. Since its original passage, this sunset has been extended nine times, most recently for three years until December 31, 2016. This section would extend the indemnification regime for 10 years. Stopgap extensions of the regime create significant uncertainty for the launch industry and jeopardize U.S. launch capabilities. The Committee held multiple hearings including one on February 4, 2014, wherein the Government Accountability Office testified that, “ending federal indemnification could lead to higher launch prices for U.S.-based launch companies, making them less price competitive than foreign launch companies.” The Committee believes that the extension of the regime for longer periods of time is imperative for the stability of the launch market.

In addition to extension of the sunset provision, the Committee believes an update to the maximum probable loss calculations required in section 50914 of Title 51 are necessary to ensure the stability of the regime. In July of 2012, in response to a request from former Senate Commerce, Science, and Transportation Committee Chairman Senator John Rockefeller and House Science, Space, and Technology Chairman Ralph Hall, the Comptroller General did a review of the Secretary’s management of the launch indemnification regime. This report included recommendations for updates to the calculations used to determine maximum probable loss. This section requires that a plan to implement these updates be provided to Congress within 180 days of enactment. For the insurance market and launch providers to have faith in the indemnification regime, it is imperative that these calculations be updated in a timely and transparent manner such that Congress will have sufficient data to inform future legislation.

### *Sec. 103. Launch license flexibility.*

This section closes a statutory loophole inadvertently created in Subsection 2(c) of the Commercial Space Launch Act Amendments of 2004 (P.L. 108-492). This section invalidates an experimental permit issued for a particular design of a reusable suborbital rocket after a license had been issued for the launch or reentry of a rocket of that same design. The practical effect of this statute is that operators of launch or reentry vehicles can only improve on their designs under the cumbersome licensing process rather than employ the experimental permit which allows for constant innovation and development. Additionally, if the company manufacturing the launch or reentry vehicle is a separate entity from the one operating it, the manufacturer loses all ability to test and evolve the launch or reentry vehicle once a license is issued to the operational company. The Committee believes that this loophole significantly stifles the ability of the industry to improve safety systems and mission critical components of their vehicles.

On February 4, 2014, the author of the 2004 Act, Rep. Dana Rohrabacher, told the Committee during debate over this provision that, “we never intended a company's ability to test their vehicle or gather additional safety information to be limited simply because the license has been approved.” During this same hearing, Dr. George Nield, Assistant Administrator for the Office of Commercial Space Transportation, testified that the law as written “doesn't make any sense at all.”

The Committee believes that the ability to innovate and improve safety systems is paramount to the development of a strong commercial space industry and this provision will do just that by allowing an experimental permit holder to continue testing while a license holder conducts operations.

#### *Sec. 104. Government astronauts.*

The Administration first notified the Committee in November of 2013 that a change to the CSLA would be needed to support the success of the Commercial Crew Program at NASA as well as overall commercial human space launch endeavors. At present, federal law does not define the term “government astronaut” for the purposes of launch licensure by the Secretary. This presents challenges for the Federal Aviation Administration, the National Aeronautics and Space Administration, the Commercial Crew Contractors, and the government astronauts themselves. At present, there are only two categories of persons involved in the launch or reentry of a launch vehicle while on board the vehicle, crew and spaceflight participants. Crew is 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,” and a spaceflight participant is defined as “an individual, who is not crew, carried within a launch vehicle or reentry vehicle.” For government astronauts to be protected under the licensing structure for launch vehicles, their roles and responsibilities must be codified in the statute. The Committee finds the underlying situation unacceptable and in need of legislative relief.

The Committee received technical assistance from the Federal Aviation Administration and the National Aeronautics and Space Administration as to the most effective way to solve this challenge. While the assistance was helpful, in the opinion of the Committee, it was incomplete. The original technical assistance provided to the Committee was overly broad. The Committee chose to remedy this broader definition by included a designation responsibility for the Administrator of the National Aeronautics and Space Administration (the Administrator). The Committee believes this is a key component of the government astronaut definition. The Committee believes the onus should be on the Administrator to determine who does or does not qualify as a government astronaut based on decades of training experience.

This section should not be interpreted to allow the Secretary to exercise any jurisdiction over the interpretation of what is or is not a government astronaut once the Administrator has determined and so transmitted such determination to the Secretary. The final determination as to a person's designation as such lies with the Administrator. The Committee expects the Secretary and the Administrator to develop a memorandum of agreement or some other framework for the efficient transmission or notification to the Secretary from the Administrator that a person has been designated by the Administrator as a government astronaut.

#### *Sec. 105. Indemnification for spaceflight participants.*

The Commercial Space Launch Act currently makes a distinction between customers that purchase a launch (whether it is a payload or a launch for compensation or hire on a human

spaceflight launch) and a customer who sponsors the launch of a spaceflight participant and the spaceflight participants themselves. The result is that there is no requirement for the launch provider to provide insurance coverage under named additional parties to a launch (51 USC 50904(a)(4)) or for the government to indemnify the participant from damages that exceed the maximum probable loss calculation should there be an accident (51 USC 50915 (a)(1)(B)). This gap in coverage for the space flight participant results in systemic discrimination against those spaceflight participants that are not wealthy enough to purchase third-party liability insurance individually. In practice, it forces space tourism and human commercial space operations to be the sole province of those with the means to indemnify themselves. The Committee feels the ability to participate in human commercial space activities should be extended to everyone.

This section addresses the inequality presented in the current law and requires the government and launch providers to treat spaceflight participants the same way it treats all other parties to a launch. They are required to be covered under the launch provider's insurance for the maximum probable loss as an additional party to the launch but would not bear additional financial exposure above this requirement.

#### *Sec. 106. Federal jurisdiction.*

The Launch Liability Convention, to which the U.S. is a party, places international liability for space launch and reentry accidents on the federal government. This provision ensures that federal courts review lawsuits resulting from accidents since the federal government is responsible under the Launch Liability Convention, not the states. This provision also prevents venue shopping to ensure that suits are treated fairly. It is not the intent for this section to preempt state tort law. Federal courts should apply state substantive law to resolve claims and accept a reading of this section that disfavors pre-emption.

The Committee notes that there is a need to develop substantive Federal law in this area. Doing so will provide legal consistency for space transportation activities that cross state boundaries. Absent substantive Federal law, in future litigation there may be multiple state substantive laws, some of which may be in conflict, potentially applicable to the case in question creating inducements for plaintiffs to forum shop between state jurisdictions. However, the Committee is concerned that absent a more defined statutory framework for the Federal courts to adjudicate such claims there is the possibility that there may be a gap in substantive Federal law. For this reason, the intent of the Committee is to prohibit preemption and instruct the Courts to apply state substantive law to resolve claims.

#### *Sec. 107. Cross-waivers.*

Current law requires all parties involved in a launch to exchange a reciprocal waiver of claims against each other in the event of an accident or other mishap (51 USC 50914(b)). This exchange is meant to ensure that, due to the inherently risky proposition of space travel, all the parties to the launch understand their rights and responsibilities should they incur some sort of damage in the course of their participation in this activity. The CSLAA requires all spaceflight participants to receive informed consent regarding the inherently risky activity in which they are participating (51 USC 50905(b)). Although informed consent is required, there is no statutory enforcement or protection for the launch providers.

By contrast, in the case of a payload launch, a mutual waiver of claims is required as part of the license for all the parties to the launch. This structure has served the space payload industry and the launch providers very well. This section of the bill requires the launch of spaceflight participants to follow the same regulatory practices as payload providers. The courts have given, and the Secretary has included in regulations, direction for relief in the case of gross negligence



or willful misconduct. Two separate federal court cases in the fourth circuit held that claims of gross negligence are not waived, according to the Court's dicta, under the 1988 Amendments to the Commercial Space Launch Act. *Martin Marietta Corp. v. Int'l Telecommunications Satellite Org. (INTELSAT)*, 763 F. Supp. 1327 (D. Md. 1991) *aff'd in part, rev'd in part sub nom. Martin Marietta Corp. v. Int'l Telecommunications Satellite Org.*, 991 F.2d 94 (4th Cir. 1992) and *Martin Marietta Corp. v. Int'l Telecommunications Satellite Org.*, 991 F.2d 94 (4th Cir. 1992))

The Preamble to Part 440 of the FAA's regulations related to waivers of claim explicitly recognizes that "Congress intended the statutory revisions of 1988 and of 2004 to reduce litigation expenses by requiring launch participants to assume responsibility for their own losses, except in cases of gross negligence." This is reinforced by previous Committee reports on updates to the Commercial Space Launch Act. In the Commercial Space Launch Act Amendments of 2004 (P.L. 108-492), this Committee made clear in the Committee Report that "all parties to the reciprocal waiver agreements will benefit inasmuch as potential liabilities are eliminated in the case of a launch mishap. However, the Committee believes that claims of gross negligence against a licensee, transferee or permittee by space flight participants or crew are not waived," (House Report 108-429). The Committee reiterates that it is not the intent of this legislation to prohibit claims of gross negligence or willful misconduct under the exchange of cross-waivers.

#### *Sec. 108. Orbital traffic management.*

The Act requires a report on the current roles and responsibilities within the government, private sector, and international community related to space situational awareness, orbital traffic management, and orbital debris mitigation measures.

As the commercial space launch market continues to grow, the Committee recognizes that there may be a need for Congress to enumerate specific responsibilities or authorities for space traffic management and the mitigation and prevention of orbital debris to a specific agency or agencies. The Committee does not have enough data to determine the need for such authorities.

The Committee expects this report to be broad in scope, but at a minimum address the issues described in the bill text. This reporting requirement should not be interpreted by any federal agency as legislative intent to alter the authorities granted to the Department of Defense to safeguard the national security.

#### *Sec. 109. State commercial launch facilities.*

The proliferation of state and local launch facilities in the last decade has been dramatic. The Committee recognizes that the regulations and federal statutes that govern space launch activities can be cumbersome. This provision finds that states and launch operators should seek to ensure that their activities and investments are properly protected in the event of an accident. The Committee does not believe that it is the role of the federal government to force states or private launch providers to purchase insurance to cover their assets, but does believe it behooves the parties involved in such activities to ensure that their assets are protected. This provision should not be interpreted by any federal agency to broaden the scope of the third-party liability insurance or third-party risk sharing regime to cover state and local launch facilities.

#### *Sec. 110. Space support vehicles study.*

As the human commercial space launch industry has grown, several secondary industries have also emerged. One such industry, the space support vehicles services industry, presents unique challenges for launch operators, support vehicle services companies, and the government. These

space support vehicle operators offer training services to spaceflight participants who may be party to a launch under the Secretary's launch licensing authorities.

The purpose of this section is to provide more information to Congress on the use of these services so as to assist the Committee in legislative efforts that will lead to the safe use of experimental aircraft in support of U.S. commercial space flight activities.

*Sec. 111. Streamline commercial space launch activities.*

The development and proliferation of regulations from federal agencies which are responsible for various stages of a space mission could become a barrier to some small and medium sized businesses. In an effort to increase efficiency and transparency and reduce government bureaucracy, the Committee directs the Secretary, in consultation with other appropriate federal agencies, to identify duplicative requirements so that Congress may provide legislative relief in the future.

*Sec. 112. Space Launch System update.*

This section is meant to provide additional flexibility for the National Aeronautics and Space Administration, and other federal agencies as necessary, to utilize the unique capabilities of the Space Launch System (SLS) for the benefit of the commercial space industry.

The Aerospace Safety Advisory Panel (ASAP) and the NASA Advisory Council (NAC) have warned about the dangers of a low flight rate for the SLS as currently planned. By amending this statute, the federal government will be able to utilize this important system for many purposes. Expanding the use of SLS will increase its launch rate which will, in turn, increase safety.

This section will allow SLS to carry out a wide range of functions for the Federal government, including the Department of Defense, on a reimbursable basis. This will decrease costs of the overall program while increasing safety and mission assurance.

It is the intent of the Committee to preserve the protections for commercial entities that currently exist under the law to ensure the SLS to be in competition with the commercial space industry.

### Legislative History

During the 113<sup>th</sup> and 114<sup>th</sup> Congresses, the House Committee on Science, Space, and Technology held 14 hearings and five markups relevant to this bill.

On February 6, 2013, the House Committee on Science, Space, and Technology held a hearing titled "American Competitiveness: The Role of Research and Development" to examine the status of and outlook for America's science and technology enterprise, examining the impact of research and development (R&D) on the lives of the American people and looking ahead to potential breakthrough innovations for the future. Witnesses discussed the historical context for American R&D, how it is divided between public and private investments, where the U.S. ranks globally on innovation and investment, and what the future may hold for American innovation. The Committee heard testimony from Mr. Richard Templeton, President and CEO, Texas Instruments; Dr. Shirley Ann Jackson, President, Rensselaer Polytechnic Institute; and Dr. Charles Vest, President, National Academy of Engineering.

On February 28, 2013, the Subcommittee on Space held a hearing titled "A Review of the Space Leadership Preservation Act" to receive testimony on legislation (H.R. 6491) first introduced in the last Congress and re-introduced for the 113<sup>th</sup> Congress. This hearing informed the Science, Space, and Technology Committee's consideration of the policies, organization, programs, and

budget in re-authorizing the National Aeronautics and Space Administration in this Congress. The Subcommittee heard testimony from The Honorable Frank R. Wolf, Chairman of the Commerce-Justice-Science Subcommittee, The Honorable John Culberson, Mr. A Thomas Young, Chair of the Board for SAIC (testifying on his own behalf), and Mr. Elliot Pulham, Chief Executive Officer of The Space Foundation.

On April 24, 2014, the Subcommittee on Space held a hearing titled “An Overview of the National Aeronautics and Space Administration Budget for Fiscal Year 2014” with NASA Administrator Charles Bolden to review the Administration’s FY 2014 budget request for the National Aeronautics and Space Administration and examine its priorities and challenges.

On June 19, 2013, the Subcommittee on Space held a hearing titled, “NASA Authorization Act of 2013.” The purpose of the hearing was to review a discussion draft of the National Aeronautics and Space Administration (NASA) Authorization Act of 2013. The most recent NASA Authorization Act passed in 2010, authorized NASA for three years.

On July 10, 2013, the Subcommittee on Space met to consider H.R. 2687, the National Aeronautics and Space Administration Authorization Act of 2013. This measure contained many provisions that affect commercial space.

On July 18, 2013, the Committee on Science, Space, and Technology met to consider H.R. 2687, the National Aeronautics and Space Administration Authorization Act of 2013. This measure contained many provisions that affect commercial space.

On November 20, 2013, the Subcommittee on Space held a hearing titled “Commercial Space.” The hearing examined ways in which companies are utilizing federal support and government policies to grow their commercial businesses in space launch, communications, GPS, remote sensing, weather monitoring, suborbital tourism and science experimentation, and human spaceflight. The witnesses addressed what government policies would be helpful to the U.S. commercial space industry. Witnesses also addressed the policies contained in H.R. 3038, the Suborbital and Orbital Advancement and Regulatory Streamlining (SOARS) Act. The first witness panel consisted of the Honorable Kevin McCarthy, Majority Whip of the U.S. House of Representatives. The second panel consisted of: Ms. Patricia Cooper, President of the Satellite Industry Association; Mr. Stuart Witt, CEO and General Manager of the Mojave Air and Space Port; and Dennis Tito, Chairman of the Inspiration Mars Foundation.

On February 4, 2014, the Subcommittee on Space held a hearing titled “Necessary Updates to the Commercial Space Launch Act.” The industry has grown since the passage of the Commercial Space Launch Act of 1984 (P.L. 98-575) thirty years ago, and this law has been amended several times since then. The Commercial Space Launch Act (CSLA) provides authority to the FAA to license launches and indemnify launch providers from third-party claims should an accident occur. The law also provides a framework for the FAA’s authority. This hearing examined the various changes in the industry and what, if any, accompanying changes to the Commercial Space Launch Act may be needed going forward. The Committee heard from three witnesses: Dr. George Nield, Associate Administrator for Commercial Space Transportation at the Federal Aviation Administration; Dr. Alicia Cackley, Director of Financial Markets and Community Investment Team at the Government Accountability Office; and Dr. Henry Hertzfeld, Research Professor of Space Policy and International Affairs at the Elliot School of International Affairs at George Washington University.

On March 27, 2014, the Subcommittee on Space of the House Committee on Science, Space, and Technology held a hearing titled “A Review of the National Aeronautics and Space Administration Budget for Fiscal Year 2015” to review the Administration’s fiscal year 2015

(FY15) budget request for the National Aeronautics and Space Administration and examine its priorities and challenges. The hearing had one witness, the Honorable Charles F. Bolden, Jr., Administrator of the National Aeronautics and Space Administration.

On December 11, 2013, the Committee on Science, Space, and Technology met to consider H.R. 2413, the Weather Forecasting Improvement Act of 2013. This measure contained provisions regarding public safety and commercial satellites.

On April 9, 2014, the Subcommittee on Space met to consider H.R. 4412, the National Aeronautics and Space Administration Authorization Act of 2014. The Act contained several provisions regarding barriers to commercial use of space.

On April 29, 2014, the Committee on Science, Space, and Technology met to consider H.R. 4412, the National Aeronautics and Space Administration Authorization Act of 2014. The Act contained several provisions regarding barriers to commercial use of space.

On May 9, 2014, the Space Subcommittee held a hearing titled “Space Traffic Management: How to Prevent a Real Life ‘Gravity’.” There are currently three agencies that play a primary role in tracking and mitigation of orbital debris that may be hazardous to operational satellites or life and property on Earth, if the debris is large enough upon reentering the Earth’s atmosphere. The Joint Functional Component Command for Space (JFCC SPACE), part of the Department of Defense, is responsible for tracking orbital debris, the Federal Communications Commission (FCC) asserts jurisdiction for mitigating orbital debris from satellites, and the Federal Aviation Administration (FAA) regulates orbital debris from launch and reentry activities. This hearing explored the roles and responsibilities of the Department of Defense, FAA, and FCC in policing orbital debris, what authorities are currently granted by Congress to federal agencies, and how they coordinate these activities. The Subcommittee heard from five witnesses: Lt. Gen. John “Jay” Raymond – Commander, 14th Air Force, Air Force Space Command; and Commander, Joint Functional Component Command for Space, U.S. Strategic Command, Mr. George Zamka – Deputy Associate Administrator, Office of Commercial Space Transportation, Federal Aviation Administration, Mr. Robert Nelson - Chief Engineer, International Bureau, Federal Communications Commission, Mr. P.J. Blount – Adjunct Professor, Air and Space Law, University of Mississippi School of Law, and Mr. Brian Weeden – Technical Advisor, Secure World Foundation.

