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# COMMERCIAL SPACE LAUNCH AMENDMENTS ACT OF 2004

MARCH 1, 2004.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. BOEHLERT, from the Committee on Science, submitted the following

## R E P O R T

together with an

## ADDITIONAL VIEW

[To accompany H.R. 3752]

[Including cost estimate of the Congressional Budget Office]

The Committee on Science, to whom was referred the bill (H.R. 3752) to promote the development of the emerging commercial human spaceflight industry, to extend the liability indemnification regime for the commercial space transportation industry, to authorize appropriations for the Office of the Associate Administrator for Commercial Space Transportation, and for other purposes, having considered the same, report favorably thereon without amendment and recommend that the bill do pass.

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## I. Purpose of the Bill

The purpose of the bill is to put in place a clear and balanced regulatory regime that promotes the development of the emerging commercial human space flight industry, while protecting the public health and safety. The bill amends the Commercial Space Launch Act (CSLA), title 49, United States Code, chapter 701.

## II. Background and Need for the Legislation

The commercial human space flight industry is in its infancy. The industry's progress is measured by the work of a few, small entrepreneurial companies. These entrepreneurs hope in the near future to regularly and safely provide round trips into space for paying customers. The launch vehicles that will be used to carry human passengers into space may also have other commercial applications, such as the transportation of cargo, commercial remote sensing, microgravity research, and atmospheric research.

The regulatory regime that will govern the commercial human space flight industry is, as yet, undetermined. Absent a clear and balanced regulatory regime for commercial human spaceflight, the industry cannot effectively plan for its future, nor can it compete with international providers of similar services. Moreover, the industry may have difficulty attracting financing from would-be investors. In addition, there is a need to protect the health and safety of the public.

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 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.

When the CSLA was enacted, only expendable launch vehicles (ELVs) and certain types of ballistic missiles were available for private sector use. These vehicles typically are used to lift satellites and other types of cargo into space. Since enactment of the CSLA, commercial enterprises have pursued the development of reusable launch vehicles (RLVs). A reusable launch vehicle is one that is designed to return to Earth from space substantially intact. Congress amended the CSLA in 1998 to add licensing authority for reentry vehicles, including RLVs. However, there currently is no express jurisdiction granted under the law for the regulation of commercial

human spaceflight. Moreover, the existing licensing process does not distinguish between experimental and operational RLVs.

In 1988, Congress amended the CSLA to indemnify the commercial space launch industry against successful claims by uninvolved third parties. The United States currently agrees to pay third party claims in amounts up to roughly $2.2 billion above the amount of insurance that a licensee carries. (Under the CSLA, the amount is adjusted annually for inflation.) The CSLA requires that private launch companies purchase sufficient liability insurance to cover potential losses. This amount is determined by the FAA on a case-by-case basis depending on its calculation of the "maximum probable loss" from potential claims by a third party. Maximum probable loss calculations are capped at $500 million for coverage against suits by private entities. By setting insurance requirements based on maximum probable loss, the Government is essentially making a risk estimate that its potential liability will be covered by the insurance purchased.

Since its enactment, the CSLA's indemnification regime has been subject to an expiration date. Congress already 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, 2004.

A number of applicants have approached AST seeking launch licenses for RLVs capable of carrying human beings into space, creating a need for regulatory and legal clarity in this area. For example, current law does not identify the entity within the federal government responsible for regulating commercial human space flight. Moreover, current law does not state whether the offer of liability indemnification that the federal government extends to the commercial space transportation industry also extends to commercial human space flight licensees, their crews, and paying passengers (or "space flight participants").

H.R. 3752 is necessary to achieve several goals that will promote the development of the emerging commercial human space flight industry. First, the bill explicitly locates all commercial space flight authority, including authority to regulate commercial human spaceflight, in AST. Second, the bill makes it easier for the industry to test new types of reusable suborbital rockets by allowing AST to issue experimental permits that can be granted more quickly and with fewer requirements than licenses. Third, the bill requires AST to issue regulations for crews relating to training and medical condition, but limits requirements for space flight participants to being informed of the risks of their participation and providing written, informed consent. Fourth, the bill requires both crew and space flight participants to execute mutual waivers of liability with licensees (or experimental permit holders) and the federal government. Fifth, the bill extends the existing liability indemnification regime for the entire commercial space transportation industry (including licensed, non-experimental commercial human space launches, but excluding launches performed pursuant to a permit) for a period of three years. Finally, the bill mandates that a study be conducted on how best to gradually eliminate the liability indemnification regime for the commercial space transportation industry by 2008 or as soon as possible thereafter.

## III. Summary of Hearings

The House Subcommittee on Space and Aeronautics held two hearings regarding commercial human space flight during the first session of the 108th Congress.

On July 24, 2003, the House Subcommittee on Space and Aeronautics held a joint hearing with the Senate Science, Technology, and Space Subcommittee entitled, "Commercial Human Spaceflight." The purpose of this hearing was to examine the industry and the barriers that exist to investing in entrepreneurial space ventures. The hearing focused on the market potential of the industry, regulation, private sector vehicle technology development, and capital investment in the industry.

The hearing witnesses included: Mr. Phil McAlister, Director of the Space and Telecommunications Industry Analysis Division at the Futron Corporation; Mr. Dennis Tito, founder and CEO of Wilshire Associates, Inc.; Mr. Elon Musk, founder and President of SpaceX Inc.; Mr. Jeff Greason, co-founder of XCOR Inc.; and Jon Kutler, Chairman, CEO, and Founder of Quarterdeck Investment Partners, LLC.

Mr. McAlister offered a positive assessment of the market potential for space travel, citing a survey of affluent Americans conducted by Futron. "Futron's forecast for suborbital space travel projects that by 2021, over 15,000 passengers could be flying annually, representing revenues in excess of $700 million," McAlister said.

Mr. Tito, the first space tourist in history, said that his opinion of the commercial space industry has changed after "talking to thousands of people who want to fly into space." He testified that he would "quite possibly" invest in a reusable launch vehicle company, but added that excessive government regulation could make investment undesirable. Mr. Tito explained that a repeated demonstration of successful flights would establish a record of safety and, in turn, would encourage investment.

Mr. Musk suggested that the government "adopt a nurturing and supportive approach to new launch vehicle developments" and "recognize the early and experimental nature of the industry." Mr. Musk and Mr. Greason both testified that their companies expected to fly paying passengers to space within three to five years, but that regulatory uncertainty and excessive regulation complicated their business plans.

Mr. Kutler provided suggestions on how the government could best promote research and development in the space industry.

There was an apparent consensus among the witnesses that, at least at the earliest stages of the commercial human space flight industry's development, potential customers would have to waive all claims of liability against the companies taking them into space. The witnesses requested that Congress indemnify companies against the consequences of launch accidents in the same manner that the federal government currently indemnifies launches by the traditional commercial space transportation industry.

On November 5, 2003, the House Subcommittee on Space and Aeronautics held a second hearing on commercial human space flight focusing on H.R. 3245, the Commercial Space Act of 2003. Among other things, H.R. 3245 provided that commercial human

space flight would be regulated by AST. The bill also extended government indemnification to commercial human space flight providers for certain liabilities incurred from launch mishaps.

The hearing witnesses included: Henry Hertzfeld, Senior Research Staff Scientist, Space Policy Institute Center for International Science and Technology Policy, George Washington University; Raymond Duffy, Jr., Senior Vice President, Willis InSpace Insurance Underwriters; Pamela Meredith, Counsel, Zuckert, Scoutt & Rasenberger, LLP, as well as Adjunct Professor of satellite communications and space law, American University, Washington College of Law; Gary Hudson, Chief Executive Officer, HMX Inc.; and Michael S. Kelly, Technical Manager, Northrop-Grumman/Xon Tech.

Each hearing witness agreed that the commercial human spaceflight industry should be regulated, but witnesses differed in opinion on the manner of that regulation. Ms. Meredith stated that AST should regulate the industry. Mr. Kelly agreed that AST was the proper authority to regulate the industry, but stated, "the extent of that regulation, however, should not reach beyond AST's charter of protecting the lives and property of uninvolved parties." Mr. Hudson disagreed stating, "AST is not up to the challenge of this development." Hudson called for the "disestablishment of AST, and the elimination of the need for U.S. persons to seek 'launch licenses.'"

Dr. Hertzfeld called for the creation of a new, independent regulatory agency for commercial space activities and noted that there is often a conflict of interest created by the FAA's statutory mandate under the CSLA to both promote and regulate the commercial space transportation industry. "I believe the time has come to separate these activities," Hertzfeld said. "Promotion of U.S. industry has traditionally been the province of the U.S. Department of Commerce. If the DOT/FAA is to regulate space without conflict, the promotional activities should be transferred elsewhere."