On June 25, 2014, the Science, Space, and Technology Committee held a hearing titled “Pathways to Exploration: A Review of the Future of Human Space Exploration.” Section 204 of the NASA Authorization Act of 2010 required the agency to enter into a contract with the National Academies to review the future of human spaceflight. In 2012, the National Research Council appointed an ad hoc Committee on Human Spaceflight co-chaired by Governor Daniels and Dr. Lunine. This hearing reviewed the conclusions and recommendations of the Committee’s report *Pathways to Exploration—Rationales and Approaches for a U.S. Program of Human Space Exploration* released in June 2014. The Committee heard from two witnesses: Governor Mitch Daniels, Co-Chair of the Report and President, Purdue University and Dr. Jonathan Lunine, Co-Chair of the Report and Director, Cornell University’s Center for Radiophysics and Space Research

On September 10, 2014, the hearing titled “Exploring Our Solar System: The ASTEROIDS Act as a Key Step” gave the Committee an overview of the variety of issues facing the planetary science community, including challenges the community is facing due to the low inventories of Pu-238 for deep space missions, NASA’s proposed budget for planetary science, and potential commercial interests. Witnesses were also asked to comment on H.R. 5063, the American Space Technology for Exploring Resource Opportunities In Deep Space (ASTEROIDS) Act. The

Subcommittee heard from five witnesses: Dr. Jim Green, NASA Planetary Science Division Director, Dr. Jim Bell, Professor of Earth and Space Science Exploration, Arizona State University, and President, Board of Directors, The Planetary Society, Dr. Mark Sykes, CEO and Director, Planetary Science Institute, Professor Joanne Gabrynowicz, Professor Emerita, Director Emerita, Journal of Space Law Editor-in-Chief Emerita, University of Mississippi, Dr. Philip Christensen, Co-Chair, NRC Committee on Astrobiology and Planetary Science (CAPS), Chair, Mars Panel, NRC Planetary Decadal Survey, Regents Professor, Arizona State University.

On December 10, 2014, the Subcommittee on Space held a hearing titled “An Update on the Space Launch System and Orion: Monitoring the Development of the Nation’s Deep Space Exploration Capabilities” to receive testimony regarding the heavy-lift Space Launch System (SLS) and the Orion Multipurpose Crew Vehicle. This hearing informed the Committee on SLS and Orion issues relating to funding, staying on schedule, and NASA authorization among others. The Subcommittee heard testimony from Bill Gerstenmaier, Associate Administrator for Human Exploration and Operations Mission Directorate, NASA and Christina Chaplain, Director, Government Accountability Office.

On February 12, 2015 the Environment and Oversight Subcommittees held a joint hearing titled “Bridging the Gap: America’s Weather Satellites and Weather Forecasting.” The purpose of the hearing was to provide an update of the operations and development of National Oceanic and Atmospheric Administration’s polar-orbiting and geostationary weather satellite programs and discuss recent Government Accountability Office reports on the two programs. In addition, the hearing discussed the use of satellite data in operational and research weather models and prediction methods. The Subcommittees received testimony from Mr. David Powner, Director, Information Technology Management Issues, Government Accountability Office; Dr. Stephen Volz, Assistant Administrator, National Environmental Satellite, Data, and Information Services, National Oceanic and Atmospheric Administration; and Mr. Steven Clarke, Director, Joint Agency Satellite Division, National Aeronautics and Space Administration. The Subcommittees were also joined for questioning by Dr. Alexander MacDonald, President, American Meteorological Society; Director, Earth System Research Laboratory, National Oceanic and Atmospheric Administration; and Chief Science Advisor, Office of Oceanic and Atmospheric Research, National Oceanic and Atmospheric Administration; and Mr. John Murphy, Director, Office of Science and Technology, National Weather Service, National Oceanic and Atmospheric Administration.

On February 27, 2015, the Subcommittee on Space held a hearing titled “The Commercial Crew Program: Challenges and Opportunities” to review NASA’s efforts to develop and acquire safe, reliable, and affordable crew transfer services to the International Space Station (ISS). The Subcommittee examined the progress of NASA’s Commercial Crew Program, its acquisition model, and future challenges for the program as the contractors move towards certification. The Subcommittee heard from four witnesses: Mr. Bill Gerstenmaier, Associate Administrator, Human Exploration and Operations Mission Directorate, National Aeronautics and Space Administration (NASA); Vice Admiral Joseph Dyer, USN (Ret.), Chairman, Aerospace Safety Advisory Panel, National Aeronautics and Space Administration (NASA); Mr. John Mulholland, Vice President and Program Manager, Commercial Programs, The Boeing Company; and Dr. Garret Reisman, Director, Crew Operations, Space Exploration Technologies Corporation.

On April 16, 2015, the Space Subcommittee held a hearing titled “An Overview of the Budget Proposal for the National Aeronautics and Space Administration for Fiscal Year 2016.” The purpose of the hearing was to review the Administration’s fiscal year 2016 (FY16) budget request for the National Aeronautics and Space Administration (NASA) and examine the Administration’s priorities and challenges. The sole witness was the Honorable Charles F. Bolden, Jr., Administrator, National Aeronautics and Space Administration (NASA).

## Committee Views

### SECTION-BY-SECTION

#### COMMERCIAL SPACE LAUNCH

Title I facilitates a pro-growth environment for the developing commercial space industry by encouraging private sector investment, creating more stable and predictable regulatory conditions, and improving safety. This Title will ensure American leadership in space and foster the development of advanced space technologies. The Title amends Chapter 509, Title 51, United States Code.

##### *Sec. 101. Consensus standards.*

In 2004, Congress passed the Commercial Space Launch Amendments Act of 2004 (P.L. 108-492) to promote the emerging commercial human spaceflight industry following the successful suborbital flights of SpaceShipOne. This legislation included a “regulatory learning period,” (51 USC 50905(c)(3)). During floor debate on the Act, the bill’s author, Rep. Dana Rohrabacher, made clear that the learning period was included to ensure that the Secretary of Transportation (the Secretary) would not overregulate the industry before it had the opportunity to grow. Without launching and operating commercial human spaceflights, industry and regulators have limited data to inform safety regulations, which could lead to uninformed or unnecessary regulations that would stifle the growing industry.

The 2004 Act included a sunset for the learning period which ended in 2012. However, recognizing there was still a great deal of testing and data to gather on these human launch systems, Congress extended the period to October 1, 2015 in the FAA Modernization and Reform Act of 2012 (Sec. 827 of P.L. 112-95).

Under the CSLA, launch providers are required to provide informed consent for spaceflight participants, that “the United States Government has not certified the launch vehicle as safe for carrying crew or space flight participants,”(51 USC 50905(4)(b)). This informed consent mechanism is meant to ensure transparency and full disclosure for the participant that there is an inherent risk in spaceflight and that the Secretary has not certified the vehicle as safe for the general public.

The Secretary is obliged to enact only those regulations which restrict design features or operating practices that (1) protect the public health and safety, safety of property, national security interests, and foreign policy interests of the United States (51 USC 50905(c)(4)); (2) have resulted in a serious or fatal injury(51 USC 50905 (c)(2)(C)(i)); or (3) contributed to an unplanned event or series of events during a licensed or permitted commercial human space flight that posed a high risk of causing a serious or fatal injury (51 USC 50905 (c)(2)(C)(ii)). This section does not alter those authorities.

The Committee has added clarifying language to 50905(c) that makes it clear to the Secretary that communication and transparency are critical to the success of the development of a safety framework that protects spaceflight participants and encourages, facilitates, and promotes a vibrant commercial space industry. The Secretary is not limited, either by statute or congressional intent, from discussing potential approaches, potential performance standards, or any other topic related to the development of safety standards and regulations after the expiration of the learning period. The Committee encourages the Secretary to have open and transparent dialogue with the industry during the learning period that will facilitate and promote a culture of safety and cooperation with the Federal Government.

In past extensions of the learning period, Congress chose to extend the sunset provision of 50905(c) absent benchmarking requirements to assess the development of the industry. As the industry continues to grow, arbitrary extensions of the learning period will be unhelpful to the formulation of policy as it pertains to the culture of safety and the maturity of safety systems in the industry. Given this, the Committee included three new benchmarking tools in the learning period extension that are unique to this bill and will assist the Committee in the development of future legislation.

The first benchmarking tool is an amendment to 50905(c)(3) which creates a series of “Interim Industry Voluntary Consensus Standards Reports” to be issued biennially by the Secretary in consultation with the Commercial Space Transportation Advisory Committee (COMSTAC). It is the intent of the Committee that this report be a collaborative work product between the Secretary and COMSTAC. Reports issued to Congress under this section which are not collaborative will be viewed as in noncompliance with this section. Sections (D) and (E) of this report offer similar, yet distinct, data points for the Committee. While section (D) will tell the committee what has been learned about the voluntary industry consensus standards or any other construction, best practices, and commercial space operations, Section (E) will describe the lessons learned about the development, application, and acceptance of these voluntary industry consensus standards or any other construction, best practices, and commercial space launch operations.

The Committee also included an “Interim Report on Knowledge and Operational Experience” to be provided to the Committee biennially in parallel with the “Interim Industry Voluntary Consensus Standards Reports.” As the Committee evaluates the development of the industry throughout the ten year extension of the learning period, it will be necessary to benchmark what was learned by both industry and the Secretary. Although the United States has over 50 years of government spaceflight experience regulated under NASA’s tightly prescribed standards and management style, the Secretary has nearly no experience regulated for-profit space companies developing human spaceflight systems. As the industry changes during the learning period, the Committee must have a sense of how both commercial space companies and the Secretary are infusing “lessons learned” into the development of a sustainable safety framework.

Finally, the Committee included a capstone report called the “Independent Review.” This report is meant to evaluate the totality of the progress made by both the industry and the Secretary to develop industry consensus standards and assess the body of knowledge that was gained during the learning period. The independent review is critical to the Committee as a final benchmarking tool to assist in the formulation of either a statutory extension of the learning period or the construction of a safety framework that may include regulations. The Committee expects that the COMSTAC and the Secretary will work together with the independent contractor chosen for this review, to provide a transparent and definitive assessment of the progress that has been made.

#### *Sec. 102. International launch competitiveness.*

The Commercial Space Launch Act Amendments of 1988 (P.L. 100-657) established a tiered risk-sharing regime for third-party liabilities associated with commercial space launch (Section 5(a)). The purpose of the regime is to limit the liability of launch companies for claims made by the uninvolved public. As the federal government is responsible for the licensure and range control of launches, the government also shares in the liabilities associated with the inherently risky activity of space launch.

There are three tiers to the regime. The first tier is the responsibility of the launch provider. Congress required that, as part of the licensure process for the launch, the provider must purchase insurance that covers third parties, including the government, for injury, loss or

damage. The amount of this coverage is determined by the Secretary as the maximum probable loss (MPL). While the MPL could theoretically exceed it, the statute caps this liability at \$500 million (51 USC 50914).

The second tier is the 'indemnification' portion of the regime. If a successful claim were to be in excess of the maximum probable loss, the government is authorized to pay, subject to appropriation, an amount up to a total of \$1.5 billion in claims over the first tier. This ceiling is adjusted for inflation and, according to a report by the Comptroller General, represents approximately \$2.7 billion as of 2012.

The final tier is the responsibility of the launch provider. The company or legally responsible party is liable for claims in excess of the maximum probable loss and the authorized \$2.7 billion indemnification.

The creation of the third-party liability regime in the CSLAA was debated extensively in the House Committee on Science, Space, and Technology as well as the House floor. When the Shuttle's involvement in commercial satellite launches ended, there were 44 satellite companies that had launch services agreements with NASA. Following the *Challenger* accident and the aggressive campaigns of the Europeans, Japanese, Chinese, and Soviets to launch those commercial satellites, Congress passed the CSLAA in 1988 in an attempt to give a backstop to a fledgling industry in hopes of growing domestic U.S. capabilities and keeping those launches and economic activities. Today, the major launching states-China, France, and Russia-all provide unlimited indemnification beyond the first-tier insurance requirement. Although the first tier varies between each regime, the fact remains that international competitors offer attractive indemnification incentives to launching entities.

On October 10, 1967, the United States became a signatory to the Outer Space Treaty. Each signatory of the treaty is liable under Article VII for third-party damage "to another State Party to the Treaty or to its natural or juridical persons by such object or its component parts on the Earth, in air space or in outer space, including the moon and other celestial bodies." Additionally, the Liability Convention of 1974 obligates the United States to cover these damages whether the launch is private or government acquired.

The use of the risk-sharing regime to satisfy treaty obligations is a necessary precaution under both documents. Whether the regime was in place or not, the United States would be subject to possible liability and restitution to the injured nation. However, it is unlikely that damages paid to a foreign country would exceed the MPL given the position of our launching facilities and that the early stages of launch are typically the most dangerous. It is likely that any damage would be covered by the first tier of the regime.

The original legislation included a sunset provision to the launch liability regime which expired five years after passage. Since its original passage, this sunset has been extended nine times, most recently for three years until December 31, 2016. This section would extend the indemnification regime for 10 years. Stopgap extensions of the regime create significant uncertainty for the launch industry and jeopardize U.S. launch capabilities. The Committee held multiple hearings including one on February 4, 2014, wherein the Government Accountability Office testified that, "ending federal indemnification could lead to higher launch prices for U.S.-based launch companies, making them less price competitive than foreign launch companies." The Committee believes that the extension of the regime for longer periods of time is imperative for the stability of the launch market.

In addition to extension of the sunset provision, the Committee believes an update to the maximum probable loss calculations required in section 50914 of Title 51 are necessary to



ensure the stability of the regime. In July of 2012, in response to a request from former Senate Commerce, Science, and Transportation Committee Chairman Senator John Rockefeller and House Science, Space, and Technology Chairman Ralph Hall, the Comptroller General did a review of the Secretary's management of the launch indemnification regime. This report included recommendations for updates to the calculations used to determine maximum probable loss. This section requires that a plan to implement these updates be provided to Congress within 180 days of enactment. For the insurance market and launch providers to have faith in the indemnification regime, it is imperative that these calculations be updated in a timely and transparent manner such that Congress will have sufficient data to inform future legislation.

#### *Sec. 103. Launch license flexibility.*

This section closes a statutory loophole inadvertently created in Subsection 2(c) of the Commercial Space Launch Act Amendments of 2004 (P.L. 108-492). This section invalidates an experimental permit issued for a particular design of a reusable suborbital rocket after a license had been issued for the launch or reentry of a rocket of that same design. The practical effect of this statute is that operators of launch or reentry vehicles can only improve on their designs under the cumbersome licensing process rather than employ the experimental permit which allows for constant innovation and development. Additionally, if the company manufacturing the launch or reentry vehicle is a separate entity from the one operating it, the manufacturer loses all ability to test and evolve the launch or reentry vehicle once a license is issued to the operational company. The Committee believes that this loophole significantly stifles the ability of the industry to improve safety systems and mission critical components of their vehicles.

On February 4, 2014, the author of the 2004 Act, Rep. Dana Rohrabacher, told the Committee during debate over this provision that, "we never intended a company's ability to test their vehicle or gather additional safety information to be limited simply because the license has been approved." During this same hearing, Dr. George Nield, Assistant Administrator for the Office of Commercial Space Transportation, testified that the law as written "doesn't make any sense at all."

The Committee believes that the ability to innovate and improve safety systems is paramount to the development of a strong commercial space industry and this provision will do just that by allowing an experimental permit holder to continue testing while a license holder conducts operations.

#### *Sec. 104. Government astronauts.*

The Administration first notified the Committee in November of 2013 that a change to the CSLA would be needed to support the success of the Commercial Crew Program at NASA as well as overall commercial human space launch endeavors. At present, federal law does not define the term "government astronaut" for the purposes of launch licensure by the Secretary. This presents challenges for the Federal Aviation Administration, the National Aeronautics and Space Administration, the Commercial Crew Contractors, and the government astronauts themselves. At present, there are only two categories of persons involved in the launch or reentry of a launch vehicle while on board the vehicle, crew and spaceflight participants. Crew is 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," and a spaceflight participant is defined as "an individual, who is not crew, carried within a launch vehicle or reentry vehicle." For government astronauts to be protected under the licensing structure for launch vehicles, their roles and responsibilities must be codified in the

statute. The Committee finds the underlying situation unacceptable and in need of legislative relief.

The Committee received technical assistance from the Federal Aviation Administration and the National Aeronautics and Space Administration as to the most effective way to solve this challenge. While the assistance was helpful, in the opinion of the Committee, it was incomplete. The original technical assistance provided to the Committee was overly broad. The Committee chose to remedy this broader definition by including a designation responsibility for the Administrator of the National Aeronautics and Space Administration (the Administrator). The Committee believes this is a key component of the government astronaut definition. The Committee believes the onus should be on the Administrator to determine who does or does not qualify as a government astronaut based on decades of training experience.

This section should not be interpreted to allow the Secretary to exercise any jurisdiction over the interpretation of what is or is not a government astronaut once the Administrator has determined and so transmitted such determination to the Secretary. The final determination as to a person's designation as such lies with the Administrator. The Committee expects the Secretary and the Administrator to develop a memorandum of agreement or some other framework for the efficient transmission or notification to the Secretary from the Administrator that a person has been designated by the Administrator as a government astronaut.