Witness testimony also focused on federal government indemnification of the commercial human space flight industry against certain losses. Given that the federal government currently offers indemnification for traditional commercial space launches carrying cargo, Ms. Meredith saw no need to draw a distinction between manned and unmanned flights. "There appears to be no reason to treat a human space flight differently than unmanned flight as far as indemnification of the licensee and its contractors, subcontractors, and customers and the customers' contractors and subcontractors are concerned," Ms. Meredith said. Mr. Kelly likewise agreed that indemnification should be extended to the commercial human space flight industry on the basis that a licensing process mitigates the level of risk incurred by the federal government.

Mr. Hudson and Dr. Hertzfeld both advocated the elimination of the liability indemnification regime going forward for the entire commercial space transportation industry. Mr. Duffy expressed concern that indemnification of the commercial human spaceflight industry could undermine the insurance market for the larger commercial space transportation industry. With respect to the indemnification of space flight participants, Mr. Duffy stated, "It would not be appropriate for the government to extend any protection to these people. If someone is willing to participate in commercial

human space flights at this stage of its development then the risk should be dealt with solely between the passenger and the launch provider."

## IV. Committee Actions

On February 3, 2004, Space and Aeronautics Subcommittee Chairman Dana Rohrabacher introduced H.R. 3752, the Commercial Space Launch Amendments Act of 2004.

On February 4, 2004, the Committee on Science met to consider H.R. 3752. Ranking Member Gordon moved that the Committee favorably report the bill, H.R. 3752, to the House with the recommendation that the bill do pass and that staff be instructed to prepare the legislative report and that the Chairman take all necessary steps to bring the bill before the House for consideration. With a quorum being present, the Committee favorably reported the bill without amendment, by voice vote.

## V. Summary of Major Provisions of the Bill

- Assigns all commercial space flight regulatory authority, including authority over commercial human space flight, to AST.
- Allows AST to issue experimental permits for reusable suborbital rockets that can be granted more quickly and with fewer requirements than licenses.
- Requires that experimental permits allow an unlimited number of experimental flights for a particular vehicle design.
- Requires AST to issue regulations for crew relating to training and medical condition.
- Requires AST to issue regulations for space flight participants, but limits requirements to space flight participants being informed of the risks of their participation and providing written, informed consent.
- Requires both crew and paying passengers to execute mutual waivers of liability with licensees (or experimental permit holders) and the federal government.
- Extends the existing liability indemnification regime for the entire commercial space transportation industry (including licensed, non-experimental commercial human space launches) for a period of three years, but excludes launches performed pursuant to an experimental permit.
- Requires a study on how best to gradually eliminate the liability indemnification regime for the commercial space transportation industry by 2008 or as soon as possible thereafter.
- Authorizes to AST such sums as may be necessary for fiscal years 2005, 2006, and 2007.

## VI. Section-by-Section Analysis

*Section 1. Short title*

"Commercial Space Launch Amendments Act of 2004".

*Section 2. Findings*

Congress finds that the goal of opening space to the American people and to their private commercial enterprises is a worthy goal

and that the creation of a clear legal and regulatory regime for commercial human space flight advances that goal.

*Section 3. Amendments*

Section 3(a) of the Act amends Section 70101 of the CSLA to refer to human space flight as an area in which entrepreneurs are offering services and to eliminate references solely to satellite launches.

Section 3(b) of the Act amends Section 70102 of the CSLA by including definitions for "crew," "permit," "space flight participant," "suborbital rocket," and "suborbital trajectory."

Section 3(b) also amends Section 70102 of the CLSA by amending the definitions of the following terms:

(a) The definition of "launch" is amended to contemplate placing "any payload, crew or space flight participant" in a suborbital or orbital trajectory, or into outer space;

(b) The definitions of "launch services" and "reentry services" are amended to include activities involving the preparation of a "launch vehicle, payload, crew (including crew training), or space flight participant" for a launch or a reentry;

(c) The definition of "launch vehicle" is amended to include vehicles that place "human beings" in outer space;

(d) The definitions of "reenter" and "reentry" are amended to include the return (or attempt to return) of "payload, crew, or space flight participants" from orbit or from outer space to Earth; and

(e) The definition of "third party" is amended to exclude crew and space flight participants.

Section 3(c) of the Act amends—

(1) Section 70103(a) of the CSLA to require the Secretary of Transportation to carry out its duties under title 49, United States Code, chapter 701 through the Associate Administrator for Commercial Space Transportation.

(2) Section 70103(b)(1) of the CSLA to require the Secretary to encourage, facilitate, and promote commercial space launches and reentries by the private sector, "including those involving space flight participants."

(3) Section 70104(a) of the CSLA to account for permits—a new legal instrument created by this Act. Section 70104(a) lists the kinds of activities that require a license. The amendment makes clear that a permit can also suffice to undertake those activities, (except for operating a launch or reentry site).

(4) Section 70104(b) of the CSLA to make clear that permit holders as well as licensees must comply with payload requirements.

(5) Section 70105 of the CSLA to change the section heading to make it consistent with the new subsections on permits.

(6) Section 70105(a) of the CSLA to be consistent with the new subsections on licenses and to make clear that establishing procedures for safety approvals of personnel, "including crews" is part of the licensing process.

(7) Section 70105 of the CSLA to create a new subsection (b), entitled "Experimental Permits" with the following subsections:

Subsection (1) provides that the Secretary must issue a permit not later than 90 days after receiving an application if the Secretary decides in writing that the applicant complies with the

CSLA and related regulations. The Secretary must inform an applicant of any pending issue to be resolved no later than 60 days after receiving an application. The Secretary must transmit a written notice to the House and the Senate when a permit is not issued within an established deadline.

Subsection (2) provides that the Secretary may establish procedures for safety approvals for operation under experimental permits.

Subsection (3) encourages the Secretary to use the authority granted under subsection (c)(2)(C) of the CSLA to the greatest extent practicable to waive requirements of law when issuing permits.

Subsection (4) provides that the permits may be issued solely for reusable suborbital rockets launched or reentered for the purposes of research and development, showing compliance with requirements as part of the process of obtaining a launch license, or for crew training prior to obtaining a license.

Subsection (5) provides that permits must authorize an unlimited number of launches and reentries for a particular suborbital rocket design and that permits must specify the modifications that may be made to the suborbital rocket without changing its design to an extent that would invalidate the permit.

Subsection (6) provides that permits are not transferable.

Subsection (7) provides that a permit ceases to be valid after a license has been issued for the launch or reentry of that rocket design.

Subsection (8) provides that no person may operate a reusable suborbital rocket under a permit for carrying any property or human being for compensation or hire.

Subsection (9) provides that for the purposes of sections 70106 through 70110, section 70112, and sections 70115 through 70117, and section 70121 of the CSLA, permits are to be treated as licenses, permit holders as licensees, a vehicle operating under a permit as licensed, and the issuance of a permit as licensing. Subsection (9) reiterates that permits are not transferable.

(8) Section 70105(c)(1) of the CSLA to ensure that all applicable laws are considered requirements of permits as well as to licenses.

(9) Section 70105(c)(2)(B) of the CSLA to correct a typographical error.

(10) Section 70105(c)(2)(C) of the CSLA to ensure that for permits, as well as for licenses, the Secretary has the authority to waive certain laws.

(11) Section 70105(c)(2)(D) of the CSLA to ensure that permits, as well as licenses, must meet certain deadlines.

(12) Section 70105(c)(3) of the CSLA to ensure that in issuing permits, as well as in issuing licenses, the Secretary may waive requirements. The amendment also states that the waiver authority shall not be construed to allow a launch or reentry of a vehicle without a license or a permit if a human being will be on board.

(13) Section 70105(c) of the CSLA to include the following new subsections:

Subsection (4) provides that the holder of a license or a permit may launch or reenter "crew" only if the crew has received training and has satisfied medical or other standards specified in the license or permit, and if the licensee or permitee has complied with all

other requirements of the laws of the United States that apply to crew.

Subsection (5) provides that the holder of a license or a permit may launch or reenter a "space flight participant" only if the space flight participant has been informed in writing about the risks of the launch or reentry (including the safety record of the vehicle), has provided written informed consent for participation, and the licensee or permitee has complied with all other requirements of the laws of the United States that apply to launching or reentering space flight participants.

(14) Section 70105(d) of the CSLA to ensure that the Secretary establishes expedited procedures for permits as well as licenses.