*Sec. 105. Indemnification for spaceflight participants.*

The Commercial Space Launch Act currently makes a distinction between customers that purchase a launch (whether it is a payload or a launch for compensation or hire on a human spaceflight launch) and a customer who sponsors the launch of a spaceflight participant and the spaceflight participants themselves. The result is that there is no requirement for the launch provider to provide insurance coverage under named additional parties to a launch (51 USC 50904(a)(4)) or for the government to indemnify the participant from damages that exceed the maximum probable loss calculation should there be an accident (51 USC 50915 (a)(1)(B)). This gap in coverage for the space flight participant results in systemic discrimination against those spaceflight participants that are not wealthy enough to purchase third-party liability insurance individually. In practice, it forces space tourism and human commercial space operations to be the sole province of those with the means to indemnify themselves. The Committee feels the ability to participate in human commercial space activities should be extended to everyone.

This section addresses the inequality presented in the current law and requires the government and launch providers to treat spaceflight participants the same way it treats all other parties to a launch. They are required to be covered under the launch provider's insurance for the maximum probable loss as an additional party to the launch but would not bear additional financial exposure above this requirement.

*Sec. 106. Federal jurisdiction.*

The Launch Liability Convention, to which the U.S. is a party, places international liability for space launch and reentry accidents on the federal government. This provision ensures that federal courts review lawsuits resulting from accidents since the federal government is responsible under the Launch Liability Convention, not the states. This provision also prevents venue shopping to ensure that suits are treated fairly. It is not the intent for this section to preempt state tort law. Federal courts should apply state substantive law to resolve claims and accept a reading of this section that disfavors pre-emption.

The Committee notes that there is a need to develop substantive Federal law in this area. Doing so will provide legal consistency for space transportation activities that cross state boundaries. Absent substantive Federal law, in future litigation there may be multiple state substantive laws, some of which may be in conflict, potentially applicable to the case in question creating inducements for plaintiffs to forum shop between state jurisdictions. However, the Committee is concerned that absent a more defined statutory framework for the Federal courts to adjudicate such claims there is the possibility that there may be a gap in substantive Federal law. For this reason, the intent of the Committee is to prohibit preemption and instruct the Courts to apply state substantive law to resolve claims.

*Sec. 107. Cross-waivers.*

Current law requires all parties involved in a launch to exchange a reciprocal waiver of claims against each other in the event of an accident or other mishap (51 USC 50914(b)). This exchange is meant to ensure that, due to the inherently risky proposition of space travel, all the parties to the launch understand their rights and responsibilities should they incur some sort of damage in the course of their participation in this activity. The CSLAA requires all spaceflight participants to receive informed consent regarding the inherently risky activity in which they are participating (51 USC 50905(b)). Although informed consent is required, there is no statutory enforcement or protection for the launch providers.

By contrast, in the case of a payload launch, a mutual waiver of claims is required as part of the license for all the parties to the launch. This structure has served the space payload industry and the launch providers very well. This section of the bill requires the launch of spaceflight participants to follow the same regulatory practices as payload providers. The courts have given, and the Secretary has included in regulations, direction for relief in the case of gross negligence or willful misconduct. Two separate federal court cases in the fourth circuit held that claims of gross negligence are not waived, according to the Court's dicta, under the 1988 Amendments to the Commercial Space Launch Act. *Martin Marietta Corp. v. Int'l Telecommunications Satellite Org. (INTELSAT)*, 763 F. Supp. 1327 (D. Md. 1991) *aff'd in part, rev'd in part sub nom. Martin Marietta Corp. v. Int'l Telecommunications Satellite Org.*, 991 F.2d 94 (4th Cir. 1992) and *Martin Marietta Corp. v. Int'l Telecommunications Satellite Org.*, 991 F.2d 94 (4th Cir. 1992)

The Preamble to Part 440 of the FAA's regulations related to waivers of claim explicitly recognizes that "Congress intended the statutory revisions of 1988 and of 2004 to reduce litigation expenses by requiring launch participants to assume responsibility for their own losses, except in cases of gross negligence." This is reinforced by previous Committee reports on updates to the Commercial Space Launch Act. In the Commercial Space Launch Act Amendments of 2004 (P.L. 108-492), this Committee made clear in the Committee Report that "all parties to the reciprocal waiver agreements will benefit inasmuch as potential liabilities are eliminated in the case of a launch mishap. However, the Committee believes that claims of gross negligence against a licensee, transferee or permittee by space flight participants or crew are not waived," (House Report 108-429). The Committee reiterates that it is not the intent of this legislation to prohibit claims of gross negligence or willful misconduct under the exchange of cross-waivers.

*Sec. 108. Orbital traffic management.*

The Act requires a report on the current roles and responsibilities within the government, private sector, and international community related to space situational awareness, orbital traffic management, and orbital debris mitigation measures.

As the commercial space launch market continues to grow, the Committee recognizes that there may be a need for Congress to enumerate specific responsibilities or authorities for space traffic management and the mitigation and prevention of orbital debris to a specific agency or agencies. The Committee does not have enough data to determine the need for such authorities.

The Committee expects this report to be broad in scope, but at a minimum address the issues described in the bill text. This reporting requirement should not be interpreted by any federal agency as legislative intent to alter the authorities granted to the Department of Defense to safeguard the national security.

*Sec. 109. State commercial launch facilities.*

The proliferation of state and local launch facilities in the last decade has been dramatic. The Committee recognizes that the regulations and federal statutes that govern space launch activities can be cumbersome. This provision finds that states and launch operators should seek to ensure that their activities and investments are properly protected in the event of an accident. The Committee does not believe that it is the role of the federal government to force states or private launch providers to purchase insurance to cover their assets, but does believe it behooves the parties involved in such activities to ensure that their assets are protected. This provision should not be interpreted by any federal agency to broaden the scope of the third-party liability insurance or third-party risk sharing regime to cover state and local launch facilities.

*Sec. 110. Space support vehicles study.*

As the human commercial space launch industry has grown, several secondary industries have also emerged. One such industry, the space support vehicles services industry, presents unique challenges for launch operators, support vehicle services companies; and the government. These space support vehicle operators offer training services to spaceflight participants who may be party to a launch under the Secretary's launch licensing authorities.

The purpose of this section is to provide more information to Congress on the use of these services so as to assist the Committee in legislative efforts that will lead to the safe use of experimental aircraft in support of U.S. commercial space flight activities.

*Sec. 111. Streamline commercial space launch activities.*

The development and proliferation of regulations from federal agencies which are responsible for various stages of a space mission could become a barrier to some small and medium sized businesses. In an effort to increase efficiency and transparency and reduce government bureaucracy, the Committee directs the Secretary, in consultation with other appropriate federal agencies, to identify duplicative requirements so that Congress may provide legislative relief in the future.

*Sec. 112. Space Launch System update.*

This section is meant to provide additional flexibility for the National Aeronautics and Space Administration, and other federal agencies as necessary, to utilize the unique capabilities of the Space Launch System (SLS) for the benefit of the commercial space industry.

The Aerospace Safety Advisory Panel (ASAP) and the NASA Advisory Council (NAC) have warned about the dangers of a low flight rate for the SLS as currently planned. By amending this statute, the federal government will be able to utilize this important system for many purposes. Expanding the use of SLS will increase its launch rate which will, in turn, increase safety.

This section will allow SLS to carry out a wide range of functions for the Federal government, including the Department of Defense, on a reimbursable basis. This will decrease costs of the overall program while increasing safety and mission assurance.

It is the intent of the Committee to preserve the protections for commercial entities that currently exist under the law to ensure the SLS to be in competition with the commercial space industry.

#### EXPLANATION OF AMENDMENTS

An amendment offered by Mr. Knight alters the underlying bill to extend the learning period from December 31, 2023 to December 31, 2025 and extend the indemnification period from December 31, 2023 to December 31, 2025. The amendment also adds additional reporting requirements for the “Interim Industry Voluntary Consensus Standards Report” and the “Interim Report on Knowledge and Operational Experience.” The amendment was adopted.

An amendment offered by Mr. Bridenstine adds a new section to the bill that directs the Comptroller General to provide to the relevant Congressional Committees a report on the use of space support vehicle services in the commercial space industry. The Amendment was adopted.

An amendment offered by Mr. Posey adds a new section to the bill that requires the Secretary of transportation, in consultation with other relevant agencies, to eliminate duplicative requirements for commercial space launch operations. The amendment also requires the Secretary to report on such duplicative requirements and recommendations for legislative relief, if needed. The amendment was adopted.

An amendment offered by Mr. Brooks adds a new section to the bill that updates Chapter 701 of Title 51 to reflect the use of new launch vehicles for launches under certain circumstances by replacing all mentions of “Space Shuttle” with “Space Launch System.” This amendment was adopted.

#### COMMITTEE CONSIDERATION

On May 13, 2015, the Committee met in open session and ordered reported favorably the bill, H.R. 2262, as amended, by roll call vote, a quorum being present.

#### ROLL CALL VOTES

**COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY - 114<sup>th</sup>**  
Full Committee Roll Call

Working Quorum: 13

Reporting Quorum: 20

DATE: 05/13/2015

Bill: H.R. 2262  
ROLL CALL NO. 1

AMENDMENT NO. Knight 009

Amendment Sponsor: Mr. Knight (CA)

**PASSED**

MEMBER	AYE	NO	PRESENT	NOT VOTING
1 <u>Mr. SMITH, Chair - TX</u>	X			
2 Mr. LUCAS - OK **	X			
3 Mr. SENSENBRENNER - WI				
4 Mr. ROHRABACHER - CA	X			
5 Mr. NEUGEBAUER - TX				
6 Mr. MCCAUL - TX	X			
7 Mr. PALAZZO - MS	X			
8 Mr. BROOKS - AL	X			
9 Mr. HULTGREN - IL	X			
10 Mr. POSEY - FL	X			
11 Mr. MASSIE - KY				
12 Mr. BRIDENSTINE - OK	X			
13 Mr. WEBER - TX	X			
14 Mr. JOHNSON -- OH	X			
15 Mr. MOOLENAAR - MI	X			
16 Mr. KNIGHT - CA	X			
17 Mr. BABIN - TX	X			
18 Mr. WESTERMAN - AR	X			
19 Mrs. COMSTOCK - VA	X			
20 Mr. NEWHOUSE- WA				
21 Mr. PALMER - AL	X			
22 Mr. LOUDERMILK- GA	X			

1	Ms. JOHNSON, <i>Ranking</i> - TX		X		
2	Ms. LOFGREN - CA		X		
3	Mr. LIPINSKI - IL				
4	Ms. EDWARDS - MD		X		
5	Ms. BONAMICI - OR		X		
6	Mr. SWALWELL - CA		X		
7	Mr. GRAYSON - FL				
8	Mr. BERA - CA		X		
9	Ms. ESTY - CT		X		
10	Mr. VEASEY - TX		X		
11	Ms. CLARK - MA		X		
12	Mr. BEYER - VA				
13	Mr. PERLMUTTER - CO		X		
14	Mr. TONKO - NY				
15	Mr. TAKANO - CA		X		
16	Mr. FOSTER - IL		X		
17	VACANT				
<b>TOTALS</b>		18	12		

\*\* Vice Chair

**COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY - 114<sup>th</sup>**  
Full Committee Roll Call

Working Quorum: 13

Reporting Quorum: 20

DATE: 05/13/2015

Bill: H.R. 2262  
ROLL CALL NO. 2

AMENDMENT NO. Edwards 003

Amendment Sponsor: Ms. Edwards (MD)

**DEFEATED**

MEMBER	AYE	NO	PRESENT	NOT VOTING
1 Mr. SMITH, <i>Chair - TX</i>		X		
2 Mr. LUCAS - OK **		X		
3 Mr. SENSENBRENNER - WI				
4 Mr. ROHRABACHER - CA		X		
5 Mr. NEUGEBAUER - TX				
6 Mr. MCCAUL - TX		X		
7 Mr. PALAZZO - MS		X		
8 Mr. BROOKS - AL		X		
9 Mr. HULTGREN - IL		X		
10 Mr. POSEY - FL		X		
11 Mr. MASSIE - KY				
12 Mr. BRIDENSTINE - OK		X		
13 Mr. WEBER - TX		X		
14 Mr. JOHNSON -- OH		X		
15 Mr. MOOLENAAR - MI		X		
16 Mr. KNIGHT - CA		X		
17 Mr. BABIN - TX		X		
18 Mr. WESTERMAN - AR		X		
19 Mrs. COMSTOCK - VA		X		
20 Mr. NEWHOUSE - WA				
21 Mr. PALMER - AL		X		
22 Mr. LOUDERMILK - GA		X		



1	Ms. JOHNSON, <i>Ranking - TX</i>	X		
2	Ms. LOFGREN - CA	X		
3	Mr. LIPINSKI - IL			
4	Ms. EDWARDS - MD	X		
5	Ms. BONAMICI - OR	X		
6	Mr. SWALWELL - CA	X		
7	Mr. GRAYSON - FL			
8	Mr. BERA - CA	X		
9	Ms. ESTY - CT	X		
10	Mr. VEASEY - TX	X		
11	Ms. CLARK - MA	X		
12	Mr. BEYER - VA			
13	Mr. PERLMUTTER - CO	X		
14	Mr. TONKO - NY			
15	<u>Mr. TAKANO - CA</u>	X		
16	<u>Mr. FOSTER - IL</u>	X		
17	<u>VACANT</u>			
<b>TOTALS</b>		12	18	

*\*\* Vice Chair*

**COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY - 114<sup>th</sup>**  
Full Committee Roll Call

Working Quorum: 13

Reporting Quorum: 20

DATE: 05/13/2015

Bill: H.R. 2262  
ROLL CALL NO. 3

AMENDMENT NO. Edwards 006

Amendment Sponsor: Ms. Edwards (MD)

**DEFEATED**

MEMBER	AYE	NO	PRESENT	NOT VOTING
1 Mr. SMITH, Chair - TX		X		
2 Mr. LUCAS - OK **		X		
3 Mr. SENSENBRENNER - WI				
4 Mr. ROHRBACHER - CA		X		
5 Mr. NEUGEBAUER - TX				
6 Mr. MCCAUL - TX		X		
7 Mr. PALAZZO - MS		X		
8 Mr. BROOKS - AL		X		
9 Mr. HULTGREN - IL		X		
10 Mr. POSEY - FL		X		
11 Mr. MASSIE - KY				
12 Mr. BRIDENSTINE - OK		X		
13 Mr. WEBER - TX		X		
14 Mr. JOHNSON -- OH		X		
15 Mr. MOOLENAAR - MI		X		
16 Mr. KNIGHT - CA		X		
17 Mr. BABIN - TX		X		
18 Mr. WESTERMAN - AR		X		
19 Mrs. COMSTOCK - VA		X		
20 Mr. NEWHOUSE - WA				
21 Mr. PALMER - AL		X		
22 Mr. LOUDERMILK - GA		X		

1	Ms. JOHNSON, <i>Ranking - TX</i>	X			
2	Ms. LOFGREN - CA	X			
3	Mr. LIPINSKI - IL	X			
4	Ms. EDWARDS - MD	X			
5	Ms. BONAMICI - OR	X			
6	Mr. SWALWELL - CA	X			
7	Mr. GRAYSON - FL				
8	Mr. BERA - CA	X			
9	Ms. ESTY - CT	X			
10	Mr. VEASEY - TX	X			
11	Ms. CLARK - MA	X			
12	Mr. BEYER - VA				
13	Mr. PERLMUTTER - CO	X			
14	Mr. TONKO - NY				
15	<u>Mr. TAKANO - CA</u>	X			
16	<u>Mr. FOSTER - IL</u>	X			
17	<u>VACANT</u>				
<b>TOTALS</b>		13	18		

\*\* Vice Chair

**COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY - 114<sup>th</sup>**  
Full Committee Roll Call

Working Quorum: 13

Reporting Quorum: 20

DATE: 05/13/2015

Bill: H.R. 2262  
ROLL CALL NO. 4

AMENDMENT NO. Tonko 007

Amendment Sponsor: Mr. Tonko (NY)

**DEFEATED**

MEMBER	AYE	NO	PRESENT	NOT VOTING
1 Mr. SMITH, <i>Chair - TX</i>		X		
2 Mr. LUCAS - OK **		X		
3 Mr. SENSENBRENNER - WI				
4 Mr. ROHRABACHER - CA		X		
5 Mr. NEUGEBAUER - TX				
6 Mr. MCCAUL - TX		X		
7 Mr. PALAZZO - MS		X		
8 Mr. BROOKS - AL		X		
9 Mr. HULTGREN - IL		X		
10 Mr. POSEY - FL		X		
11 Mr. MASSIE - KY				
12 Mr. BRIDENSTINE - OK		X		
13 Mr. WEBER - TX		X		
14 Mr. JOHNSON -- OH		X		
15 Mr. MOOLENAAR - MI		X		
16 Mr. KNIGHT - CA		X		
17 Mr. BABIN - TX		X		
18 Mr. WESTERMAN - AR		X		
19 Mrs. COMSTOCK - VA		X		
20 Mr. NEWHOUSE - WA				
21 Mr. PALMER - AL		X		
22 Mr. LOUDERMILK - GA		X		

1	Ms. JOHNSON, <i>Ranking - TX</i>	X		
2	Ms. LOFGREN - CA	X		
3	Mr. LIPINSKI - IL	X		
4	Ms. EDWARDS - MD	X		
5	Ms. BONAMICI - OR	X		
6	Mr. SWALWELL - CA	X		
7	Mr. GRAYSON - FL			
8	Mr. BERA - CA	X		
9	Ms. ESTY - CT	X		
10	Mr. VEASEY - TX	X		
11	Ms. CLARK - MA	X		
12	Mr. BEYER - VA			
13	Mr. PERLMUTTER - CO	X		
14	Mr. TONKO - NY			
15	<u>Mr. TAKANO - CA</u>	X		
16	<u>Mr. FOSTER - IL</u>	X		
17	<u>VACANT</u>			
<b>TOTALS</b>		13	18	

*\*\* Vice Chair*

**COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY - 114<sup>th</sup>**  
Full Committee Roll Call

Working Quorum: 13

Reporting Quorum: 20

DATE: 05/13/2015

Bill: H.R. 2262  
ROLL CALL NO. 5

AMENDMENT NO. Brooks 013

Amendment Sponsor: Mr. Brooks (AL)

**PASSED**

MEMBER	AYE	NO	PRESENT	NOT VOTING
1 Mr. SMITH, Chair - TX	X			
2 Mr. LUCAS - OK **	X			
3 Mr. SENSENBRENNER - WI				
4 Mr. ROHRABACHER - CA	X			
5 Mr. NEUGEBAUER - TX				
6 Mr. MCCAUL - TX	X			
7 Mr. PALAZZO - MS	X			
8 Mr. BROOKS - AL	X			
9 Mr. HULTGREN - IL	X			
10 Mr. POSEY - FL	X			
11 Mr. MASSIE - KY				
12 Mr. BRIDENSTINE - OK	X			
13 Mr. WEBER - TX	X			
14 Mr. JOHNSON -- OH	X			
15 Mr. MOOLENAAR - MI	X			
16 Mr. KNIGHT - CA	X			
17 Mr. BABIN - TX	X			
18 Mr. WESTERMAN - AR	X			
19 Mrs. COMSTOCK - VA	X			
20 Mr. NEWHOUSE - WA				
21 Mr. PALMER - AL	X			
22 Mr. LOUDERMILK - GA	X			

1	Ms. JOHNSON, <i>Ranking - TX</i>		X		
2	Ms. LOFGREN - CA		X		
3	Mr. LIPINSKI - IL		X		
4	Ms. EDWARDS - MD		X		
5	Ms. BONAMICI - OR		X		
6	Mr. SWALWELL - CA		X		
7	Mr. GRAYSON - FL				
8	Mr. BERA - CA		X		
9	Ms. ESTY - CT		X		
10	Mr. VEASEY - TX		X		
11	Ms. CLARK - MA		X		
12	Mr. BEYER - VA				
13	Mr. PERLMUTTER - CO	X			
14	Mr. TONKO - NY				
15	<u>Mr. TAKANO - CA</u>		X		
16	<u>Mr. FOSTER - IL</u>		X		
17	VACANT				
<b>TOTALS</b>		19	12		

*\*\* Vice Chair*

**COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY - 114<sup>th</sup>**  
Full Committee Roll Call

Working Quorum: 13

Reporting Quorum: 20

DATE: 05/13/2015

Bill: H.R. 2262  
ROLL CALL NO. 6

FINAL PASSAGE

**PASSED**

MEMBER	AYE	NO	PRESENT	NOT VOTING
1 Mr. SMITH, <i>Chair - TX</i>	X			
2 Mr. LUCAS - OK **	X			
3 Mr. SENSENBRENNER - WI				
4 Mr. ROHRBACHER - CA	X			
5 Mr. NEUGEBAUER - TX				
6 Mr. MCCAUL - TX	X			
7 Mr. PALAZZO - MS	X			
8 Mr. BROOKS - AL	X			
9 Mr. HULTGREN - IL	X			
10 Mr. POSEY - FL	X			
11 Mr. MASSIE - KY				
12 Mr. BRIDENSTINE - OK	X			
13 Mr. WEBER - TX	X			
14 Mr. JOHNSON - OH	X			
15 Mr. MOOLENAAR - MI	X			
16 Mr. KNIGHT - CA	X			
17 Mr. BABIN - TX	X			
18 Mr. WESTERMAN - AR	X			
19 Mrs. COMSTOCK - VA	X			
20 Mr. NEWHOUSE - WA				
21 Mr. PALMER - AL	X			
22 Mr. LOUDERMILK - GA	X			



1	Ms. JOHNSON, <i>Ranking - TX</i>		X		
2	Ms. LOFGREN - CA		X		
3	Mr. LIPINSKI - IL		X		
4	Ms. EDWARDS - MD		X		
5	Ms. BONAMICI - OR		X		
6	Mr. SWALWELL - CA		X		
7	Mr. GRAYSON - FL				
8	Mr. BERA - CA		X		
9	Ms. ESTY - CT		X		
10	Mr. VEASEY - TX		X		
11	Ms. CLARK - MA		X		
12	Mr. BEYER - VA				
13	Mr. PERLMUTTER - CO		X		
14	Mr. TONKO - NY				
15	<u>Mr. TAKANO - CA</u>		X		
16	<u>Mr. FOSTER - IL</u>		X		
17	<u>VACANT</u>				
<b>TOTALS</b>		18	13		

*\*\* Vice Chair*

## CORRESPONDENCE



Committee on Transportation and Infrastructure  
U.S. House of Representatives

Bill Shuster  
Chairman

Washington, DC 20515

Peter A. DeFazio  
Ranking Member

Christopher P. Bertram, Staff Director

Katherine W. Dedrick, Democratic Staff Director

May 18, 2015

The Honorable Lamar Smith  
Chairman  
Committee on Science, Space, and Technology  
2321 Rayburn House Office Building  
Washington, DC 20515

Dear Chairman Smith:

I write concerning H.R. 2262, the *Spurring Private Aerospace Competitiveness and Entrepreneurship Act of 2015*. This legislation includes matters that fall within the Rule X jurisdiction of the Committee on Transportation and Infrastructure.

In order to expedite floor consideration of H.R. 2262, the Committee on Transportation and Infrastructure will forgo action on this bill. However, this is conditional on our mutual understanding that forgoing consideration of the bill does not prejudice the Committee with respect to the appointment of conferees or to any future jurisdictional claim over the subject matters contained in the bill or similar legislation that fall within the Committee's Rule X jurisdiction. I request you urge the Speaker to name members of the Committee to any conference committee named to consider such provisions.

Please place a copy of this letter and your response acknowledging our jurisdictional interest into the *Congressional Record* during consideration of the measure on the House floor.

Sincerely,

Bill Shuster  
Chairman

cc: The Honorable John Boehner  
The Honorable Peter A. DeFazio  
The Honorable Eddie Bernice Johnson  
Mr. Thomas J. Wickham, Jr., Parliamentarian

Congress of the United States  
House of Representatives

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

2321 RAYBURN HOUSE OFFICE BUILDING

WASHINGTON, DC 20515-6301

(202) 225-6371  
www.science.house.gov

May 18, 2015

The Honorable Bill Shuster  
Chairman  
Committee on Transportation and Infrastructure  
U.S. House of Representatives  
Washington, D.C. 20515

Dear Mr. Chairman:

Thank you for your letter regarding the Committee on Transportation and Infrastructure's jurisdictional interest in H.R. 2262, the "Spurring Private Aerospace Competitiveness and Entrepreneurship Act of 2015."

I agree that the Committee on Transportation and Infrastructure has valid jurisdictional interests in matters pertaining to the Federal Aviation Administration and the National Transportation Safety Board, and that your Committee's jurisdiction will not be adversely affected by your decision to forego consideration of H.R. 2262. As you have requested, I will support your request for an appropriate appointment of outside conferees from your Committee in the event of a House-Senate conference on this or similar legislation, if in your jurisdiction, should such a conference be convened.

Finally, I will include a copy of your letter and this response in the *Congressional Record* during the floor consideration of this bill. Thank you again for your cooperation.

Sincerely,



Lamar Smith  
Chairman

cc: The Honorable John Boehner, Speaker of the House

The Honorable Peter A. DeFazio, Ranking Minority Member  
Committee on Transportation and Infrastructure

The Honorable Eddie Bernice Johnson, Ranking Minority Member

Mr. Tom Wickham, Parliamentarian

## APPLICATION OF LAW TO THE LEGISLATIVE BRANCH

Section 102(b)(3) of Public Law 104-1 requires a description of the application of this bill to the legislative branch where the bill relates to the terms and conditions of employment or access to public services and accommodations. This bill facilitates a pro-growth environment for the developing commercial space industry by encouraging private sector investment, creating more stable and predictable regulatory conditions, and improving safety. As such this bill does not relate to employment or access to public services and accommodations.

## STATEMENT OF OVERSIGHT FINDINGS AND RECOMMENDATIONS OF THE COMMITTEE

In compliance with clause 3(c)(1) of Rule XIII and clause (2)(b)(1) of Rule X of the Rules of the House of Representatives, the Committee's oversight findings and recommendations are reflected in the descriptive portions of this report.

## STATEMENT OF GENERAL PERFORMANCE GOALS AND OBJECTIVES

In accordance with clause 3(c)(4) of Rule XIII of the Rules of the House of Representatives, the Committee's performance goals and objectives for H.R. 2262 are to ensure American leadership in space and foster the development of advanced space technologies.

## DUPLICATION OF FEDERAL PROGRAMS

No provision of H.R. 2262 establishes or reauthorizes a program of the Federal Government known to be duplicative of another Federal program, a program that was included in any report from the Government Accountability Office to Congress pursuant to section 21 of Public Law 111-139, or a program related to a program identified in the most recent Catalog of Federal Domestic Assistance.

## DISCLOSURE OF DIRECTED RULE MAKINGS

The Committee estimates that enacting H.R. 2262 does not direct the completion of any specific rule makings within the meaning of 5 U.S.C. 551.

## FEDERAL ADVISORY COMMITTEE ACT

The Committee finds that the legislation does not establish or authorize the establishment of an advisory committee within the definition of 5 U.S.C. App., Section 5(b).

## UNFUNDED MANDATE STATEMENT

Section 423 of the Congressional Budget and Impoundment Control Act (as amended by Section 101(a)(2) of the Unfunded Mandate Reform Act, P.L. 104-4) requires a statement as to whether the provisions of the reported include unfunded mandates. In compliance with this requirement the Committee has received a letter from the Congressional Budget Office included herein.

## EARMARK IDENTIFICATION

H.R. 2262 does not include any congressional earmarks, limited tax benefits, or limited tariff benefits as defined in clause 9 of Rule XXI.

#### COMMITTEE ESTIMATE

Clause 3(d)(2) of Rule XIII of the Rules of the House of Representatives requires an estimate and a comparison by the Committee of the costs that would be incurred in carrying out H.R. 2262. However, clause 3(d)(3)(B) of that rule provides that this requirement does not apply when the Committee has included in its report a timely submitted cost estimate of the bill prepared by the Director of the Congressional Budget Office under section 402 of the Congressional Budget Act.

#### BUDGET AUTHORITY AND CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

With respect to the requirements of clause 3(c)(2) of Rule XIII of the Rules of the House of Representatives and section 308(a) of the Congressional Budget Act of 1974 and with respect to requirements of clause (3)(c)(3) of Rule XIII of the Rules of the House of Representatives and section 402 of the Congressional Budget Act of 1974, the Committee has received the following cost estimate for H.R. 2262 from the Director of Congressional Budget Office:



### CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

May 18, 2015

### **H.R. 2262** **SPACE Act of 2015**

*As ordered reported by the House Committee on Science, Space, and Technology  
on May 13, 2015*

H.R. 2262 would direct the Department of Transportation (DOT), the National Aeronautics and Space Administration (NASA), and the Government Accountability Office to submit various reports to the Congress regarding commercial space operations and services, industry practices, as well as the potential liabilities associated with commercial space launches. Additionally, the bill would require DOT and NASA to contract with independent organizations to assess the commercial space industry and current regulations on space traffic and orbital activities.

Based on information from those agencies and prior spending levels for related and similar activities, CBO estimates that implementing H.R. 2262 would cost about \$5 million over the next few years, assuming appropriation of the necessary amounts. Enacting H.R. 2262 would not affect direct spending or revenues; therefore, pay-as-you-go procedures do not apply.

H.R. 2262 contains no intergovernmental mandates as defined in the Unfunded Mandates Reform Act (UMRA) and would impose no costs on state, local, or tribal governments.

H.R. 2262 would impose private-sector mandates, as defined in UMRA, on the commercial space flight industry by imposing additional requirements on licensees that engage in manned space flights. The bill would require a licensee, as a condition of the license, to enter into a reciprocal waiver of claims with space flight participants (passengers). Based on information about current industry practice, CBO expects that licensees would enter into such waivers in the absence of the bill. Consequently, the cost of the mandate would be negligible. The bill also would require licensees to obtain insurance to cover passengers' activities. Based on information from industry experts, CBO expects that the cost of that mandate also would be small. Consequently, CBO estimates that the aggregate cost of the mandates would fall below the annual threshold established in UMRA for private-sector mandates (\$154 million in 2015, adjusted annually for inflation).

The CBO staff contacts for this estimate are Marin Burnett (for federal costs) and Amy Petz (for the private-sector impact). The estimate was approved by Theresa Gullo, Assistant Director for Budget Analysis.

May 18, 2015

Honorable Lamar Smith  
Chairman  
Committee on Science,  
Space and Technology  
U.S. House of Representatives  
Washington, DC 20515

Dear Mr. Chairman:

The Congressional Budget Office has prepared the enclosed cost estimate for H.R. 2262, the SPACE Act of 2015.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contact is Marin Burnett, who can be reached at 226-2860.

Sincerely,



Keith Hall

Enclosure

cc: Honorable Eddie Bernice Johnson  
Ranking Member

CHANGES IN EXISTING LAW MADE BY THE BILL AS REPORTED

CHANGES IN EXISTING LAW MADE BY THE BILL, AS REPORTED

In compliance with clause 3(e) of rule XIII of the Rules of the House of Representatives, changes in existing law made by the bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italics, and existing law in which no change is proposed is shown in roman):

**TITLE 51, UNITED STATES CODE**

Subtitle I—General

Chap.		Sec.
101.	Definitions .....	10101
	* * * * *	

Subtitle VII—Access to Space

701.	Use of [Space Shuttle] <i>Space Launch System</i> or Alternatives .....	70101
	* * * * *	

**Subtitle V—PROGRAMS TARGETING  
COMMERCIAL OPPORTUNITIES**

\* \* \* \* \*

**CHAPTER 509—COMMERCIAL SPACE LAUNCH  
ACTIVITIES**

\* \* \* \* \*

**§ 50902. Definitions**

In this chapter—

(1) “citizen of the United States” means—

(A) an individual who is a citizen of the United States;

(B) an entity organized or existing under the laws of the United States or a State; or

(C) an entity organized or existing under the laws of a foreign country if the controlling interest (as defined by the Secretary of Transportation) is held by an individual or entity described in subclause (A) or (B) of this clause.

(2) “crew” means 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) “executive agency” has the same meaning given that term in section 105 of title 5.

(4) “government astronaut” means an individual designated as such by the Administrator of the National Aero-

*navitics and Space Administration, pursuant requirements established by the Administrator, who—*

*(A) is an employee of—*

*(i) the United States Government, including the United States Armed Forces; or*

*(ii) a foreign government that is a party to the Intergovernmental Agreement Among the Government of Canada, Governments of Member States of the European Space Agency, the Government of Japan, the Government of the Russian Federation, and the Government of the United States of America Concerning Cooperation on the Civil International Space Station, signed on January 29, 1998; and*

*(B) 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.*

**[(4)]** (5) “launch” means to place or try to place a launch vehicle or reentry vehicle and any payload, crew, *government astronaut*, or space flight participant from Earth—

(A) in a suborbital trajectory;

(B) in Earth orbit in outer space; or

(C) otherwise in outer space,

including activities involved in the preparation of a launch vehicle or payload for launch, when those activities take place at a launch site in the United States.

**[(5)]** (6) “launch property” means an item built for, or used in, the launch preparation or launch of a launch vehicle.

**[(6)]** (7) “launch services” means—

(A) activities involved in the preparation of a launch vehicle, payload, crew (including crew training), *government astronaut*, or space flight participant for launch; and

(B) the conduct of a launch.

**[(7)]** (8) “launch site” means the location on Earth from which a launch takes place (as defined in a license the Secretary issues or transfers under this chapter) and necessary facilities at that location.

**[(8)]** (9) “launch vehicle” means—

(A) a vehicle built to operate in, or place a payload or human beings in, outer space; and

(B) a suborbital rocket.

**[(9)]** (10) “obtrusive space advertising” means advertising in outer space that is capable of being recognized by a human being on the surface of the Earth without the aid of a telescope or other technological device.

**[(10)]** (11) “payload” means an object that a person undertakes to place in outer space by means of a launch vehicle or reentry vehicle, including components of the vehicle specifically designed or adapted for that object.

**[(11)]** (12) except in section 50904(c), “permit” means an experimental permit issued under section 50906.

[(12)] (13) “person” means an individual and an entity organized or existing under the laws of a State or country.

[(13)] (14) “reenter” and “reentry” mean to return or attempt to return, purposefully, a reentry vehicle and its payload, crew, *government astronauts*, or space flight participants, if any, from Earth orbit or from outer space to Earth.

[(14)] (15) “reentry services” means—

(A) activities involved in the preparation of a reentry vehicle and payload, crew (including crew training), *government astronaut*, or space flight participant, if any, for reentry; and

(B) the conduct of a reentry.

[(15)] (16) “reentry site” means the location on Earth to which a reentry vehicle is intended to return (as defined in a license the Secretary issues or transfers under this chapter).

[(16)] (17) “reentry vehicle” means a vehicle designed to return from Earth orbit or outer space to Earth, or a reusable launch vehicle designed to return from Earth orbit or outer space to Earth, substantially intact.

[(17)] “space flight participant” means an individual, who is not crew, carried within a launch vehicle or reentry vehicle.]

(18) “*space flight participant*” means an individual, who is not crew or a *government astronaut*, carried within a launch vehicle or reentry vehicle.

[(18)] (19) “State” means a State of the United States, the District of Columbia, and a territory or possession of the United States.

[(19)] (20) unless and until regulations take effect under section 50922(c)(2), “suborbital rocket” means 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.

[(20)] (21) “suborbital trajectory” means the intentional flight path of a launch vehicle, reentry vehicle, or any portion thereof, whose vacuum instantaneous impact point does not leave the surface of the Earth.

[(21)] (22) “third party” means a person except—

(A) the United States Government or the Government’s contractors or subcontractors involved in launch services or reentry services;

(B) a licensee or transferee under this chapter;

(C) a licensee’s or transferee’s contractors, subcontractors, or customers involved in launch services or reentry services;

(D) the customer’s contractors or subcontractors involved in launch services or reentry services; or

(E) crew, *government astronauts*, or space flight participants.