(15) Section 70106(a) of the CSLA to provide that a licensee or permitee must allow the Secretary to monitor a site used for crew training. This section of the Act also makes a technical correction to the CSLA.

(16) Section 70110(a)(1) of the CSLA to make a technical correction.

(17) Section 70112(b)(1) of the CSLA by requiring crew and space flight participants to execute a reciprocal waiver of claims with a licensee or permitee under which each party will agree to be responsible for damages, injuries or deaths (including to space flight participants) resulting from a licensed or permitted activity.

(18) Section 70112(b)(2) of the CSLA by requiring crew and space flight participants to execute a reciprocal waiver of claims with the federal government under which each party will agree to be responsible for damages, injuries or deaths (including to space flight participants) resulting from a licensed or permitted activity.

(19) Section 70113(a) of the CSLA to expressly exclude space flight participants from eligibility for indemnification by the federal government against third party claims.

(20) Section 70113(f) of the CSLA to extending the existing liability indemnification regime three years. Launches performed pursuant to a permit are excluded from indemnification.

(21) Section 70115(b)(1)(D)(i) of the CSLA to provide that the Secretary may enter a crew training site in order to conduct investigations and inquiries.

(22) Section 70119 of the CSLA to authorize such sums as may be necessary for fiscal years 2005, 2006, and 2007 to carry out the CSLA.

(23) Section 70120 of the CSLA to insert the following additional subsections:

Subsection (c) requires the Secretary of Transportation to publish proposed regulations to carry out this Act, including regulations relating to crew, space flight participants and experimental permits, within 12 months, and to issue final regulations within 18 months;

Subsection (d)(1) provides that licenses and permits for launches with human beings on board may be issued by the Secretary prior to the issuance of new regulations;

Subsection (d)(2) provides that the Secretary shall issue guidelines or advisory circulars as soon as practicable with respect to the Commercial Space Launch Amendments Act of 2004; and

Subsection (d)(3) provides that no licenses for launches with human beings on board or permits may be issued starting three years after the date of enactment of the Commercial Space Launch

Amendments Act unless final regulations under the Act have been issued.

*Section 4. Study on gradual elimination of commercial space transportation liability risk sharing regime*

Section 4 requires the Secretary of Transportation to contract for a study by the National Academy of Public Administration on how best to gradually eliminate the liability risk sharing regime in the United States for commercial space transportation by 2008 or as soon as possible thereafter.

*Section 5. Technical amendment*

Section 5 makes a technical amendment that repeals a provision in the Commercial Space Act of 1998. The provision concerned a deadline for the issuance of regulations and their effect on the language of the organic statute.

## VII. Committee Views

*Regulation of the commercial human spaceflight industry*

During the course of its formal hearings and informal discussions on commercial human spaceflight, the Committee has heard consistent and repeated complaints from the commercial space transportation industry regarding the manner and methods by which AST regulates commercial space transportation. Specifically, the industry has expressed serious concerns about overly burdensome and unnecessary regulations and rulemakings, a prolonged and painstaking licensing process that places excessive financial burdens on applicants, and a lack of regulatory flexibility to allow for the rapid development of new and innovative launch vehicle designs.

The Committee is concerned that the growth of the commercial human space flight industry in the United States may be stifled by excessive government regulation. In order to craft a regulatory framework that promotes the growth of the industry, while protecting the safety and health of the public, the Committee directs the Secretary of Transportation to undertake a bottom-up review of the existing launch licensing regulations in place for the entire commercial space industry. The review should be guided by the goals of eliminating redundant or superfluous regulations, streamlining the licensing process, encouraging innovation, and protecting the public health and safety. These goals likewise should guide AST as it promulgates new regulations for crew, space flight participants, and experimental permits. The Committee expects to receive a copy of the review within one year of enactment.

*Experimental permits*

The bill allows AST to issue experimental permits for reusable suborbital rockets. The Committee believes that permits are necessary to enable the development of new and innovative launch vehicle designs and to allow for crew training on experimental vehicles. The Committee instructs AST to model its regulatory approach to permits after the regulations promulgated by the FAA's Aircraft Certification and Regulations Office (AVR) when issuing experimental certificates for aircraft, where applicable. At a min-

imum, permits should be granted more quickly and with fewer requirements than licenses. The Committee expects AST to carefully review the methodology and assumptions currently applied when calculating expected casualty rates, to assess the appropriateness of such calculations with respect to the issuance of permits, and to explore possible alternative methods of calculating expected casualty rates. The Committee directs AST to conduct a similar review with respect to calculating expected casualty rates in the context of licensing.

The bill provides that permits must allow an unlimited number of experimental flights for a particular vehicle design. The Committee instructs AST to work closely with applicants on a case-by-case basis to determine what modifications may be made to a suborbital rocket without changing the vehicle design to an extent that would invalidate a permit. AST's decisions in this regard should be driven by the dual goals of promoting the industry and protecting the safety and health of the public.

The bill provides that 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. The Committee clarifies that in the event an experimental permit has been issued to an applicant for a particular rocket design, once the applicant applies for and receives a license for a launch vehicle of that design, the holder of the license may not apply for a permit for that vehicle and may no longer rely upon any permit to launch the vehicle for any purpose.

The bill urges the Secretary of Transportation to use the authority granted under Section 70105(c)(2)(C) of the CSLA, as amended by the bill, to the greatest extent practicable to waive requirements of law when issuing permits. The Committee instructs the Secretary to carefully review any existing laws that place significant technical and financial burdens on applicants and that may inhibit that development of the commercial human space flight industry, including environmental laws, and to actively use its authority to waive legal requirements where necessary and appropriate when issuing permits and licenses.

The bill provides that for the purposes of sections 70106 through 70110, section 70112, sections 70115 through 70117, and section 70121 of the CSLA, permits are to be treated as licenses, permit holders as licensees, a vehicle operating under a permit as licensed, and the issuance of a permit as licensing. For example, Section 70106 of the CSLA, which concerns the monitoring activities of the Secretary of Transportation at launch and reentry sites, should be read to apply to both licensees and permit holders.

*The regulation of "hybrid" vehicles*

The CSLA uses the terms "suborbital rocket" and "suborbital trajectory," but does not define those terms. The absence of definitions creates confusion as to the appropriate regulatory regime for licensing "hybrid" vehicles. Hybrid vehicles are vehicles that have some of the characteristics of aircraft and some of the characteristics of launch vehicles. The bill provides definitions for "suborbital rocket" and "suborbital trajectory" that clarify the parameters of AST's regulatory jurisdiction with respect to hybrid vehicles. Use of these

definitions should facilitate a clear identification of the line of business within the FAA with primary responsibility for licensing a particular vehicle. The Committee recognizes that the certain hybrid vehicles with certain flight plans may be subject to dual regulation by AST and another office within the FAA.

*Extension of the liability indemnification regime*

The bill extends the existing liability indemnification regime in place for the entire commercial space transportation industry (including licensed commercial human space launches, but excluding launches performed pursuant to an experimental permit) for a period of three years. The three-year extension of the liability indemnification regime marks the latest in a series of extensions. Originally set to expire five years after its creation, the liability indemnification regime was meant to provide industry and its insurers with some level of financial comfort in the case of a launch mishap, to keep the price of insurance at an affordable level, and to keep the United States space transportation industry on an even playing field with foreign competitors. To date, the indemnification provisions of the CSLA have not been exercised. Nonetheless, the federal government continues to bear a financial risk. The Committee believes that, with the maturation of the commercial space transportation industry, the liability indemnification regime should be eliminated or phased out of existence over time without damaging the industry. To that end, the bill requires a study by the National Academy of Public Administration on how best to gradually eliminate the liability risk sharing regime by 2008 or as soon as possible thereafter.

*Lack of indemnification for space flight participants*

The bill excludes space flight participants from eligibility for federal government indemnification against third party claims. The Committee believes that space flight participants wishing to ride on board a launch vehicle have chosen to undertake a risky venture of their own accord. As such, they do not do not merit the financial security provided by the promise of indemnification. Moreover, space flight participants are not subject to any substantive government regulation. The Committee believes that space flight participants can purchase their own insurance or that licensees or transferees may purchase insurance plans that expressly cover claims against space flight participants. Successful third-party claims against space flight participants would not, however, be eligible for indemnification by the federal government.

*Indemnification and insurance for experimental permits*

The Committee believes that launches undertaken pursuant to an experimental permit should be excluded from indemnification because they will be more lightly regulated than licensed launches and, as such, the risk to the federal government will be greater. The permit applicant still will be required to purchase insurance (or demonstrate adequate financial responsibility) to cover the maximum probable loss.

One of the Committee's goals for creating the permit regime is to enable the rapid maturation of new suborbital RLVs via repeated incremental flight tests without intervening regulatory ap-

provals. Accordingly, the permit regime is to be administered on a per-vehicle design basis, rather than a per-flight basis. The Committee acknowledges that, as a general matter, the current third-party liability insurance market for space launch is structured on a per-flight basis. If the insurance industry does not quickly adjust to provide more affordable or multi-flight coverage, the usefulness of the experimental permit regime may be undermined. The Committee recognizes that AST has the authority to set the amount of insurance required to be purchased by an applicant at the lesser of maximum probable loss (MPL) or the maximum amount obtainable at reasonable cost. Given the newness of the permit regime, the Committee recommends that AST carefully observe the insurance market's response to the permit regime when it determines the level of insurance obtainable at a reasonable cost.

*Definition of "crew"*

The definition of crew is meant to focus on the individuals directly involved in the process of launching, reentering, or operating a vehicle. The definition of "crew" includes those employees of a licensee, transferee, or permit holder (or employees of contractors or subcontractors) who perform activities that directly relate to launch, reentry, and operation. It is the Committee's intent that the definition of "crew" not be interpreted overly broadly (for instance, the definition should not be read to encompass individuals with peripheral roles, such as sales agents or insurance providers), but more broadly than being confined to pilots or remote operators of a launch vehicle.

*Crew regulations*

The Committee believes that crew regulations should be justified by a legitimate and compelling need to protect the health and safety of the public. Given the wide range of possible launch vehicle designs and potential flight plans, the Committee expects AST to work closely with applicants on a case-by-case basis to establish crew training standards. With respect to medical qualifications, the Committee instructs AST to model its requirements, where applicable, after medical requirements for aircraft pilots.

The Committee believes that crew must be informed by a licensee, transferee, or permitee in writing about the risks of launch or reentry of a launch vehicle, including the safety record of the launch or reentry vehicle type. This information should be provided to crew in the same manner that it is provided to space flight participants.

*Space flight participant regulations*

The Committee believes that, at a minimum, AST should require a licensee or transferee to provide space flight participants and crew with the safety record of the launch or reentry vehicle type upon which they will be launched. In this regard, the Committee instructs AST to compile the safety records of launch or reentry vehicle types based on available flight data. The Committee expects that safety records provided to potential space flight participants will include all launch or reentry vehicles of a particular type, including both government and private sector vehicles, and not simply the vehicles of a particular licensee. Space flight participants

also should be provided with copies of permit and launch license applications for the launch vehicle.

*Reciprocal liability waivers for space flight participants and crew*

The bill requires crew and space flight participants to execute reciprocal waivers of claims with a licensee, transferee or permitee pursuant to which each party agrees to be responsible for damages, injuries or deaths (including to space flight participants) resulting from a licensed or permitted activity. The bill also requires that crew and space flight participants enter into the same manner of reciprocal waiver arrangement with the federal government. The Committee believes 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.

*Waiver authority*

The bill states that the Secretary of Transportation's waiver authority when issuing licenses or permits shall not be construed to allow the launch or reentry of a vehicle without a license or a permit if a human being will be on board. The Secretary has the discretion to waive individual requirements that otherwise would be prerequisites to receiving a license or permit for a manned vehicle.

*Treatment of pending license applications*

The Committee recognizes that AST currently is considering a number of launch license applications for RLVs capable of carrying human beings. The Committee believes that the processing of these applications should continue as expeditiously as possible. The Committee affirms that licenses may be issued prior to the release of any new regulations, guidelines, and advisory circulars relating to crew, space flight participants, or experimental permits.

## VIII. Cost Estimate

A cost estimate and comparison prepared by the Director of the Congressional Budget Office under section 402 of the Congressional Budget Act of 1974 has timely submitted to the Committee on Science prior to the filing of this report and is included in Section X of this report pursuant to House Rule XIII, clause 3(c)(3).

H.R. 3752 does not contain new budget authority, credit authority, or changes in revenues or tax expenditures. Assuming that the sums authorized under the bill are appropriated, H.R. 3752 does authorize additional discretionary spending, as described in the Congressional Budget Office report on the bill, which is contained in Section X of this report.

## IX. Congressional Budget Office Cost Estimate

U.S. Congress,
Congressional Budget Office,
*Washington, DC, March 1, 2004.*

Hon. Sherwood L. Boehlert,
*Chairman, Committee on Science,*
*House of Representatives, Washington, DC.*

Dear Mr. Chairman: The Congressional Budget Office has prepared the enclosed cost estimate for H.R. 3752, the Commercial Space Launch amendments Act of 2004.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contact is Kathleen Gramp.

Sincerely,

Elizabeth M. Robinson
(For Douglas Holtz-Eakin, Director).

Enclosure.

*H.R. 3752—Commercial Space Launch Amendments Act of 2004*

Summary: H.R. 3752 would expand and extend the Department of Transportation's (DOT's) licensing and indemnification authorities for commercial space transportation activities. Current law provides licencing criteria for commercial activities involving expendable and reusable launch vehicles (RLVs) and specifies the terms under which the government will indemnify licensees from damage claims by third parties. H.R. 3752 would amend current law to expressly authorize the licensing of manned RLVs, clarify how the indemnification authorities would apply to crew and passengers, and establish a new permitting system for experimental, manned suborbital space vehicles. The bill also would provide a three-year extension of DOT's indemnification authority, which expires on December 31, 2004. Finally, the bill would authorize the appropriation of amounts necessary for the activities of DOT's Office of the Associate Administrator for Commercial Space Transportation (AST) for fiscal year 2005 through 2007.

CBO estimates that implementing the bill would cost $38 million over the 2005–2009 period, assuming appropriation of the necessary amounts. Expanding and extending DOT's indemnification authority could result in additional discretionary spending over the next five years, but CBO expects that any such costs would be negligible. CBO estimates that enacting H.R. 3752 would have no effect on direct spending or revenues.

H.R. 3752 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. 3752 would impose private-sector mandates as defined in UMRA on the commercial space flight industry by imposing additional requirements on licensees and participants (passengers) that engage in manned space flights. Based on information from government and industry sources, CBO estimates that the direct cost of those mandates would fall below the annual threshold established by UMRA for private-sector mandates ($120 million in 2004, adjusted annually for inflation).

Estimated cost to the Federal Government: The estimated budgetary impact of H.R. 3752 is shown in the following table. The costs of this legislation fall within budget function 400 (transportation).

| | By fiscal year, in millions of dollars— | | | | | |
|---|---|---|---|---|---|---|
| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
| SPENDING SUBJECT TO APPROPRIATION | | | | | | |
| AST spending under current law: | | | | | | |
| Budget authority | 12 | 0 | 0 | 0 | 0 | 0 |
| Estimated outlays | 12 | 1 | 0 | 0 | 0 | 0 |
| Proposed changes: | | | | | | |
| Estimated authorization level | 0 | 12 | 13 | 13 | 0 | 0 |
| Estimated outlays | 0 | 11 | 13 | 13 | 1 | 0 |
| AST spending under H.R. 3752: | | | | | | |
| Estimated authorization level [1] | 12 | 12 | 13 | 13 | 0 | 0 |
| Estimated outlays | 12 | 12 | 13 | 13 | 1 | 0 |

[1] The 2004 level is the amount appropriated for that year.

Basis of estimate: For this estimate, CBO assumes that the necessary amounts will be appropriated for each fiscal year and that outlays will follow the historical patterns for AST programs. CBO's estimate of AST's expenses over the 2005–2007 period is based on the $12 million appropriated for the agency for fiscal year 2004, including adjustments for anticipated inflation. CBO estimates that extending and expanding DOT's indemnification authority through 2007 would have no significant budgetary impact over the next five years largely because operators of commercial space vehicles must have significant private insurance coverage in order to be licensed. Finally, CBO estimates that authorizing DOT to issue experimental permits would have no significant budgetary impact because the activities covered by such permits would not be eligible for indemnification.

*Extension of indemnification authority*

DOT's existing indemnification authority is subject to certain limitations. DOT may indemnify licensees against third-party claims only if the licensee has entered into cross-waivers of liability with its contractors, subcontractors, customers, and the federal government, and if the licensee has obtained private insurance to cover the first tier of risk. The amount of private insurance for each launch is supposed to cover the maximum probable loss, but not more than $500 million or the maximum amount available on the world market, whichever is lower. DOT's indemnification authority covers the second-tier of risk up to a ceiling of $1.5 billion (in 1989 dollars), but such payments can only be made if funds are appropriated in advance or made available through subsequent legislation.