[(22)] (23) “United States” means the States of the United States, the District of Columbia, and the territories and possessions of the United States.

\* \* \* \* \*

**§ 50904. Restrictions on launches, operations, and reentries**

(a) REQUIREMENT.—A license issued or transferred under this chapter, or a permit, is required for the following:

(1) for a person to launch a launch vehicle or to operate a launch site or reentry site, or to reenter a reentry vehicle, in the United States.

(2) for a citizen of the United States (as defined in section 50902(1)(A) or (B) of this title) to launch a launch vehicle or to operate a launch site or reentry site, or to reenter a reentry vehicle, outside the United States.

(3) for a citizen of the United States (as defined in section 50902(1)(C) of this title) to launch a launch vehicle or to operate a launch site or reentry site, or to reenter a reentry vehicle, outside the United States and outside the territory of a foreign country unless there is an agreement between the United States Government and the government of the foreign country providing that the government of the foreign country has jurisdiction over the launch or operation or reentry.

(4) for a citizen of the United States (as defined in section 50902(1)(C) of this title) to launch a launch vehicle or to operate a launch site or reentry site, or to reenter a reentry vehicle, in the territory of a foreign country if there is an agreement between the United States Government and the government of the foreign country providing that the United States Government has jurisdiction over the launch or operation or reentry. Notwithstanding this subsection, a permit shall not authorize a person to operate a launch site or reentry site.

(b) COMPLIANCE WITH PAYLOAD REQUIREMENTS.—The holder of a license or permit under this chapter may launch or reenter a payload only if the payload complies with all requirements of the laws of the United States related to launching or reentering a payload.

(c) PREVENTING LAUNCHES AND REENTRIES.—The Secretary of Transportation shall establish whether all required licenses, authorizations, and permits required for a payload have been obtained. If no license, authorization, or permit is required, the Secretary may prevent the launch or reentry if the Secretary decides the launch or reentry would jeopardize the public health and safety, safety of property, or national security or foreign policy interest of the United States.

(d) SINGLE LICENSE OR PERMIT.—The Secretary of Transportation shall ensure that only 1 license or permit is required from the Department of Transportation to conduct activities involving crew, *government astronauts*, or space flight participants, including launch and reentry, for which a license or permit is required under this chapter. The Secretary shall ensure that all Department of Transportation regulations relevant to the licensed or permitted activity are satisfied.

**§ 50905. License applications and requirements**

(a) APPLICATIONS.—(1) A person may apply to the Secretary of Transportation for a license or transfer of a license under this chapter in the form and way the Secretary prescribes. Consistent

with the public health and safety, safety of property, and national security and foreign policy interests of the United States, the Secretary, not later than 180 days after accepting an application in accordance with criteria established pursuant to subsection (b)(2)(D), shall issue or transfer a license if the Secretary decides in writing that the applicant complies, and will continue to comply, with this chapter and regulations prescribed under this chapter. The Secretary shall inform the applicant of any pending issue and action required to resolve the issue if the Secretary has not made a decision not later than 120 days after accepting an application in accordance with criteria established pursuant to subsection (b)(2)(D). The Secretary shall transmit to the Committee on Science of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a written notice not later than 30 days after any occurrence when the Secretary has not taken action on a license application within the deadline established by this subsection.

(2) In carrying out paragraph (1), the Secretary may establish procedures for safety approvals of launch vehicles, reentry vehicles, safety systems, processes, services, or personnel (including approval procedures for the purpose of protecting the health and safety of **crews and space flight participants** *crew, government astronauts, and space flight participants*, to the extent permitted by subsections (b) and (c)) that may be used in conducting licensed commercial space launch or reentry activities.

(b) REQUIREMENTS.—(1) Except as provided in this subsection, all requirements of the laws of the United States applicable to the launch of a launch vehicle or the operation of a launch site or a reentry site, or the reentry of a reentry vehicle, are requirements for a license or permit under this chapter.

(2) The Secretary may prescribe—

(A) any term necessary to ensure compliance with this chapter, including on-site verification that a launch, operation, or reentry complies with representations stated in the application;

(B) any additional requirement necessary to protect the public health and safety, safety of property, national security interests, and foreign policy interests of the United States;

(C) by regulation that a requirement of a law of the United States not be a requirement for a license or permit if the Secretary, after consulting with the head of the appropriate executive agency, decides that the requirement is not necessary to protect the public health and safety, safety of property, and national security and foreign policy interests of the United States;

(D) additional license requirements, for a launch vehicle carrying a human being for compensation or hire, necessary to protect the health and safety of crew, *government astronauts*, or space flight participants, only if such requirements are imposed pursuant to final regulations issued in accordance with subsection (c); and

(E) regulations establishing criteria for accepting or rejecting an application for a license or permit under this chapter within 60 days after receipt of such application.

(3) The Secretary may waive a requirement, including the requirement to obtain a license, for an individual applicant if the Secretary decides that the waiver is in the public interest and will not jeopardize the public health and safety, safety of property, and national security and foreign policy interests of the United States. The Secretary may not grant a waiver under this paragraph that would permit the launch or reentry of a launch vehicle or a reentry vehicle without a license or permit if a human being will be on board.

(4) The holder of a license or a permit under this chapter may launch or reenter crew only if—

(A) the crew has received training and has satisfied medical or other standards specified in the license or permit in accordance with regulations promulgated by the Secretary;

(B) the holder of the license or permit has informed any individual serving as crew in writing, prior to executing any contract or other arrangement to employ that individual (or, in the case of an individual already employed as of the date of enactment of the Commercial Space Launch Amendments Act of 2004, as early as possible, but in any event prior to any launch in which the individual will participate as crew), that the United States Government has not certified the launch vehicle as safe for carrying crew or space flight participants; and

(C) the holder of the license or permit and crew have complied with all requirements of the laws of the United States that apply to crew.

(5) The holder of a license or a permit under this chapter may launch or reenter a space flight participant only if—

(A) in accordance with regulations promulgated by the Secretary, the holder of the license or permit has informed the space flight participant in writing about the risks of the launch and reentry, including the safety record of the launch or reentry vehicle type, and the Secretary has informed the space flight participant in writing of any relevant information related to risk or probable loss during each phase of flight gathered by the Secretary in making the determination required by section 50914(a)(2) and (c);

(B) the holder of the license or permit has informed any space flight participant in writing, prior to receiving any compensation from that space flight participant or (in the case of a space flight participant not providing compensation) otherwise concluding any agreement to fly that space flight participant, that the United States Government has not certified the launch vehicle as safe for carrying crew or space flight participants;

(C) in accordance with regulations promulgated by the Secretary, the space flight participant has provided written informed consent to participate in the launch and re-



entry and written certification of compliance with any regulations promulgated under paragraph (6)(A); and

(D) the holder of the license or permit has complied with any regulations promulgated by the Secretary pursuant to paragraph (6).

(6)(A) The Secretary may issue regulations requiring space flight participants to undergo an appropriate physical examination prior to a launch or reentry under this chapter. This subparagraph shall cease to be in effect three years after the date of enactment of the Commercial Space Launch Amendments Act of 2004.

(B) The Secretary may issue additional regulations setting reasonable requirements for space flight participants, including medical and training requirements. Such regulations shall not be effective before the expiration of 3 years after the date of enactment of the Commercial Space Launch Amendments Act of 2004.

(c) SAFETY REGULATIONS.—(1) The Secretary may issue regulations governing the design or operation of a launch vehicle to protect the health and safety of crew, *government astronauts*, and space flight participants.

(2) Regulations issued under this subsection shall—

(A) describe how such regulations would be applied when the Secretary is determining whether to issue a license under this chapter;

(B) apply only to launches in which a vehicle will be carrying a human being for compensation or hire;

(C) be limited to restricting or prohibiting design features or operating practices that—

(i) have resulted in a serious or fatal injury (as defined in 49 CFR 830, as in effect on November 10, 2004) **to crew or space flight participants** *to crew, government astronauts, or space flight participants* during a licensed or permitted commercial human space flight; or

(ii) contributed to an unplanned event or series of events during a licensed or permitted commercial human space flight that posed a high risk of causing a serious or fatal injury (as defined in 49 CFR 830, as in effect on November 10, 2004) **to crew or space flight participants** *to crew, government astronauts, or space flight participants*; and

(D) be issued with a description of the instance or instances when the design feature or operating practice being restricted or prohibited contributed to a result or event described in subparagraph (C).

**[(3) Beginning on October 1, 2015, the Secretary may propose regulations under this subsection without regard to paragraph (2)(C) and (D). Any such regulations shall take into consideration the evolving standards of safety in the commercial space flight industry.]**

**(3) INTERIM INDUSTRY VOLUNTARY CONSENSUS STANDARDS REPORT.—The Secretary, in consultation with the Commercial**

*Space Transportation Advisory Committee, or its successor organization, shall provide a report to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate on the progress of the commercial space transportation industry in developing voluntary consensus standards or any other construction that promotes best practices to improve the industry. Such report shall include, at a minimum—*

*(A) any voluntary industry consensus standards or any other construction that have been accepted by the industry at large;*

*(B) the identification of areas that have the potential to become voluntary industry consensus standards or another potential construction that are currently under consideration by the industry at large;*

*(C) an assessment from the Secretary on the general progress of the industry in adopting voluntary consensus standards or any other construction;*

*(D) lessons learned about voluntary industry consensus standards or any other construction, best practices, and commercial space launch operations;*

*(E) any lessons learned associated with the development, potential application, and acceptance of voluntary industry consensus standards or any other construction, best practices, and commercial space launch operations; and*

*(F) recommendations, findings, or observations from the Commercial Space Transportation Advisory Committee, or its successor organization, on the progress of the industry in developing industry consensus standards or any other construction.*

*This report, with the appropriate updates in the intervening periods, shall be transmitted to such committees no later than December 31, 2016, December 31, 2018, December 31, 2020, and December 31, 2022. Each report shall describe and assess the progress achieved as of 6 months prior to the specified transmittal date.*

*(4) INTERIM REPORT ON KNOWLEDGE AND OPERATIONAL EXPERIENCE.—The Secretary shall provide a report to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the of the Senate on the status of the knowledge and operational experience acquired by the industry while providing flight services for compensation or hire to support the development of a safety framework. Interim reports shall be transmitted to such committees no later than December 31, 2018, December 31, 2020, and December 31, 2022. Each report shall describe and assess the progress achieved as of 6 months prior to the specified transmittal date.*

*(5) INDEPENDENT REVIEW.—No later than December 31, 2023, an independent, private systems engineering and technical assistance organization or standards development organization contracted by the Secretary shall provide to the Committee on Science, Space, and Technology of the House of Rep-*

representatives and the Committee on Commerce, Science, and Transportation of the Senate an assessment of the readiness of the commercial space industry and the Federal Government to transition to a safety framework that may include regulations. As part of the review, the contracted organization shall evaluate—

(A) the progress of the commercial space industry in adopting industry voluntary standards or any other construction as reported by the Secretary in the interim assessments included in reports provided under paragraph (4); and

(B) the knowledge and operational experience obtained by the commercial space industry while providing services for compensation or hire as reported by the Secretary in the interim knowledge and operational reports provided under paragraph (4).

(6) **LEARNING PERIOD.**—Beginning on December 31, 2025, the Secretary may propose regulations under this subsection without regard to paragraph (2)(C) and (D). The development of any such regulations shall take into consideration the evolving standards of the commercial space flight industry as identified through the reports published under paragraphs (3) and (4).

(7) **COMMUNICATION AND TRANSPARENCY.**—Nothing in this subsection shall be construed to limit the authority of the Secretary of Transportation to discuss potential approaches, potential performance standards, or any other topic related to this subsection with the commercial space industry including observations, findings, and recommendations from the Commercial Space Transportation Advisory Committee, or its successor organization, prior to the issuance of a notice of proposed rule-making. Such discussions shall not be construed to permit the Secretary to promulgate industry regulations except as otherwise provided in this section.

[(4)] (8) Nothing in this subsection shall be construed to limit the authority of the Secretary to issue requirements or regulations to protect the public health and safety, safety of property, national security interests, and foreign policy interests of the United States.

(d) **PROCEDURES AND TIMETABLES.**—The Secretary shall establish procedures and timetables that expedite review of a license or permit application and reduce the regulatory burden for an applicant.

#### **§ 50906. Experimental permits**

(a) A person may apply to the Secretary of Transportation for an experimental permit under this section in the form and manner the Secretary prescribes. 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, not later than 120 days after receiving an application pursuant to this section, shall issue a permit if the Secretary decides in writing that the applicant complies, and will continue to comply, with this chap-

ter and regulations prescribed under this chapter. The Secretary shall inform the applicant of any pending issue and action required to resolve the issue if the Secretary has not made a decision not later than 90 days after receiving an application. The Secretary shall transmit to the Committee on Science of the House of Representatives and Committee on Commerce, Science, and Transportation of the Senate a written notice not later than 15 days after any occurrence when the Secretary has failed to act on a permit within the deadline established by this section.

(b) In carrying out subsection (a), the Secretary may establish procedures for safety approvals of launch vehicles, reentry vehicles, safety systems, processes, services, or personnel that may be used in conducting commercial space launch or reentry activities pursuant to a permit.

(c) In order to encourage the development of a commercial space flight industry, the Secretary may when issuing permits use the authority granted under section 50905(b)(2)(C).

(d) The Secretary may issue a permit only for reusable sub-orbital rockets that will be ~~launched or reentered~~ *launched or reentered under that permit* solely for—

**[(1) research and development to test new design concepts, new equipment, or new operating techniques;]**

    (1) *research and development to test design concepts, equipment, or operating techniques;*

    (2) showing compliance with requirements as part of the process for obtaining a license under this chapter; or

    (3) crew training **[prior to obtaining a license]** for a launch or reentry using the design of the rocket for which the permit would be issued.

(e) Permits issued under this section shall—

    (1) authorize an unlimited number of launches and reentries for a particular **[suborbital rocket design]** *suborbital rocket or rocket design* for the uses described in subsection (d); and

    (2) specify the type of modifications that may be made to the suborbital rocket without changing the design to an extent that would invalidate the permit.

(f) Permits shall not be transferable.

**[(g) A permit may not be issued for, and a permit that has already been issued shall cease to be valid for, a particular design for a reusable suborbital rocket after a license has been issued for the launch or reentry of a rocket of that design.]**

*(g) The Secretary may issue a permit under this section notwithstanding any license issued under this chapter. The issuance of a license under this chapter shall not invalidate a permit under this section.*

(h) No person may operate a reusable suborbital rocket under a permit for carrying any property or human being for compensation or hire.

(i) For the purposes of sections 50907, 50908, 50909, 50910, 50912, 50914, 50917, 50918, 50919, and 50923 of this chapter—

    (1) a permit shall be considered a license;

    (2) the holder of a permit shall be considered a licensee;

(3) a vehicle operating under a permit shall be considered to be licensed; and

(4) the issuance of a permit shall be considered licensing. This subsection shall not be construed to allow the transfer of a permit.

#### **§ 50907. Monitoring activities**

(a) GENERAL REQUIREMENTS.—A licensee under this chapter must allow the Secretary of Transportation to place an officer or employee of the United States Government or another individual as an observer at a launch site or reentry site the licensee uses, at a production facility or assembly site a contractor of the licensee uses to produce or assemble a launch vehicle or reentry vehicle, at a site used for [crew or space flight participant training] *crew, government astronaut, or space flight participant training*, or at a site at which a payload is integrated with a launch vehicle or reentry vehicle. The observer will monitor the activity of the licensee or contractor at the time and to the extent the Secretary considers reasonable to ensure compliance with the license or to carry out the duties of the Secretary under sections 50904(c), 50905, and 50906 of this title. A licensee must cooperate with an observer carrying out this subsection.

(b) CONTRACTS.—To the extent provided in advance in an appropriation law, the Secretary may make a contract with a person to carry out subsection (a) of this section.

#### **§ 50908. Effective periods, and modifications, suspensions, and revocations, of licenses**

(a) EFFECTIVE PERIODS OF LICENSES.—The Secretary of Transportation shall specify the period for which a license issued or transferred under this chapter is in effect.

(b) MODIFICATIONS.—(1) On the initiative of the Secretary or on application of the licensee, the Secretary may modify a license issued or transferred under this chapter if the Secretary decides the modification will comply with this chapter.

(2) The Secretary shall modify a license issued or transferred under this chapter whenever a modification is needed for the license to be in conformity with a regulation that was issued pursuant to section 50905(c) after the issuance of the license. This paragraph shall not apply to permits.

(c) SUSPENSIONS AND REVOCATIONS.—The Secretary may suspend or revoke a license if the Secretary decides that—

(1) the licensee has not complied substantially with a requirement of this chapter or a regulation prescribed under this chapter; or

(2) the suspension or revocation is necessary to protect the public health and safety, the safety of property, or a national security or foreign policy interest of the United States.

(d) ADDITIONAL SUSPENSIONS.—(1) The Secretary may suspend a license when a previous launch or reentry under the license has resulted in a serious or fatal injury (as defined in 49 CFR 830, as in effect on November 10, 2004) [to crew or space flight participants] *to crew, government astronauts, or space flight participants*

and the Secretary has determined that continued operations under the license are likely to cause additional serious or fatal injury (as defined in 49 CFR 830, as in effect on November 10, 2004) **to crew or space flight participants** *to crew, government astronauts, or space flight participants.*

(2) Any suspension imposed under this subsection shall be for as brief a period as possible and, in any event, shall cease when the Secretary—

(A) has determined that the licensee has taken sufficient steps to reduce the likelihood of a recurrence of the serious or fatal injury; or

(B) has modified the license pursuant to subsection (b) to sufficiently reduce the likelihood of a recurrence of the serious or fatal injury.

(3) This subsection shall not apply to permits.

(e) **EFFECTIVE PERIODS OF MODIFICATIONS, SUSPENSIONS, AND REVOCATIONS.**—Unless the Secretary specifies otherwise, a modification, suspension, or revocation under this section takes effect immediately and remains in effect during a review under section 50912 of this title.

(f) **NOTIFICATION.**—The Secretary shall notify the licensee in writing of the decision of the Secretary under this section and any action the Secretary takes or proposes to take based on the decision.

\* \* \* \* \*

#### **§ 50914. Liability insurance and financial responsibility requirements**

(a) **GENERAL REQUIREMENTS.**—(1) When a launch or reentry license is issued or transferred under this chapter, the licensee or transferee shall obtain liability insurance or demonstrate financial responsibility in amounts to compensate for the maximum probable loss from claims by—

(A) a third party for death, bodily injury, or property damage or loss resulting from an activity carried out under the license; and

(B) the United States Government against a person for damage or loss to Government property resulting from an activity carried out under the license.

(2) The Secretary of Transportation shall determine the amounts required under paragraph (1)(A) and (B) of this subsection, after consulting with the Administrator of the National Aeronautics and Space Administration, the Secretary of the Air Force, and the heads of other appropriate executive agencies.

(3) For the total claims related to one launch or reentry, a licensee or transferee is not required to obtain insurance or demonstrate financial responsibility of more than—

(A)(i) \$500,000,000 under paragraph (1)(A) of this subsection; or

(ii) \$100,000,000 under paragraph (1)(B) of this subsection; or

(B) the maximum liability insurance available on the world market at reasonable cost if the amount is less than the applicable amount in clause (A)(i) or (ii) of this paragraph.

(4) An insurance policy or demonstration of financial responsibility under this subsection shall protect the following, to the extent of their potential liability for involvement in launch services or reentry services, at no cost to the Government:

(A) the Government.

(B) executive agencies and personnel, contractors, and subcontractors of the Government.

(C) contractors, subcontractors, and customers of the licensee or transferee.

(D) contractors and subcontractors of the customer.

(E) *space flight participants*.

(b) RECIPROCAL WAIVER OF CLAIMS.—**[(1) A launch or reentry license issued or transferred under this chapter shall contain a provision requiring the licensee or transferee 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 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.]** *(1) A launch or reentry license issued or transferred under this chapter shall contain a provision requiring the licensee or transferee to make a reciprocal waiver of claims with its contractors, subcontractors, and customers, the contractors and subcontractors of the customers, and any space flight participants, involved in launch services or reentry services or participating in a flight under which each party to the waiver agrees to be responsible for property damage or loss it or they sustain, 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.*

(2) The Secretary of Transportation shall make, for the Government, executive agencies of the Government involved in launch services or reentry services, and contractors and subcontractors involved in launch services or reentry services, a reciprocal waiver of claims with the licensee or transferee, contractors, subcontractors, crew, space flight participants, and customers of the licensee or transferee, and contractors and subcontractors of the customers, involved in launch services or reentry services under which each party to the 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 or by space flight participants, resulting from an activity carried out under the applicable license. The waiver applies only to the extent that claims are more than the amount of insurance or demonstration of financial responsibility required under subsection (a)(1)(B) of this section. After consulting with the Administrator and the Secretary of the Air Force, the Secretary of Transportation may

waive, for the Government and a department, agency, and instrumentality of the Government, the right to recover damages for damage or loss to Government property to the extent insurance is not available because of a policy exclusion the Secretary of Transportation decides is usual for the type of insurance involved.

(c) DETERMINATION OF MAXIMUM PROBABLE LOSSES.—The Secretary of Transportation shall determine the maximum probable losses under subsection (a)(1)(A) and (B) of this section associated with an activity under a license not later than 90 days after a licensee or transferee requires a determination and submits all information the Secretary requires. The Secretary shall amend the determination as warranted by new information.

(d) ANNUAL REPORT.—(1) Not later than November 15 of each year, the Secretary of Transportation shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science of the House of Representatives a report on current determinations made under subsection (c) of this section related to all issued licenses and the reasons for the determinations.

(2) Not later than May 15 of each year, the Secretary of Transportation shall review the amounts specified in subsection (a)(3)(A) of this section and submit a report to Congress that contains proposed adjustments in the amounts to conform with changed liability expectations and availability of insurance on the world market. The proposed adjustment takes effect 30 days after a report is submitted.

(e) LAUNCHES OR REENTRIES INVOLVING GOVERNMENT FACILITIES AND PERSONNEL.—The Secretary of Transportation shall establish requirements consistent with this chapter for proof of financial responsibility and other assurances necessary to protect the Government and its executive agencies and personnel from liability, death, bodily injury, or property damage or loss as a result of a launch or operation of a launch site or reentry site or a reentry involving a facility or personnel of the Government. The Secretary may not relieve the Government of liability under this subsection for death, bodily injury, or property damage or loss resulting from the willful misconduct of the Government or its agents.

(f) COLLECTION AND CREDITING PAYMENTS.—The head of a department, agency, or instrumentality of the Government shall collect a payment owed for damage or loss to Government property under its jurisdiction or control resulting from an activity carried out under a launch or reentry license issued or transferred under this chapter. The payment shall be credited to the current applicable appropriation, fund, or account of the department, agency, or instrumentality.

(g) FEDERAL JURISDICTION.—*Any action or tort arising from a licensed launch or reentry shall be the sole jurisdiction of the Federal courts and shall be decided under Federal law.*



**§ 50915. Paying claims exceeding liability insurance and financial responsibility requirements**

(a) GENERAL REQUIREMENTS.—(1) To the extent provided in advance in an appropriation law or to the extent additional legislative authority is enacted providing for paying claims in a compensation plan submitted under subsection (d) of this section, the Secretary of Transportation shall provide for the payment by the United States Government of a successful claim (including reasonable litigation or settlement expenses) of a third party against a licensee or transferee under this chapter, a contractor, subcontractor, or customer of the licensee or transferee, [or a contractor] *a contractor* or subcontractor of a customer, [but not against] *or* a space flight participant, resulting from an activity carried out under the license issued or transferred under this chapter for death, bodily injury, or property damage or loss resulting from an activity carried out under the license. However, claims may be paid under this section only to the extent the total amount of successful claims related to one launch or reentry—

(A) is more than the amount of insurance or demonstration of financial responsibility required under section 50914(a)(1)(A) of this title; and

(B) is not more than \$1,500,000,000 (plus additional amounts necessary to reflect inflation occurring after January 1, 1989) above that insurance or financial responsibility amount.

(2) The Secretary may not provide for paying a part of a claim for which death, bodily injury, or property damage or loss results from willful misconduct by the licensee or transferee. To the extent insurance required under section 50914(a)(1)(A) of this title is not available to cover a successful third party liability claim because of an insurance policy exclusion the Secretary decides is usual for the type of insurance involved, the Secretary may provide for paying the excluded claims without regard to the limitation contained in section 50914(a)(1).

(b) NOTICE, PARTICIPATION, AND APPROVAL.—Before a payment under subsection (a) of this section is made—

(1) notice must be given to the Government of a claim, or a civil action related to the claim, against a party described in subsection (a)(1) of this section for death, bodily injury, or property damage or loss;

(2) the Government must be given an opportunity to participate or assist in the defense of the claim or action; and

(3) the Secretary must approve any part of a settlement to be paid out of appropriations of the Government.

(c) WITHHOLDING PAYMENTS.—The Secretary may withhold a payment under subsection (a) of this section if the Secretary certifies that the amount is not reasonable. However, the Secretary shall deem to be reasonable the amount of a claim finally decided by a court of competent jurisdiction.

(d) SURVEYS, REPORTS, AND COMPENSATION PLANS.—(1) If as a result of an activity carried out under a license issued or trans-

ferred under this chapter the total of claims related to one launch or reentry is likely to be more than the amount of required insurance or demonstration of financial responsibility, the Secretary shall—

(A) survey the causes and extent of damage; and

(B) submit expeditiously to Congress a report on the results of the survey.

(2) Not later than 90 days after a court determination indicates that the liability for the total of claims related to one launch or reentry may be more than the required amount of insurance or demonstration of financial responsibility, the President, on the recommendation of the Secretary, shall submit to Congress a compensation plan that—

(A) outlines the total dollar value of the claims;

(B) recommends sources of amounts to pay for the claims;

(C) includes legislative language required to carry out the plan if additional legislative authority is required; and

(D) for a single event or incident, may not be for more than \$1,500,000,000.

(3) A compensation plan submitted to Congress under paragraph (2) of this subsection shall—

(A) have an identification number; and

(B) be submitted to the Senate and the House of Representatives on the same day and when the Senate and House are in session.

(e) CONGRESSIONAL RESOLUTIONS.—(1) In this subsection, “resolution”—

(A) means a joint resolution of Congress the matter after the resolving clause of which is as follows: “That the Congress approves the compensation plan numbered \_\_\_\_\_ submitted to the Congress on \_\_\_\_\_, 20\_\_\_\_.”, with the blank spaces being filled appropriately; but

(B) does not include a resolution that includes more than one compensation plan.

(2) The Senate shall consider under this subsection a compensation plan requiring additional appropriations or legislative authority not later than 60 calendar days of continuous session of Congress after the date on which the plan is submitted to Congress.

(3) A resolution introduced in the Senate shall be referred immediately to a committee by the President of the Senate. All resolutions related to the same plan shall be referred to the same committee.

(4)(A) If the committee of the Senate to which a resolution has been referred does not report the resolution within 20 calendar days after it is referred, a motion is in order to discharge the committee from further consideration of the resolution or to discharge the committee from further consideration of the plan.

(B) A motion to discharge may be made only by an individual favoring the resolution and is highly privileged

(except that the motion may not be made after the committee has reported a resolution on the plan). Debate on the motion is limited to one hour, to be divided equally between those favoring and those opposing the resolution. An amendment to the motion is not in order. A motion to reconsider the vote by which the motion is agreed to or disagreed to is not in order.

(C) If the motion to discharge is agreed to or disagreed to, the motion may not be renewed and another motion to discharge the committee from another resolution on the same plan may not be made.

(5)(A) After a committee of the Senate reports, or is discharged from further consideration of, a resolution, a motion to proceed to the consideration of the resolution is in order at any time, even though a similar previous motion has been disagreed to. The motion is highly privileged and is not debatable. An amendment to the motion is not in order. A motion to reconsider the vote by which the motion is agreed to or disagreed to is not in order.

(B) Debate on the resolution referred to in subparagraph (A) of this paragraph is limited to not more than 10 hours, to be divided equally between those favoring and those opposing the resolution. A motion further to limit debate is not debatable. An amendment to, or motion to recommit, the resolution is not in order. A motion to reconsider the vote by which the resolution is agreed to or disagreed to is not in order.

(6) The following shall be decided in the Senate without debate:

(A) a motion to postpone related to the discharge from committee.

(B) a motion to postpone consideration of a resolution.

(C) a motion to proceed to the consideration of other business.

(D) an appeal from a decision of the chair related to the application of the rules of the Senate to the procedures related to a resolution.

(f) APPLICATION.—This section applies to a license issued or transferred under this chapter for which the Secretary receives a complete and valid application not later than December 31, [2016] 2025. This section does not apply to permits.

\* \* \* \* \*

## Subtitle VII—ACCESS TO SPACE

\* \* \* \* \*

### CHAPTER 701

Sec.  
70101. Recovery of fair value of placing Department of Defense payloads in orbit with [space shuttle] *Space Launch System*.

70102. [Space shuttle] *Space Launch System* use policy.  
70103. Commercial payloads on [space shuttle] *Space Launch System*.

**§ 70101. Recovery of fair value of placing Department of Defense payloads in orbit with [space shuttle] *Space Launch System***

Notwithstanding any other provision of law, or any interagency agreement, the Administrator shall charge such prices as are necessary to recover the fair value of placing Department of Defense payloads into orbit by means of the [space shuttle] *Space Launch System*.

**§ 70102. [Space shuttle] *Space Launch System* use policy**

(a) USE POLICY.—

(1) IN GENERAL.—

(A) POLICY.—It shall be the policy of the United States to use the [space shuttle] *Space Launch System*—

(i) for purposes that require a human presence *directly to cis-lunar space and the regions of space beyond low-Earth orbit*;

(ii) for purposes that require the unique capabilities of the [space shuttle] *Space Launch System*; or

(iii) when other compelling circumstances exist.

(B) DEFINITION OF COMPELLING CIRCUMSTANCES.—In this paragraph, the term “compelling circumstances” includes, but is not limited to, occasions when the Administrator determines, in consultation with the Secretary of Defense and the Secretary of State, that important national security or foreign policy interests would be served by [a shuttle launch] *a launch of the Space Launch System*.

(2) USING AVAILABLE CARGO SPACE FOR SECONDARY PAYLOADS.—The policy stated in paragraph (1) shall not preclude the use of available cargo space, on [a space shuttle mission] *a mission of the Space Launch System* otherwise consistent with the policy described in paragraph (1), for the purpose of carrying secondary payloads (as defined by the Administrator) that do not require a human presence if such payloads are consistent with the requirements of research, development, demonstration, scientific, commercial, and educational programs authorized by the Administrator.

(b) ANNUAL REPORT.—At least annually, the Administrator shall submit to Congress a report certifying that the payloads scheduled to be launched on the [space shuttle] *Space Launch System* for the next 4 years are consistent with the policy set forth in subsection (a)(1). For each payload scheduled to be launched from the [space shuttle] *Space Launch System* that does not require a human presence, the Administrator shall, in the certified report to Congress, state the specific circumstances that justified the use of the [space shuttle] *Space Launch System*. If, during the period between scheduled reports to Congress, any additions are made to the list of certified payloads intended to be launched [from the shuttle] *from the Space Launch System*, the Administrator shall inform

Congress of the additions and the reasons therefor within 45 days of the change.

(c) **ADMINISTRATION PAYLOADS.**—The report described in subsection (b) shall also include those Administration payloads designed solely to fly on the [space shuttle] *Space Launch System* which have begun the phase C/D of its development cycle.

(d) **DEFINITION.**—*In this section, the term “Space Launch System” means the Space Launch System authorized under section 302 of the National Aeronautics and Space Administration Authorization Act of 2010.*

**§70103. Commercial payloads on [space shuttle] *Space Launch System***

(a) **DEFINITIONS.**—In this section:

(1) **LAUNCH VEHICLE.**—The term “launch vehicle” means any vehicle constructed for the purpose of operating in, or placing a payload in, outer space.

(2) **PAYLOAD.**—The term “payload” means an object which a person undertakes to place in outer space by means of a launch vehicle, and includes subcomponents of the launch vehicle specifically designed or adapted for that object.

(b) **IN GENERAL.**—Commercial payloads may not be accepted for launch as primary payloads on the [space shuttle] *Space Launch System* unless the Administrator determines that—

(1) the payload requires the unique capabilities of the [space shuttle] *Space Launch System*; or

(2) launching of the payload on the [space shuttle] *Space Launch System* is important for either national security or foreign policy purposes.

\* \* \* \* \*

MINORITY VIEWS

*Eddie Bernice  
Johnson*

**Minority Views**  
**House Committee on Science, Space, and Technology**

**H.R. 2262, the “Spurring Private Aerospace Competitiveness and Entrepreneurship Act of 2015”**

H.R. 2262, as amended, “Spurring Private Aerospace Competitiveness and Entrepreneurship Act of 2015,” proposes to extend and amend key provisions of the Commercial Space Launch Amendments Act (CSLAA) of 2004 as included in USC Title 51. The two time sensitive provisions concern the moratorium on the Federal Aviation Administration (FAA) proposing any safety regulations on commercial human space flight, which ends on September 30, 2015 and the extension of commercial space launch indemnification, which ends on December 31, 2016.

The Committee has held no hearings during the 114<sup>th</sup> Congress on commercial space transportation, or the broader area of commercial space, or on the legislation that was being marked up. The members of the Minority are strong supporters of the commercial space launch industry, but consider holding hearings and subcommittee markups an important part of the process. The bill as amended is unbalanced, giving strong preference to the priorities of the commercial space launch industry in matters related to the safety of the general public and the safety of the future customers of this industry.

*Sec. 2. Consensus Standards.*

There currently is a prohibition against FAA issuing regulations to protect the safety of the crew and spaceflight participants [passengers] on a commercially licensed suborbital or orbital human spaceflight system. That moratorium, which was put in place in 2004, was supposed to expire in 2012. It was extended for an additional three years and is now set to expire on September 30, 2015. H.R. 2262, as amended, extends the moratorium for an additional 10 years, until 2025, further delaying any regulations to protect the safety of the people who will fly on commercial human spaceflight systems. While it is argued by some that the commercial human spaceflight industry is a fledgling industry that needs room to grow without regulatory burdens, there have been significant advances made in the development of commercial human spaceflight systems since 2004. In addition, the head of the FAA Office of Commercial Space Transportation (AST) has testified that 50 years of U.S. human spaceflight provides ample experience on which to base safety regulations and that continuing a no-regulation learning period for another decade would unnecessarily delay detailed discussions between industry and FAA that could form the basis of either safety regulations or voluntary consensus standards.

A Democratic amendment was offered to extend the learning period for 5 years—a length consistent with the amount of time specified in the bipartisan Senate bill that was recently introduced--half the time period included in H.R. 2262, as amended.

### *Sec. 3. International Launch Competitiveness*

The provisions for the commercial space launch indemnification regime have been extended numerous times since they were first passed in 1988. Most recently, on January 16, 2014, Congress passed the “Consolidated Appropriations Act, 2014” and as part of it, extended the third party liability and indemnification provisions for an additional three years [to December 31, 2016]. It was the 8<sup>th</sup> extension of these provisions. H.R. 2262, as amended, would provide another extension, this time until December 31, 2025.

The industry has come a long way in the quarter of a century since indemnification was first enacted. A Democratic amendment to H.R. 2262, sought to extend the indemnification for 4 years, until 2020, to allow for review of a plan to update the Maximum Probable Loss calculation and an independent review of the plan before any longer term extension. Four years is a sensible, pragmatic approach that provides for a report and a review as well as appropriate Congressional oversight, following the results of the plan and review. The bipartisan Senate bill also seeks a 4-year extension.