DOT's guidelines suggest that the government would not license a launch system if the estimated maximum probable loss is greater than the maximum amount of insurance because that would suggest the launch carries excessive risk. If damage claims resulting from a commercial launch exceeded the amount of private insurance, however, DOT would need to seek a Congressional appropriation to cover the cost.

So far, this system of insurance coverage has worked for licensees using expendable launch vehicles. According to DOT, the cost of damages associated with incidents involving expendable launch

services have been small and the cost of damages have been covered by private insurance. Hence, CBO estimates that the cost of extending the indemnification coverage for expendable launch vehicles would not be significant.

Unmanned RLV's have been eligible for similar insurance coverage and indemnification since 1999, but this industry has not developed and no launches have yet occurred. (The only RLV that has ever flown is the X–15, which was developed by the federal government and flew from 1959–1968). As a result, there are no data on the risks and costs of indemnifying commercial unmanned RLV systems. Nonetheless, CBO expects that DOT would only issue licenses for unmanned RLVs if the agency estimates that such systems would not pose excessive risks.

*Expansion of indemnification provisions*

Expressly allowing DOT to license manned RLVs would make those services eligible for indemnification, subject to certain conditions. The bill excludes crew and "space flight participants" from the definition of third parties, making claims filed by them (or on their behalf) ineligible for indemnification. It also would require crew and passengers to agree not to sue and to be responsible for any losses the party sustains. In addition, the bill would not identify third-party claims brought against passengers. Any claims filed by families of any affected crew or passengers would be indemnified. Because most flights are unlikely to carry more than two people (at least in the near term), this provision would not significantly expand the pool of potential third-party claimants.

For this estimate, CBO assumes that DOT would only issue licenses for manned RLVs if the agency estimates that the services or systems would not pose excessive risk. We assume that DOT would incorporate the potential for claims from families of crew or space flight participants when calculating the risk and insurance requirements for manned flights.

We also expect that the number of manned flight—and hence the potential frequency of federal spending for claims—is likely to be very small over the next few years. Interest in commercial manned flight has been spurred by the January 1, 2005, deadline for the privately sponsored "X-prize," which will award $10 million to the first contestant that successfully conducts two piloted flights to an altitude of at least 100 kilometers (60 miles) within a two-week period. DOT currently is reviewing applications for manned flights, some of which are expected to compete for the prize. Nonetheless, manned RLVs remain an embryonic technology, which is likely to limit the number of licensed flights for the foreseeable future.

Estimated impact on state, local, and tribal governments: H.R. 3752 contains no intergovernmental mandates are defined in UMRA and would impose no costs on state, local, or tribal governments.

Estimated impact on the private sector: H.R. 3752 would impose private-sector mandates as defined in UMRA on the commercial space flight industry by imposing additional requirements on licensees and participants that engage in manned space flights. Based on information from government and industry sources, CBO estimates that the direct cost of those mandates would fall below

the annual threshold established by UMRA for private-sector mandates ($120 million in 2004, adjusted annually for inflation).

Under current law, persons must obtain licenses from the federal government to engage in commercial space flights. The bill would require the Secretary of Transportation to establish training requirements and medical standards for the crew of manned spaced flight vehicles. Currently, license holders for commercial space transportation without passengers must comply with such requirements as they are outlined by the DOT's Office of the Associate Administrator for Commercial Space Transportation. This bill would extend current regulations for commercial space vehicles to manned space vehicles.

The Secretary also would establish regulations requiring license holders to provide their passengers with a disclosure about the risks of launch and reentry including a discussion of the safety record of the particular vehicle. In addition, passengers would have to provide written consent certifying that they have been notified of the risks of flight. Currently, licensees are required to provide similar information about flight risks for insurance purposes in the form of a reciprocal waiver of claims between the company and its employees and crew. The bill's required disclosure of risks of commercial space transportation, therefore, would not result in new costs for license holders. According to industry experts, this requirement may lower costs to the industry by providing one uniform standard for disclosure of risks.

Estimate prepared by: Federal Costs: Kathleen Gramp. Impact on State, Local, and Tribal Governments: Greg Waring. Impact on the Private Sector: Selena Caldera.

Estimate approved by: Peter H. Fontaine, Deputy Assistant Director for Budget Analysis.

## X. Compliance With Public Law 104–4

H.R. 3752 contains no unfunded mandates.

## XI. Committee Oversight Findings and Recommendations

The Committee on Science's oversight findings and recommendations are reflected in the body of this report.

## XII. Statement on General Performance Goals and Objectives

Pursuant to clause 3(c) of House rule XIII, the stated goal of H.R. 3752 is to put in place a clear, balanced regulatory regime that promotes the development of the emerging commercial human space flight industry, while protecting the public health and safety.

## XIII. Constitutional Authority Statement

Article I, section 8 of the Constitution of the United States grants Congress the authority to enact H.R. 3752.

## XIV. Federal Advisory Committee Statement

H.R. 3752 does not establish or authorize the establishment of any advisory committee.

## XV. Congressional Accountability Act

The Committee finds that H.R. 3752 does not relate to the terms and conditions of employment or access to public services or accommodations within the meaning of section 102(b)(3) of the Congressional Accountability Act (Public Law 104–1).

## XVI. Statement on Preemption of State, Local, or Tribal Law

This bill is not intended to preempt any state, local, or tribal law.

## XVII. 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 italic, existing law in which no change is proposed is shown in roman):

### TITLE 49, UNITED STATES CODE

* * * * * * *

# SUBTITLE IX—COMMERCIAL SPACE TRANSPORTATION

* * * * * * *

## CHAPTER 701—COMMERCIAL SPACE LAUNCH ACTIVITIES

* * * * * * *

Sec.
70101. Findings and purposes.

* * * * * * *

70105. [License applications] *Applications* and requirements.

* * * * * * *

### § 70101. Findings and purposes

(a) Findings.—Congress finds that—

(1) * * *

* * * * * * *

(3) new and innovative equipment and services are being sought, produced, and offered by entrepreneurs in telecommunications, information services, microgravity research, *human space flight,* and remote sensing technologies;

(4) the private sector in the United States has the capability of developing and providing private [satellite] launching, reentry, and associated services that would complement the launching, reentry, and associated [services now available from] *capabilities of* the United States Government;

* * * * * * *

### § 70102. Definitions

In this chapter—

(1) * * *

* * * * * * *

*(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.*

**[**(2)**]** *(3)* "executive agency" has the same meaning given that term in section 105 of title 5.

**[**(3)**]** *(4)* "launch" means to place or try to place a launch vehicle or reentry vehicle and any payload*, crew, or space flight participant* from Earth—

(A) * * *

* * * * * * *

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

**[**(5)**]** *(6)* "launch services" means—

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

(B) the conduct of a launch.

**[**(6)**]** *(7)* "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.

**[**(7)**]** *(8)* "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.

**[**(8)**]** *(9)* "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.

**[**(9)**]** *(10)* "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) "permit" means an experimental permit issued under section 70105.*

**[**(10)**]** *(12)* "person" means an individual and an entity organized or existing under the laws of a State or country.

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

**[**(12)**]** *(14)* "reentry services" means—

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

(B) the conduct of a reentry.

**[**(13)**]** *(15)* "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).

[(14)] *(16)* "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.*

[(15)] *(18)* "State" means a State of the United States, the District of Columbia, and a territory or possession of the United States.

*(19) "suborbital rocket" means a rocket-propelled vehicle intended for flight on a suborbital trajectory whose thrust is greater than its lift for the majority of the powered portion of its flight.*

*(20) "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.*

[(16)] *(21)* "third party" means a person except—

(A) * * *

* * * * * * *

(D) the customer's contractors or subcontractors involved in launch services or reentry services[.]*; or*

*(E) crew or space flight participants.*

[(17)] *(22)* "United States" means the States of the United States, the District of Columbia, and the territories and possessions of the United States.

## § 70103. General authority

(a) GENERAL.—The Secretary of Transportation*, through the Associate Administrator for Commercial Space Transportation,* shall carry out this chapter.

(b) FACILITATING COMMERCIAL LAUNCHES AND REENTRIES.—In carrying out this chapter, the Secretary shall—

(1) encourage, facilitate, and promote commercial space launches and reentries by the private sector*, including those involving space flight participants*; and

* * * * * * *

## § 70104. Restrictions on launches, operations, and reentries

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

(1) * * *

* * * * * * *

(4) for a citizen of the United States (as defined in section 70102(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.

* * * * * * *

**§ 70105. [License applications] *Applications* and requirements**

(a) [APPLICATIONS.—] *LICENSES.*—(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)] *subsection (c)(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)] *subsection (c)(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 a license is not issued 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 crews,* that may be used in conducting licensed commercial space launch or reentry activities.

*(b) EXPERIMENTAL PERMITS.—(1) A person may apply to the Secretary of Transportation for an experimental permit under this subsection in the form and manner 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 90 days after receiving an application pursuant to this subsection, shall issue a permit 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 60 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 a permit is not issued 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 crews, that may be used in conducting commercial space launch or reentry activities pursuant to a permit.*

*(3) In order to encourage the development of a commercial space flight industry, the Secretary, to the greatest extent practicable, shall when issuing permits use the authority granted under subsection (c)(2)(C).*

*(4) The Secretary may issue a permit only for reusable suborbital rockets that will be launched or reentered solely for—*

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

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

*(C) 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.*

*(5) Permits issued under this subsection shall—*

*(A) authorize an unlimited number of launches and reentries for a particular suborbital rocket design for the uses described in paragraph (4); and*

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

*(6) Permits shall not be transferable.*

*(7) 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.*

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

*(9) For the purposes of sections 70106, 70107, 70108, 70109, 70110, 70112, 70115, 70116, 70117, and 70121 of this chapter—*

*(A) a permit shall be considered a license;*

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

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

*(D) the issuance of a permit shall be considered licensing.*

*This paragraph shall not be construed to allow the transfer of a permit.*

**[**(b)**]** *(c)* 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) **[**an additional requirement**]** *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; and

(D) 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. *Nothing in this paragraph shall be construed to allow 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; and*

*(B) 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 or reentry, including the safety record of the launch or reentry vehicle type, and the space flight participant has provided written informed consent to participation in the launch or reentry; and*

*(B) the holder of the license or permit and space flight participant have complied with all requirements of the laws of the United States related to launching or reentering a space flight participant.*

[(c)] *(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.

### § 70106. 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 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 [section 70104(c)] *sections 70104(c) and 70105(c)(4)* of this title. A li-

censee must cooperate with an observer carrying out this subsection.

* * * * * * *

**§ 70110. Administrative hearings and judicial review**

(a) ADMINISTRATIVE HEARINGS.—The Secretary of Transportation shall provide an opportunity for a hearing on the record to—

(1) an applicant under this chapter, for a decision of the Secretary under section [70105(a)] *70105* of this title to issue or transfer a license with terms or deny the issuance or transfer of a license;

* * * * * * *

**§ 70112. Liability insurance and financial responsibility requirements**

(a) * * *

* * * * * * *

(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, *crew, space flight participants,* 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.

(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 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.

* * * * * * *

**§ 70113. 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 or subcontractor of a customer*,, but not against 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) * * *

* * * * * * *

(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, 2004.❚ *December 31, 2007. This section does not apply to permits.*

* * * * * * *

**§ 70115. Enforcement and penalty**

(a) * * *

(b) GENERAL AUTHORITY.—(1) In carrying out this chapter, the Secretary of Transportation may—

(A) * * *

* * * * * * *

(D) under lawful process—

(i) enter at a reasonable time a launch site, reentry site, production facility, assembly site of a launch vehicle or reentry vehicle, *crew training site,* or site at which a payload is integrated with a launch vehicle or reentry vehicle to inspect an object to which this chapter applies or a record or report the Secretary requires be made or kept under this chapter; and

* * * * * * *

**§ 70119. Office of Commercial Space Transportation**

There are authorized to be appropriated to the Secretary of Transportation for the activities of the Office of the Associate Administrator for Commercial Space Transportation—

❚(1) $12,607,000 for fiscal year 2001; and

❚(2) $16,478,000 for fiscal year 2002.❚

*(1) such sums as may be necessary for fiscal year 2005;*

*(2) such sums as may be necessary for fiscal year 2006; and*

*(3) such sums as may be necessary for fiscal year 2007.*

**§ 70120. Regulations**

(a) * * *

* * * * * * *

*(c) AMENDMENTS.—Not later than 12 months after the date of enactment of the Commercial Space Launch Amendments Act of 2004, the Secretary shall publish proposed regulations to carry out that Act, including regulations relating to crew, space flight participants, and permits for launch or reentry of reusable suborbital rockets. Not later than 18 months after such date of enactment, the Secretary shall issue final regulations.*

*(d) EFFECTIVE DATE.—(1) Licenses for the launch or reentry of launch vehicles or reentry vehicles with human beings on board and permits may be issued by the Secretary prior to the issuance of the regulations described in subsection (c).*

*(2) As soon as practicable after the date of enactment of the Commercial Space Launch Amendments Act of 2004, the Secretary shall issue guidelines or advisory circulars to guide the implementation of that Act until regulations are issued.*

*(3) Notwithstanding paragraphs (1) and (2), no licenses for the launch or reentry of launch vehicles or reentry vehicles with human beings on board or permits may be issued starting three years after the date of enactment of the Commercial Space Launch Amendments Act of 2004 unless the final regulations described in subsection (c) have been issued.*

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## SECION 102 OF THE COMMERCIAL SPACE ACT OF 1998

**SEC. 102. COMMERCIAL SPACE LAUNCH AMENDMENTS.**

(a) * * *

* * * * * * *

[(c) EFFECTIVE DATE.—The amendments made by subsection (a)(6)(B) shall take effect upon the effective date of final regulations issued pursuant to section 70105(b)(2)(D) of title 49, United States Code, as added by subsection (a)(6)(H).]

## XVIII. COMMITTEE RECOMMENDATIONS

On February 4, 2004, a quorum being present, the Committee on Science favorably reported the Commercial Space Launch Amendments Act of 2004, by a voice vote, and recommended its enactment.

## XIX. EXCHANGE OF COMMITTEE CORRESPONDENCE

HOUSE OF REPRESENTATIVES,
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE,
*Washington, DC, March 1, 2004.*

Hon. SHERWOOD L. BOEHLERT,
*Chairman, Committee on Science,*
*Rayburn Building, Washington, DC.*

DEAR MR. CHAIRMAN: I am writing to you concerning the jurisdictional interest of the Transportation and Infrastructure Com-

mittee in matters being considered in H.R. 3752, the Commercial Space Launch Amendments Act of 2004.

Our Committee recognizes the importance of H.R. 3752 and the need for the legislation to move expeditiously. Therefore, while we have a valid claim to jurisdiction over certain provisions of the bill, I will agree not to request a sequential referral. This, of course, is conditional on our mutual understanding that nothing in this legislation or my decision to forego a sequential referral waives, reduces or otherwise affects the jurisdiction of the Transportation and Infrastructure Committee, and that a copy of this letter and of your response acknowledging our valid jurisdictional interest will be included in the Committee report.

The Committee on Transportation and Infrastructure also asks that you support our request to be conferees on the provision over which we have jurisdiction during any House-Senate conference.

Thank you for your cooperation in this matter,

Sincerely,

DON YOUNG,
*Chairman.*

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HOUSE OF REPRESENTATIVES,
COMMITTEE ON SCIENCE,
*Washington, DC, March 1, 2004.*

Hon. DON YOUNG,
*Chairman, Committee on Transportation and Infrastructure, House of Representatives, Washington, DC.*

DEAR MR. CHAIRMAN: I appreciate your decision to forgo a sequential referral of H.R. 3752, the Commercial Space Launch Amendments Act of 2004, despite your valid claim of jurisdiction over certain provisions. I recognize that by forgoing a referral in this instance, your Committee does not waive any rights involving provisions within your Committee's jurisdiction.

I also will support your request to be conferees on any provisions over which you have jurisdiction during any House-Senate conference. Per your request, I will include copies of this exchange of letters in the legislative reports for H.R. 3752.

I will continue to work with you to define the respective jurisdiction of our Committees over this bill.

Thank you for your consideration regarding this matter.

Sincerely,

SHERWOOD L. BOEHLERT,
*Chairman.*

## XX. ADDITIONAL VIEW

H.R. 3752 represents a constructive set of amendments to the existing statutes on commercial space transportation, and I support its enactment into law. A clear regulatory framework is needed for the emerging commercial human space flight industry, and this legislation provides one. My concern instead is focused on the Legislative Report accompanying the bill, which I do not believe represents a consensus of the Committee on several important issues.