### *Sec. 4. Launch License Flexibility*

This section has been overtaken by events. The provision was first sought by a single launch company, Virgin Galactic. However, following the Spaceship Two accident in 2014, which resulted in the death of a pilot, Virgin Galactic made the decision to take on all of the testing responsibilities that it had originally contracted to Scaled Composites. Virgin would continue development and testing of its vehicles within the Virgin Galactic company. This decision eliminated the problem that prompted the proposed language included in this Section.

Officials from the FAA’s Office of Commercial Space Transportation told Democratic staff that a commercial launch license enables a launch provider to carry out testing and improvements to a vehicle, providing that the licensee has specified such activities in obtaining the license. Once Virgin Galactic obtains a license, it can continue to carry out testing and make safety improvements to a vehicle, providing those activities are included as part of its license. There is thus no compelling need for this Section. The expectation that companies other than Virgin Galactic may need such flexibility does not have merit. No other companies have come forth seeking this language be enacted into law.

### *Sec. 5. Government Astronauts*

The inclusion of this clause has potential consequences beyond this bill as the term “Astronaut” has never been clearly defined in a statute up to this point, and thus the final language selected



may have far reaching implications. The Majority's addition of "Government Astronaut" as a new category is in response to a request by the National Aeronautics and Space Administration (NASA) for this addition to existing statutes. NASA has explained that neither of the two current definitions in the CSLA, "Space Flight Participants" and "Crew," effectively covered NASA astronauts. This is because, at the time the CSLA was drafted, no one envisioned a future where NASA would fly astronauts using commercial crew transportation services.

However, both NASA's and the Majority's proposed definitions leave out some cases that are important to address. For example, both proposals define a "Government Astronaut" as either a U.S. government employee or as the employee of a foreign government. However, both proposals limit a foreign astronaut to only those foreign astronauts who come from signatories to the Intergovernmental Agreement (IGA) relating to operations on the International Space Station (ISS). Commercial space operations are likely to have missions other than directly related to the ISS, and as such, the definition of foreign astronauts should not be limited by that agreement. In addition, neither NASA's language nor the Majority's takes into account the fact that there might be U.S. government employees who have not been trained as astronauts but who will still need to fly on a commercial space vehicle as part of their employment activities, e.g., as government researchers. Both situations raise cross-waiver and indemnification issues.

#### *Sec. 6. Indemnification for Spaceflight Participants*

This section proposes to include spaceflight participants in the third party liability risk-sharing regime established by Congress in the Commercial Space Launch Act Amendments of 1988. That regime insured that the government would indemnify any participants whose liability went above their insurance coverage. The proposal to include spaceflight participants in this regime is based on the notion that any accident involving third-party claims will result in claims being made on spaceflight participants who are not covered in the launch party's third-party insurance. The argument is also that spaceflight participants be put on the same playing field as contractors and subcontractors who are included in the indemnification regime. However, this policy change has not been examined at any Committee hearings, and thus there are a number of unresolved questions relative to this policy change. First, spaceflight participants were explicitly excluded from the liability regime in the 2004 updates to the Commercial Space Launch Act, because of the appearance of indemnifying wealthy individuals who would be seeking to become space tourists flying on commercial human spaceflight systems. In addition, the question of whether the U.S. Government should indemnify spaceflight participants for third-party claims should be considered in the context of other high-risk adventure activities such as skydiving. If an individual who understands the risks chooses to take a commercial space flight, and is able to purchase insurance coverage or have it provided by the launch provider, the American taxpayer should not be responsible for indemnifying that individual.

The proposal to include spaceflight participants in the third party liability regime deserves further study and investigation and is premature to include in this update of the CSLA.

#### *Sec. 7. Federal Jurisdiction*

This provision provides that any legal “action or tort arising from a licensed launch shall be the sole jurisdiction of the federal courts and shall be decided under federal law.” This provision removes all legal actions arising out of federally licensed launches from state courts to the federal courts. Second, the provision preempts the application of state law and requires that the actions be decided under federal law. This provision is unconscionable as there is no Federal civil tort law that would apply to commercial space launch providers. To quote from a letter by the American Association for Justice dated May 12, 2015, to Chairman Smith and Ranking Member Johnson:

*“AAJ recognizes the challenges of trying to give a new industry the flexibility to grow and innovate without unnecessary burdens. However, language included in the bill will provide companies involved in commercial space travel immunity for torts arising from a licensed commercial space launch or reentry. More specifically, Section 7 of the bill states: “Any action or tort arising from a licensed launch or reentry shall be the sole jurisdiction of the Federal courts and shall be decided under federal law.” Since there is no federal tort law applicable to private companies, there is no remedy available to anyone injured or any property damage incurred as a result of a negligent launch or reentry. Essentially, Section 7 provides immunity for recklessness and intentional misconduct. Notably, this immunity could stretch to foreign companies involved in commercial space travel at the expense of United States citizens, businesses and government.*

...

*As the commercial space travel industry grows, safety should be put first and foremost. But, providing no recourse for grossly negligent, reckless or even intentional misconduct leading to personal injury or death is irresponsible and wrong. Simply put, industry interests should not be valued over the safety of the American public. As written, the SPACE Act of 2015 gives reckless and bad actors complete immunity, while innocent participants and bystanders are left without recourse, regardless of the circumstance.”*

A Democratic amendment sought to address these concerns, by striking this section of the amended bill, but it was not adopted.

#### *Sec. 8. Cross-waivers of liability*

The argument for including this provision is that since spaceflight participants know that spaceflight is risky and agree to sign informed consent, then they should also agree to waive

claims against the launch provider and related parties to the launch. Furthermore, stakeholders assert that the informed consent does not relieve a launch provider from claims and thus cross-waivers are required to ensure they remain immune from suit. However, inclusion of this provision is another way in which this unbalanced bill is skewed against individuals. To quote from the American Association for Justice letter dated May 12, 2015, that was sent to Chairman Smith and Ranking Member Johnson:

*In addition to providing broad liability protections, Section 8 of the SPACE Act of 2015 also requires passengers on commercial spacecraft to waive any right to damages for personal injury, property damage or death resulting from commercial air travel. While it may be acceptable for businesses with equal footing and negotiating power to execute cross waivers limiting their responsibility to each other, this waiver language should not extend to passengers. This provision is unfair and harmful to individuals.*

*Sec. 10. State Commercial Launch Facilities*

States, municipalities, and commercial entities have and continue to participate in commercial space transportation, in particular, through ownership or investment in commercial spaceports and related launch facilities. Such commercial launch facilities can support the growth of the commercial space transportation industry and support U.S. Government launch activities.

Some commercial launch facilities involve considerable State investment. However, there are liability and indemnification issues that warrant further attention before making policy in this area.

## Union Calendar No.

114<sup>TH</sup> CONGRESS  
1<sup>ST</sup> SESSION**H. R. 2262****[Report No. 114-]**

To facilitate a pro-growth environment for the developing commercial space industry by encouraging private sector investment and creating more stable and predictable regulatory conditions, and for other purposes.

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## IN THE HOUSE OF REPRESENTATIVES

MAY 12, 2015

Mr. MCCARTHY (for himself, Mr. SMITH of Texas, Mr. PALAZZO, Mr. ROHR-ABACHER, Mr. LUCAS, Mr. MCCAUL, Mr. POSEY, Mr. KNIGHT, Mr. BABIN, Mr. HULTGREN, Mr. BRIDENSTINE, Mr. WEBER of Texas, and Mr. MOOLENAAR) introduced the following bill; which was referred to the Committee on Science, Space, and Technology

MAY --, 2015

Reported with an amendment, committed to the Committee of the Whole House on the State of the Union, and ordered to be printed

[Strike out all after the enacting clause and insert the part printed in *italic*]

[For text of introduced bill, see copy of bill as introduced on May 12, 2015]

# **A BILL**

To facilitate a pro-growth environment for the developing commercial space industry by encouraging private sector investment and creating more stable and predictable regulatory conditions, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 *This Act may be cited as the “Spurring Private Aero-*  
5 *space Competitiveness and Entrepreneurship Act of 2015”*  
6 *or the “SPACE Act of 2015”.*

7 **SEC. 2. CONSENSUS STANDARDS.**

8 *Section 50905(c) of title 51, United States Code, is*  
9 *amended—*

10 *(1) by striking paragraph (3);*

11 *(2) by redesignating paragraph (4) as para-*  
12 *graph (8); and*

13 *(3) by inserting after paragraph (2) the fol-*  
14 *lowing:*

15 *“(3) INTERIM INDUSTRY VOLUNTARY CONSENSUS*  
16 *STANDARDS REPORT.—The Secretary, in consultation*  
17 *with the Commercial Space Transportation Advisory*  
18 *Committee, or its successor organization, shall pro-*  
19 *vide a report to the Committee on Science, Space, and*  
20 *Technology of the House of Representatives and the*  
21 *Committee on Commerce, Science, and Transpor-*  
22 *tation of the Senate on the progress of the commercial*  
23 *space transportation industry in developing vol-*  
24 *untary consensus standards or any other construction*

1        *that promotes best practices to improve the industry.*

2        *Such report shall include, at a minimum—*

3                *“(A) any voluntary industry consensus*  
4                *standards or any other construction that have*  
5                *been accepted by the industry at large;*

6                *“(B) the identification of areas that have*  
7                *the potential to become voluntary industry con-*  
8                *sensus standards or another potential construc-*  
9                *tion that are currently under consideration by*  
10                *the industry at large;*

11                *“(C) an assessment from the Secretary on*  
12                *the general progress of the industry in adopting*  
13                *voluntary consensus standards or any other con-*  
14                *struction;*

15                *“(D) lessons learned about voluntary indus-*  
16                *try consensus standards or any other construc-*  
17                *tion, best practices, and commercial space launch*  
18                *operations;*

19                *“(E) any lessons learned associated with the*  
20                *development, potential application, and accept-*  
21                *ance of voluntary industry consensus standards*  
22                *or any other construction, best practices, and*  
23                *commercial space launch operations; and*

24                *“(F) recommendations, findings, or observa-*  
25                *tions from the Commercial Space Transportation*

1           *Advisory Committee, or its successor organiza-*  
2           *tion, on the progress of the industry in devel-*  
3           *oping industry consensus standards or any other*  
4           *construction.*

5           *This report, with the appropriate updates in the in-*  
6           *tervening periods, shall be transmitted to such com-*  
7           *mittees no later than December 31, 2016, December*  
8           *31, 2018, December 31, 2020, and December 31, 2022.*  
9           *Each report shall describe and assess the progress*  
10          *achieved as of 6 months prior to the specified trans-*  
11          *mittal date.*

12           “(4) *INTERIM REPORT ON KNOWLEDGE AND*  
13          *OPERATIONAL EXPERIENCE.—The Secretary shall pro-*  
14          *vide a report to the Committee on Science, Space, and*  
15          *Technology of the House of Representatives and the*  
16          *Committee on Commerce, Science, and Transpor-*  
17          *tation of the of the Senate on the status of the knowl-*  
18          *edge and operational experience acquired by the in-*  
19          *dustry while providing flight services for compensa-*  
20          *tion or hire to support the development of a safety*  
21          *framework. Interim reports shall by transmitted to*  
22          *such committees no later than December 31, 2018, De-*  
23          *cember 31, 2020, and December 31, 2022. Each report*  
24          *shall describe and assess the progress achieved as of*  
25          *6 months prior to the specified transmittal date.*



1           “(5) *INDEPENDENT REVIEW.*—No later than De-  
2           *cember 31, 2023, an independent, private systems en-*  
3           *gineering and technical assistance organization or*  
4           *standards development organization contracted by the*  
5           *Secretary shall provide to the Committee on Science,*  
6           *Space, and Technology of the House of Representa-*  
7           *tives and the Committee on Commerce, Science, and*  
8           *Transportation of the Senate an assessment of the*  
9           *readiness of the commercial space industry and the*  
10           *Federal Government to transition to a safety frame-*  
11           *work that may include regulations. As part of the re-*  
12           *view, the contracted organization shall evaluate—*

13                   “(A) *the progress of the commercial space*  
14                   *industry in adopting industry voluntary stand-*  
15                   *ards or any other construction as reported by the*  
16                   *Secretary in the interim assessments included in*  
17                   *reports provided under paragraph (4); and*

18                   “(B) *the knowledge and operational experi-*  
19                   *ence obtained by the commercial space industry*  
20                   *while providing services for compensation or hire*  
21                   *as reported by the Secretary in the interim*  
22                   *knowledge and operational reports provided*  
23                   *under paragraph (4).*

24           “(6) *LEARNING PERIOD.*—Beginning on Decem-  
25           *ber 31, 2025, the Secretary may propose regulations*

1        *under this subsection without regard to paragraph*  
2        *(2)(C) and (D). The development of any such regula-*  
3        *tions shall take into consideration the evolving stand-*  
4        *ards of the commercial space flight industry as iden-*  
5        *tified through the reports published under paragraphs*  
6        *(3) and (4).*

7            *“(7) COMMUNICATION AND TRANSPARENCY.—*  
8        *Nothing in this subsection shall be construed to limit*  
9        *the authority of the Secretary of Transportation to*  
10        *discuss potential approaches, potential performance*  
11        *standards, or any other topic related to this sub-*  
12        *section with the commercial space industry including*  
13        *observations, findings, and recommendations from the*  
14        *Commercial Space Transportation Advisory Com-*  
15        *mittee, or its successor organization, prior to the*  
16        *issuance of a notice of proposed rulemaking. Such dis-*  
17        *cussions shall not be construed to permit the Sec-*  
18        *retary to promulgate industry regulations except as*  
19        *otherwise provided in this section.”.*

20        **SEC. 3. INTERNATIONAL LAUNCH COMPETITIVENESS.**

21        *(a) PURPOSE.—The purpose of this section is to pro-*  
22        *vide for updating the methodology used to calculate the*  
23        *maximum probable loss from claims under section 50914*  
24        *of title 51, United States Code, with a validated risk profile*  
25        *approach to provide reasonable maximum probable loss val-*

1 *ues associated with potential third party losses from com-*  
2 *mercially licensed launches. An appropriately updated*  
3 *methodology will help ensure that the Federal Government*  
4 *is not exposed to greater financial risks than intended and*  
5 *that launch companies are not required to purchase more*  
6 *insurance coverage than necessary.*

7       **(b) MAXIMUM PROBABLE LOSS PLAN.**—*Not later than*  
8 *180 days after the date of enactment of this Act, the Sec-*  
9 *retary of Transportation shall provide to the Committee on*  
10 *Science, Space, and Technology of the House of Representa-*  
11 *tives and the Committee on Commerce, Science, and Trans-*  
12 *portation of the Senate a plan to update the methodology*  
13 *used to calculate maximum probable loss from claims under*  
14 *section 50914 of title 51, United States Code, through the*  
15 *use of a validated risk profile approach. Such plan shall*  
16 *include, at a minimum—*

17           (1) *an evaluation of the reasonableness of the*  
18 *current single casualty estimate and, if needed, the*  
19 *steps the Secretary will take to update such estimate;*

20           (2) *an evaluation, in consultation with the Ad-*  
21 *ministrator of the National Aeronautics and Space*  
22 *Administration and the heads of other relevant execu-*  
23 *tive agencies, of the reasonableness of the dollar value*  
24 *of the insurance requirement required by the Sec-*  
25 *retary for launch providers to cover damage to Gov-*

1        *ernment property resulting from a commercially li-*  
2        *icensed space launch activity, and recommendations as*  
3        *to a reasonable calculation if, as determined by the*  
4        *Secretary, the current statutory threshold is insuffi-*  
5        *cient;*

6            *(3) a schedule of when updates to the method-*  
7        *ology and calculations for the totality of the Max-*  
8        *imum Probable Loss will be implemented, and a de-*  
9        *tailed explanation of any changes to the current cal-*  
10       *culatation; and*

11           *(4) consideration of the impact of the cost of its*  
12        *implementation on the licensing process, both in*  
13        *terms of the cost to industry of collecting and pro-*  
14        *viding the requisite data and cost to the Government*  
15        *of analyzing the data.*

16        *(c) INDEPENDENT ASSESSMENT.—Not later than 270*  
17        *days after transmittal of the plan under subsection (b), the*  
18        *Comptroller General shall provide to the Committee on*  
19        *Science, Space, and Technology of the House of Representa-*  
20        *tives and the Committee on Commerce, Science, and Trans-*  
21        *portation of the Senate an assessment of—*

22           *(1) the conclusions and analysis provided by the*  
23        *Secretary of Transportation in the plan required*  
24        *under subsection (b);*

1           (2) *the implementation schedule proposed by the*  
2           *Secretary in such plan;*

3           (3) *the suitability of the plan for implementa-*  
4           *tion; and*

5           (4) *any further actions needed to implement the*  
6           *plan or otherwise accomplish the purpose of this sec-*  
7           *tion.*

8           (d) *LAUNCH LIABILITY EXTENSION.—Section 50915(f)*  
9           *of title 51, United States Code, is amended by striking “De-*  
10           *cember 31, 2016” and inserting “December 31, 2025”.*

11       **SEC. 4. LAUNCH LICENSE FLEXIBILITY.**

12           *Section 50906 of title 51, United States Code, is*  
13           *amended—*

14           (1) *in subsection (d), by striking “launched or*  
15           *reentered” and inserting “launched or reentered under*  
16           *that permit”;*

17           (2) *by amending subsection (d)(1) to read as fol-*  
18           *lows:*

19           “*(1) research and development to test design con-*  
20           *cepts, equipment, or operating techniques;”;*

21           (3) *in subsection (d)(3), by striking “prior to ob-*  
22           *taining a license”;*

23           (4) *in subsection (e)(1), by striking “suborbital*  
24           *rocket design” and inserting “suborbital rocket or*  
25           *rocket design”; and*

1           (5) by amending subsection (g) to read as fol-  
2 lows:

3           “(g) The Secretary may issue a permit under this sec-  
4 tion notwithstanding any license issued under this chapter.  
5 The issuance of a license under this chapter shall not invali-  
6 date a permit under this section.”.