First, the report states that "The bill urges the Secretary of Transportation to use the authority granted under Section 70105(c)(2)(C) of the CSLA, as amended by the bill, to the greatest extent practicable to waive requirements of law when issuing permits. The Committee instructs the Secretary to carefully review any existing laws that place significant technical and financial burdens on applicants and that may inhibit that development of the commercial human space flight industry, including environmental laws, and to actively use its authority to waive legal requirements where necessary and appropriate when issuing permits and licenses." Existing law permits the Secretary to waive some requirements 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". One of the provisions of H.R. 3752 does indeed state that the Secretary, to the greatest extent practicable, shall when issuing permits use the above mentioned authority, but I am concerned that the accompanying report language not overstate the Committee's position. While we all want to encourage the growth of this new industry, I believe the Secretary should err on the side of restraint when contemplating waivers to environmental and other laws intended to protect the public good. The interests of the industry should not be the determining factor in the Secretary's decision.

Second, the report states that the Committee believes that the liability indemnification regime should be eliminated or phased out. In fact, the Committee has received ample testimony, most recently in November of last year, that the existing liability indemnification regime has worked well and meets a legitimate need, and that its elimination over the foreseeable future would be damaging to the U.S. commercial space transportation industry vis a vis its international competitors. The Committee directed a review of the liability indemnification regime as part of space transportation legislation enacted in 2000, and that study came to similar conclusions. It is ironic that the bill's requirement for yet another study—this time on how to eliminate the liability risk sharing regime by 2008 or as soon as possible thereafter—may well hinder the growth of the very commercial human space flight industry that the bill is trying to foster, since it signals an intention to eliminate the liabil-

ity indemnification regime just as some of the emerging companies may be beginning commercial operations. At a minimum, the directive for a new study runs counter to the findings of the 2000 study and other evidence.

BART GORDON.

# XXI. PROCEEDINGS OF THE FULL COMMITTEE MARKUP ON H.R. 3752, COMMERCIAL SPACE LAUNCH AMENDMENTS ACT OF 2004

**WEDNESDAY, FEBRUARY 4, 2004**

HOUSE OF REPRESENTATIVES,
COMMITTEE ON SCIENCE,
*Washington, DC.*

The Committee met, pursuant to call, at 10:08 a.m., in Room 2318 of the Rayburn House Office Building, Hon. Sherwood L. Boehlert [Chairman of the Committee] presiding.

Chairman BOEHLERT. Good morning. The Committee on Science will be in order. We will begin with a few brief administrative matters involving the Subcommittee assignments. I ask unanimous consent to change the ratio of the Subcommittee on Energy from ten Republican Members and eight Democrat Members to eleven Republican Members and nine Democrats. Without objection, so ordered.

I ask unanimous consent that the gentleman from Texas, the Honorable Ralph Hall, be elected to the Subcommittee on Energy and to the Subcommittee on Space and Aeronautics. Without objection, so ordered.

Let me just say this is—you will notice some adjustments in the chairs up here, in the line up. First of all, it is a pleasure for me to welcome Mr. Hall to our side of the aisle. We have come to expect wonderful things from Mr. Hall. And one of the things that I admire most about him, in addition to his wit, is his good judgment. So Mr. Hall, welcome.

And I also want to welcome my dear friend and colleague of many years, Bart Gordon, to the position as Ranking Member as leader of the Democrats. He is not leader of the opposition; he is leader of our partners in this effort. And I want to particularly note that he has been a most active Member of this committee from the beginning, from his first time here in 1985 as a freshman Member. He is a thoughtful, deliberative guy. He is a guy who pays attention to the issues and one from whom I will expect great things in the future. I would point out that he also has a minor Committee assignment. He is a Member of Energy and Commerce, but this is where he devotes his—so much time and attention to very productive results. So Mr. Gordon, welcome. Mr. Hall, welcome. We are glad to have everyone here.

And now the Chair is pleased to recognize the Ranking Member from Tennessee, Mr. Gordon.

Mr. GORDON. Mr. Chairman, I should just say amen. I don't think I can beat your kind remarks. Thank you very much. I am excited about having the opportunity to serve as the Ranking Member. And I am pleased that our friend, Mr. Hall, is going to stay and be the referee. He has set a very good example for us, as you said, in working in a bipartisan manner. We want to continue that example.

I think today is fitting that we have a full agenda, and so I want to be very brief and—so that we can move forward, but I do want to thank you for allowing Congressman Udall and Congressman Miller to have two bills today. And I hope that you will help us bring these to the Floor as promptly as you have brought them to this committee.

Thank you very much.

Chairman BOEHLERT. Mr. Hall.

Mr. HALL. Mr. Chairman, and to the Ranking Member and to the other Members, I thank you very much. I am honored to be back on the Committee.

I want to thank Mr. Gordon for his good judgment and for his kindness in keeping the team in place that we had set in place. They are good people and good folks to work with. I want to thank all of them from either side of the docket who have welcomed me here. Actually, when I decided—made the decision to switch parties, I didn't call anyone. I didn't call the President or anyone. I didn't tell anyone, including my wife, which was a mistake. I announced that I was making the switch and put it on the wire and then called and spoke to the Speaker. All I expected from him was that my seniority would be honored, and he said it would be. You have done that. And to both sides, I am the same guy I was when I came over here. I am probably the Speaker's problem now. So we will just have to wait and see how things go, but I am honored to be back with a group of men and women that I admire, respect, and look forward to working with.

Thank you, and I yield back my time.

Chairman BOEHLERT. Thank you so much.

As those who have observed the deliberations of this committee would have testified to, it really doesn't matter where you sit in this committee, because we have some very important work and partisanship doesn't rear its ugly head very often here. On occasion it does, and we are all familiar with that. But when all is said and done, we work as a team, this Science Committee, and I am very proud of that. And so no matter where they are sitting, everybody is part of the team, and I thank them for their cooperation and support and vision as we look to the future.

Pursuant to notice, the Committee on Science meets today to consider the following measures: H.R. 3551, the *Surface Transportation Research Act of 2004;* H.R. 3752, the *Commercial Space Launch Amendments Act of 2004;* H.R. 912, *Charles "Pete" Conrad Astronomy Awards Act;* H.R. 1292, *Remote Sensing Applications Act of 2003;* H.R. 3389, *To amend the Stevenson-Wydler Technology Innovation Act of 1980 to permit Malcolm Baldrige National Quality Awards to be made to nonprofit organizations;* and H.Con.Res. 189, *Celebrating the 50th anniversary of the International Geophysical Year and supporting an International Geophysical Year-2*

*in 2007–08.* I ask unanimous consent for the authority to recess the Subcommittee at any point, and without objection, it is ordered.

We will now proceed with opening statements. I want to welcome everyone here for this important markup. We want to get done by 11:00 a.m., so we will need to be brief. I am not planning to make any statements this morning other than this one, so I will discuss each of the bills right now. But first let me say that all of the bills, as usual, reflect long hours of bipartisan work on important issues. The smooth markup that we expect today is the result of countless hours of staff work on both sides of the aisle working out the kinks.

The first that we will take up is the Transportation Research and Development Act offered by Dr. Ehlers and the negotiated amendments to it. The bill ensures that we will be devoting more resources to transportation R&D and that those resources will be better targeted. The bill authorizes an organized R&D effort that will focus on questions related to safety, environment, demographics, and getting the most out of the infrastructure that is already in place. It is an eminently sensible approach, and we will work hard to see that it becomes part of the overall highway bill. I know many Members have contributed ideas to the bill and to the amendments, including, in addition to the ones I have to offer, two freshmen Members on our side of the aisle, Mr. Neugebauer and Ms. Burgess—Dr. Burgess. I thank them for their contributions.

The second measure on the roster is Mr. Rohrabacher's bill to amend the *Commercial Space Launch Act.* I want to thank Chairman Rohrabacher for bringing this important matter to our attention. We need to create a balanced and predictable regulatory regime that can help jump-start a commercial human space flight industry while protecting the public. I think that this bill does just that. I know some have concerns about the provision in the bill extending indemnification for just 3 years. I don't want to have a long debate in this now, but the argument for indemnification has always been that we need to help out an infant industry. Well, no industry can remain infant forever. Indemnification has already been extended many times. Infancy has lasted long enough. In industry's interest, we need to send the signal now that the insurance regime out to be changing in the future. It certainly would not be fair or wise to catch industry off guard.

The third bill is also offered by Chairman Rohrabacher. It would set up awards for amateur astronomers who discover near-Earth asteroids. It is one of those ideas that is so obviously good that it is amazing that it hasn't happened already.

The fourth bill is Mr. Udall's remote sensing bill. This is also a sensible bill that we passed in the last Congress. We ought to be doing more to ensure that the remote sensing data we have is actually being used. Mr. Weldon will be offering a helpful amendment on that to single out one use of the data: locating forest fires. I support that amendment.