7 **SEC. 5. GOVERNMENT ASTRONAUTS.**

8           (a) *DEFINITIONS.*—Section 50902 of title 51, United  
9 States Code, is amended—

10           (1) by redesignating paragraphs (4) through (22)  
11 as paragraphs (5) through (23), respectively;

12           (2) by inserting after paragraph (3) the fol-  
13 lowing new paragraph:

14           “(4) ‘government astronaut’ means an indi-  
15 vidual designated as such by the Administrator of the  
16 National Aeronautics and Space Administration,  
17 pursuant requirements established by the Adminis-  
18 trator, who—

19           “(A) is an employee of—

20           “(i) the United States Government, in-  
21 cluding the United States Armed Forces; or

22           “(ii) a foreign government that is a  
23 party to the Intergovernmental Agreement  
24 Among the Government of Canada, Govern-  
25 ments of Member States of the European

1           *Space Agency, the Government of Japan,*  
2           *the Government of the Russian Federation,*  
3           *and the Government of the United States of*  
4           *America Concerning Cooperation on the*  
5           *Civil International Space Station, signed*  
6           *on January 29, 1998; and*

7           *“(B) is carried within a launch vehicle or*  
8           *reentry vehicle in the course of his or her em-*  
9           *ployment, which may include performance of ac-*  
10          *tivities directly relating to the launch, reentry,*  
11          *or other operation of the launch vehicle or re-*  
12          *entry vehicle.”;*

13          (3) *in paragraph (5), as so redesignated by*  
14          *paragraph (1) of this subsection, by inserting “gov-*  
15          *ernment astronaut,” after “crew.”;*

16          (4) *in paragraph (7)(A), as so redesignated by*  
17          *paragraph (1) of this subsection, by inserting “gov-*  
18          *ernment astronaut,” after “(including crew train-*  
19          *ing),”;*

20          (5) *in paragraph (14), as so redesignated by*  
21          *paragraph (1) of this subsection, by inserting “gov-*  
22          *ernment astronauts,” after “crew.”;*

23          (6) *in paragraph (15)(A), as so redesignated by*  
24          *paragraph (1) of this subsection, by inserting “gov-*

1        *ernment astronaut,” after “(including crew train-*  
2        *ing),”;*

3            *(7) by amending paragraph (18), as so redesign-*  
4        *ated by paragraph (1) of this subsection, to read as*  
5        *follows:*

6            *“(18) ‘space flight participant’ means an indi-*  
7        *vidual, who is not crew or a government astronaut,*  
8        *carried within a launch vehicle or reentry vehicle.”;*  
9        *and*

10           *(8) in paragraph (22)(E), as so redesignated by*  
11        *paragraph (1) of this subsection, by inserting “, gov-*  
12        *ernment astronauts,” after “crew”.*

13        *(b) RESTRICTIONS ON LAUNCHES, OPERATIONS, AND*  
14        *REENTRIES; SINGLE LICENSE OR PERMIT.—Section*  
15        *50904(d) of title 51, United States Code, is amended by*  
16        *inserting “, government astronauts,” after “crew”.*

17        *(c) LICENSE APPLICATIONS AND REQUIREMENTS; AP-*  
18        *PLICATIONS.—Section 50905 of title 51, United States*  
19        *Code, is amended—*

20           *(1) in subsection (a)(2), by striking “crews and*  
21        *space flight participants” and inserting “crew, gov-*  
22        *ernment astronauts, and space flight participants”;*

23           *(2) in subsection (b)(2)(D), by inserting “, gov-*  
24        *ernment astronauts,” after “crew”; and*

25           *(3) in subsection (c)—*





1           (A) by striking “or a contractor” and in-  
2           serting “a contractor”; and

3           (B) by striking “but not against” and in-  
4           serting “or”.

5 **SEC. 7. FEDERAL JURISDICTION.**

6           Section 50914 of title 51, United States Code, is  
7           amended by adding at the end the following:

8           “(g) *FEDERAL JURISDICTION.*—Any action or tort  
9           arising from a licensed launch or reentry shall be the sole  
10          jurisdiction of the Federal courts and shall be decided under  
11          Federal law.”.

12 **SEC. 8. CROSS-WAIVERS.**

13          Section 50914(b)(1) of title 51, United States Code, is  
14          amended to read as follows: “(1) A launch or reentry license  
15          issued or transferred under this chapter shall contain a pro-  
16          vision requiring the licensee or transferee to make a recip-  
17          rocal waiver of claims with its contractors, subcontractors,  
18          and customers, the contractors and subcontractors of the  
19          customers, and any space flight participants, involved in  
20          launch services or reentry services or participating in a  
21          flight under which each party to the waiver agrees to be  
22          responsible for property damage or loss it or they sustain,  
23          or for personal injury to, death of, or property damage or  
24          loss sustained by its own employees resulting from an activ-  
25          ity carried out under the applicable license.”.

1 **SEC. 9. ORBITAL TRAFFIC MANAGEMENT.**

2 (a) *SENSE OF CONGRESS.*—*It is the sense of the Con-*  
3 *gress that, as none currently exists, there may be a need*  
4 *for a framework that addresses space traffic management*  
5 *of United States Government assets and United States pri-*  
6 *vate sector assets to minimize the proliferation of debris and*  
7 *decrease the congestion of the orbital environment.*

8 (b) *STUDY REQUIRED.*—*Not later than 90 days after*  
9 *the date of enactment of this Act, the Administrator of the*  
10 *National Aeronautics and Space Administration shall enter*  
11 *into an arrangement with an independent, private systems*  
12 *engineering and technical assistance organization to study*  
13 *frameworks for the management of space traffic and orbital*  
14 *activities. The study shall include the following:*

15 (1) *An assessment of current regulations, Gov-*  
16 *ernment best practices, and industry standards that*  
17 *apply to space traffic management and orbital debris*  
18 *mitigation.*

19 (2) *An assessment of current statutory authority*  
20 *granted to the Federal Communications Commission,*  
21 *the Federal Aviation Administration, and the Na-*  
22 *tional Oceanic and Atmospheric Administration and*  
23 *how those agencies utilize and coordinate those au-*  
24 *thorities.*

25 (3) *A review of all space traffic management and*  
26 *orbital debris requirements under treaties and other*

1        *international agreements to which the United States*  
2        *is a signatory, and other nonbinding international*  
3        *arrangements in which the United States partici-*  
4        *pates, and the manner in which the Federal Govern-*  
5        *ment complies with those requirements.*

6            (4) *An assessment of existing Federal Govern-*  
7        *ment assets used to conduct space traffic management*  
8        *and space situational awareness.*

9            (5) *An assessment of the risk associated with*  
10       *smallsats as well as any necessary Government co-*  
11       *ordination for their launch and utilization.*

12           (6) *An assessment of existing private sector in-*  
13       *formation sharing activities associated with space sit-*  
14       *uational awareness and space traffic management.*

15           (7) *Recommendations related to the framework*  
16       *for the protection of the health, safety, and welfare of*  
17       *the public and economic vitality of the space indus-*  
18       *try.*

19           (c) *REPORT TO CONGRESS.—Not later than 1 year*  
20       *after the date of enactment of this Act, the Administrator*  
21       *shall provide to the Committee on Science, Space, and Tech-*  
22       *nology of the House of Representatives and the Committee*  
23       *on Commerce, Science, and Transportation of the Senate*  
24       *the report required in subsection (b).*

1           (d) *DEPARTMENT OF DEFENSE AUTHORITIES.*—Con-  
2 *gress recognizes the vital and unique role played by the De-*  
3 *partment of Defense in protecting national security assets*  
4 *in space. Nothing in this section shall be construed to*  
5 *amend authorities granted to the Department of Defense to*  
6 *safeguard the national security.*

7 **SEC. 10. STATE COMMERCIAL LAUNCH FACILITIES.**

8           *It is the Sense of Congress that State involvement, de-*  
9 *velopment, ownership, and operation of launch facilities*  
10 *can help enable growth of the Nation's commercial sub-*  
11 *orbital and orbital space endeavors and support both com-*  
12 *mercial and Government space programs. It is further the*  
13 *sense of Congress that State launch facilities and the people*  
14 *and property within the affected launch areas of those State*  
15 *facilities are subject to risks if the commercial launch vehi-*  
16 *cle fails or experiences an anomaly. To ensure the success*  
17 *of the commercial launch industry and the safety of the peo-*  
18 *ple and property in the affected launch areas, it is the fur-*  
19 *ther sense of Congress that States and State launch facilities*  
20 *should seek to take proper measures to secure their invest-*  
21 *ments and the safety of third parties from potential dam-*  
22 *ages that could be suffered from commercial launch activi-*  
23 *ties.*

1 **SEC. 11. SPACE SUPPORT VEHICLES STUDY.**

2 *Not less than 1 year after the date of enactment of this*  
3 *Act, the Comptroller General shall submit to the Committee*  
4 *on Science, Space, and Technology of the House of Rep-*  
5 *resentatives and the Committee on Commerce, Science, and*  
6 *Transportation of the Senate, a report on the use of space*  
7 *support vehicle services in the commercial space industry.*

8 *This report shall include—*

9 *(1) the extent to which launch providers rely on*  
10 *such services as part of their business models;*

11 *(2) the statutory, regulatory, and market bar-*  
12 *riers to the use of such services; and*

13 *(3) recommendations for legislative or regulatory*  
14 *action that may be needed to ensure reduced barriers*  
15 *to the use of such services if such use is a requirement*  
16 *of the industry.*

17 **SEC. 12. STREAMLINE COMMERCIAL SPACE LAUNCH ACTIVI-**  
18 **TIES.**

19 *(a) SENSE OF CONGRESS.—It is the sense of Congress*  
20 *that eliminating duplicative requirements and approvals*  
21 *for commercial launch and reentry operations will promote*  
22 *and encourage the development of the commercial space sec-*  
23 *tor.*

24 *(b) REAFFIRMATION OF POLICY.—Congress reaffirms*  
25 *that the Secretary of Transportation, in overseeing and co-*

1 *ordinating commercial launch and reentry operations,*  
2 *should—*

3           (1) *promote commercial space launches and reen-*  
4 *tries by the private sector;*

5           (2) *facilitate Government, State, and private sec-*  
6 *tor involvement in enhancing U.S. launch sites and*  
7 *facilities;*

8           (3) *protect public health and safety, safety of*  
9 *property, national security interests, and foreign pol-*  
10 *icy interests of the United States; and*

11           (4) *consult with the head of another executive*  
12 *agency, including the Secretary of Defense or the Ad-*  
13 *ministrator of the National Aeronautics and Space*  
14 *Administration, as necessary to provide consistent*  
15 *application of licensing requirements under chapter*  
16 *509 of title 51, United States Code.*

17 *(c) REQUIREMENTS.—*

18           (1) *IN GENERAL.—The Secretary of Transpor-*  
19 *tation under section 50918 of title 51, United States*  
20 *Code, and subject to section 50905(b)(2)(C) of that*  
21 *title, shall consult with the Secretary of Defense, the*  
22 *Administrator of the National Aeronautics and Space*  
23 *Administration, and the heads of other executive*  
24 *agencies, as appropriate—*

1           (A) to identify all requirements that are im-  
2           posed to protect the public health and safety,  
3           safety of property, national security interests,  
4           and foreign policy interests of the United States  
5           relevant to any commercial launch of a launch  
6           vehicle or commercial reentry of a reentry vehi-  
7           cle; and

8           (B) to evaluate the requirements identified  
9           in subparagraph (A) and, in coordination with  
10          the licensee or transferee and the heads of the rel-  
11          evant executive agencies—

12           (i) determine whether the satisfaction  
13           of a requirement of one agency could result  
14           in the satisfaction of a requirement of an-  
15           other agency; and

16           (ii) resolve any inconsistencies and re-  
17           move any outmoded or duplicative require-  
18           ments or approvals of the Federal Govern-  
19           ment relevant to any commercial launch of  
20           a launch vehicle or commercial reentry of a  
21           reentry vehicle.

22          (2) *REPORTS.*—Not later than 180 days after the  
23          date of enactment of this Act, and annually thereafter  
24          until the Secretary of Transportation determines no  
25          outmoded or duplicative requirements or approvals of



1        *the Federal Government exist, the Secretary of Trans-*  
2        *portation, in consultation with the Secretary of De-*  
3        *fense, the Administrator of the National Aeronautics*  
4        *and Space Administration, the commercial space sec-*  
5        *tor, and the heads of other executive agencies, as ap-*  
6        *propriate, shall submit to the Committee on Com-*  
7        *merce, Science, and Transportation of the Senate, the*  
8        *Committee on Science, Space, and Technology of the*  
9        *House of Representatives, and the congressional de-*  
10       *fense committees a report that includes the following:*

11            *(A) A description of the process for the ap-*  
12            *plication for and approval of a permit or license*  
13            *under chapter 509 of title 51, United States*  
14            *Code, for the commercial launch of a launch ve-*  
15            *hicle or commercial reentry of a reentry vehicle,*  
16            *including the identification of—*

17                    *(i) any unique requirements for oper-*  
18                    *ating on a United States Government*  
19                    *launch site, reentry site, or launch property;*  
20                    *and*

21                    *(ii) any inconsistent, outmoded, or du-*  
22                    *PLICATIVE requirements or approvals.*

23            *(B) A description of current efforts, if any,*  
24            *to coordinate and work across executive agencies*  
25            *to define interagency processes and procedures*

1           for sharing information, avoiding duplication of  
2           effort, and resolving common agency require-  
3           ments.

4           (C) Recommendations for legislation that  
5           may further—

6                   (i) streamline requirements in order to  
7                   improve efficiency, reduce unnecessary costs,  
8                   resolve inconsistencies, remove duplication,  
9                   and minimize unwarranted constraints;  
10                  and

11                   (ii) consolidate or modify requirements  
12                   across affected agencies into a single appli-  
13                   cation set that satisfies the requirements  
14                   identified in paragraph (1)(A).

15           (3) DEFINITIONS.—For purposes of this sub-  
16           section—

17                   (A) any applicable definitions set forth in  
18                   section 50902 of title 51, United States Code,  
19                   shall apply;

20                   (B) the terms “launch”, “reenter”, and “re-  
21                   entry” include landing of a launch vehicle or re-  
22                   entry vehicle; and

23                   (C) the terms “United States Government  
24                   launch site” and “United States Government re-  
25                   entry site” include any necessary facility, at

1           *that location, that is commercially operated on*  
2           *United States Government property.*

3 **SEC. 13. SPACE LAUNCH SYSTEM UPDATE.**

4       (a) *CHAPTER 701.*—

5           (1) *AMENDMENT.*—*The chapter heading of chap-*  
6           *ter 701 of title 51, United States Code, is amended*  
7           *by striking “SPACE SHUTTLE” and inserting*  
8           *“SPACE LAUNCH SYSTEM”.*

9           (2) *CONFORMING AMENDMENT.*—*The item relat-*  
10           *ing to chapter 701 in the table of chapters at the be-*  
11           *ginning of title 51, United States Code, is amended*  
12           *by striking “Space Shuttle” and inserting “Space*  
13           *Launch System”.*

14       (b) *SECTION 70101.*—

15           (1) *AMENDMENTS.*—*Section 70101 of title 51,*  
16           *United States Code, is amended—*

17               (A) *in the section heading, by striking*  
18               *“space shuttle” and inserting “Space*  
19               *Launch System”;* and

20               (B) *by striking “space shuttle” and insert-*  
21               *ing “Space Launch System”.*

22           (2) *CONFORMING AMENDMENT.*—*The item relat-*  
23           *ing section 70101 in the table of sections for chapter*  
24           *701 of title 51, United States Code is amended by*

1        *striking “space shuttle” and inserting “Space Launch*  
2        *System”.*

3        (c) SECTION 70102.—

4            (1) AMENDMENTS.—Section 70102 of title 51,  
5        *United States Code, is amended—*

6            (A) *in the section heading, by striking*  
7        ***“Space shuttle”*** *and inserting “****Space***  
8        ***Launch System”***;

9            (B) *in subsection (a)(1)(A), by striking*  
10        *“space shuttle” both places it appears and in-*  
11        *serting “Space Launch System”;*

12            (C) *in subsection (a)(1)(A)(i), by inserting*  
13        *“directly to cis-lunar space and the regions of,*  
14        *space beyond low-Earth orbit” after “human*  
15        *presence”;*

16            (D) *in subsection (a)(1)(B), by striking “a*  
17        *shuttle launch” and inserting “a launch of the*  
18        *Space Launch System”;*

19            (E) *in subsection (a)(2), by striking “a*  
20        *space shuttle mission” and inserting “a mission*  
21        *of the Space Launch System”;*

22            (F) *in subsection (b)—*

23            (i) *by striking “space shuttle” each*  
24        *place it appears and inserting “Space*  
25        *Launch System”;* *and*

1                   (ii) by striking “from the shuttle” and  
2                   inserting “from the Space Launch System”;  
3                   (G) in subsection (c), by striking “space  
4                   shuttle” and inserting “Space Launch System”;  
5                   and

6                   (H) by adding at the end the following new  
7                   subsection:

8                   “(d) *DEFINITION.*—In this section, the term ‘Space  
9                   Launch System’ means the Space Launch System author-  
10                  ized under section 302 of the National Aeronautics and  
11                  Space Administration Authorization Act of 2010.”.

12                  (2) *CONFORMING AMENDMENT.*—The item relat-  
13                  ing section 70102 in the table of sections for chapter  
14                  701 of title 51, United States Code is amended by  
15                  striking “Space shuttle” and inserting “Space  
16                  Launch System”.

17                  (d) *SECTION 70103.*—

18                  (1) *AMENDMENTS.*—Section 70103 of title 51,  
19                  United States Code, is amended—

20                         (A) in the section heading, by striking  
21                         “**space shuttle**” and inserting “**Space**  
22                         **Launch System**”; and

23                         (B) by striking “space shuttle” each place it  
24                         appears and inserting “Space Launch System”.

1           (2) *CONFORMING AMENDMENT.*—*The item relat-*  
2           *ing section 70103 in the table of sections for chapter*  
3           *701 of title 51, United States Code is amended by*  
4           *striking “space shuttle” and inserting “Space Launch*  
5           *System”.*