The fifth bill would expand the Baldrige Quality Awards to include nonprofits. I helped craft the legislation creating the Baldrige Award years ago. Little did I appreciate then what a major success the award would be. I congratulate Mr. Miller on his bill to expand the award.

The sixth bill by Mr. Udall would call for another International Geophysical Year, 50 years after the first one was so successful in bringing the world together to conduct pioneering research in Antarctica, research several of us got to see firsthand last year. This is another idea that deserves this committee's support.

I congratulate all of my colleagues on their hard work on these bills, and I look forward to their prompt passage here and on the House Floor.

Let me once again restate the deep appreciation all of us have, on both sides, for the outstanding work of the very capable and hardworking professional staff. These are people who are here long after we have gone home, long after we have checked out of the airport to return to our Districts, working day and night and weekends to provide us with the support we need to do the good work we are doing.

Chairman BOEHLERT. I now recognize Mr. Gordon for five minutes to present his opening remarks.

[The prepared statement of Chairman Boehlert follows:]

PREPARED STATEMENT OF CHAIRMAN SHERWOOD BOEHLERT

I want to welcome everyone here for this important markup. We want to get done by 11 a.m., so we all need to be brief. I'm not planning to make any statements this morning other than this one, so I will discuss each of the bills right now.

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The sixth bill, by Mr. Udall, would call for another International Geophysical Year, 50 years after the first one was so successful in bringing the world together to conduct pioneering research in Antarctica—research several of us got to see firsthand last year. This is another idea that deserves this committee's support.

I congratulate all my colleagues on their hard work on these bills, and I look forward to their prompt passage here—and on the House Floor.

Mr. Gordon.

Mr. GORDON. Mr. Chairman, I am pleased to report to the Committee that the Democratic Caucus of the Science Committee has elected the Honorable Nick Lampson of Texas as the Ranking Democrat on the Subcommittee on Space and Aeronautics. Mr. Lampson has been a Member of the Committee and the Subcommittee since his election to Congress in 1996. He represents the Johnson—we will try again here. Okay. He represents the Johnson Space Center in Houston, and he has been out front in his vision for human space flight. Accordingly, I ask unanimous consent that the seniority order for the Democratic membership of the Subcommittee on Space and Aeronautics be changed to reflect the action of our Caucus, placing Mr. Lampson first in the Democratic seniority.

Chairman BOEHLERT. Without objection.

Mr. GORDON. Mr. Chairman, I ask unanimous consent for another request, and that is I am pleased to report to the Committee that the Democratic Caucus of the Science Committee has elected the Honorable John Larson of Connecticut as ranking Democrat on the Subcommittee on Energy. John has been a Member of the Committee since 1998, also serves as the Ranking Member on the House Administration Committee, and was a leader in developing many of the R&D provisions of the energy bill. Accordingly, I ask unanimous consent that the Honorable John Larson be elected to the Subcommittee on Energy and that rank in seniority is first on the Democratic membership.

Chairman BOEHLERT. Without objection.

Mr. GORDON. Mr. Chairman, respecting your interest in getting out by 11:00, I will reserve any remarks on the bills as they come forth.

Chairman BOEHLERT. Thank you very much. Without objection, all Members may place opening statements in the records at this point—in the record at this point.

Chairman BOEHLERT. We will now consider the bill H.R. 3752, the *Commercial Space Launch Amendments Act of 2004.* I now recognize Mr. Gordon for five minutes to present his opening remarks.

Mr. GORDON. Mr. Chairman, I will reserve my remarks to after Mr. Rohrabacher introduces his bill.

Chairman BOEHLERT. All right. Traditionally, the Chair has opening remarks, and I am passing on my opening remarks, so that is why we go to you next. We want to be fair.

Now the very distinguished Chairman of the Subcommittee on Space and Aeronautics, Mr. Rohrabacher, is recognized for such time as he may consume.

Mr. ROHRABACHER. Thank you very much, Mr. Chairman. And I want to thank Mr. Gordon. And I want to thank you for all of your efforts in helping to ensure that this bill came before us today and that we are doing the job that we need to ensure that the regulatory barriers within the Federal Government do not hinder the

growth of the emerging commercial human space flight industry. The Commercial Space Flight Launch Amendment Acts of 2004 represents a long and thorough process beginning last July with a joint House Senate hearing, a Subcommittee hearing last fall, and a policy roundtable with experts in the commercial space transportation industry last year. I want to commend your staff, Mr. Chairman, as well as the Subcommittee staff on the great job that they have done on this. This has been—people have had to work together and work—iron out some problems, and we sure—I appreciate the hard work that has been done and the good work that has been done by our staff.

The bill before us today, H.R. 3752, calls for a streamlined and careful regulation for nurturing this new commercial human space flight industry while ensuring public safety. H.R. 3752 eliminate confusion as to who regulates usable suborbital rockets by directing that a regulatory regime for licensing commercial human space flight activities be established under the jurisdiction of the Office of the Associate Administrator of Commercial Space Transportation. In other words, we are giving the responsibility to the FAA in the Department of Transportation.

The bill makes it easier to launch new types of reusable, suborbital rockets by directing the Secretary of Transportation to create experimental flight permits. Experimental flight permits are separate and distinct from existing commercial launch licenses. H.R. 3752 also extends existing commercial space transportation indemnification regime by three years, through December 31, 2007 and calls for a study in determining how best to gradually eliminate indemnification for the commercial space transportation industry by 2008.

Again, Mr. Chairman, I thank you, and I thank our staffs for doing a good job on this. And we had cooperation from everyone involved, both sides of the aisle, and industry, so I present that now. And thank you very much.

[The prepared statement of Mr. Rohrabacher follows:]

PREPARED STATEMENT OF REPRESENTATIVE DANA ROHRABACHER

I want to thank the Chairman for his tremendous efforts in ensuring that regulatory barriers not hinder the growth of the emerging commercial human space flight industry. The *Commercial Space Launch Amendments Act of 2004* represents a long and thorough process beginning last July with a joint House-Senate hearing, a Space Subcommittee hearing last fall and a policy roundtable with experts in the commercial space transportation industry late last year.

The bill before us today, H.R. 3752, calls for streamlined and careful regulations for nurturing this new commercial human space flight industry while ensuring public safety. H.R. 3752 eliminates confusion as to who regulates reusable suborbital rockets by directing that a regulatory regime for licensing commercial human space flight activities be established under the jurisdiction of the Office of the Associate Administrator of Commercial Space Transportation.

The bill makes it easier to launch new types of reusable suborbital rockets by directing the Secretary of Transportation to create experimental flight permits. Experimental flight permits are separate and distinct from existing commercial launch licenses.

H.R. 3752 also extends the existing commercial space transportation indemnification regime by three years, through December 31, 2007, and calls for a study in determining how best to gradually eliminate the indemnification regime for the commercial space transportation industry by 2008.

Again, I would like to thank Chairman Boehlert, industry, and the FAA for helping us develop this bill.

Chairman BOEHLERT. Thank you very much, Mr. Chairman.

Mr. Gordon.

Mr. GORDON. Mr. Chairman, my good friend Dana Rohrabacher has been a long, tireless champion of encouraging the private sector activities in space. And let me just say that I am very pleased that his bill is before us today, and I am also pleased that he has the wisdom to take some of our suggestions to make it a better bill. I know in heart of hearts that he is a fearless barnstormer. But now that he has three triplets on the way, he might be a little more sensitive to discussing some of the issues concerning reasonable safety regulations here. And I am not going to introduce an amendment today, but as his wife becomes more concerned, we are going to talk about this before it comes to the full Floor.

[The prepared statement of Mr. Gordon follows:]

PREPARED STATEMENT OF REPRESENTATIVE BART GORDON

Mr. Chairman, I'd like to speak in support of H.R. 3752.

My good friend Dana Rohrabacher has long been interested in encouraging private sector activities in space. And he's been a tireless champion of companies who are trying to build rockets that could carry private citizens into space. It's an exciting prospect, and one that is supported on both sides of the aisle.

In that regard, I would note that our new Space Subcommittee Ranking Member, Rep. Nick Lampson, introduced space tourism legislation in the last Congress that, among other provisions, also recognized the importance of establishing a clear regulatory environment for the emerging commercial human space flight industry.

Returning to the legislation before us today, I recognize that in his heart of hearts, Dana is a fearless barnstormer, but I'm encouraged that he has moderated those instincts somewhat in the revised commercial space bill that we are marking up. And he has worked hard to craft a responsible piece of legislation that will help facilitate the emergence of a commercial human space flight industry. I think this bill represents an improvement over the legislation considered by the Space Subcommittee last fall.

Of course, I continue to believe that this latest version will benefit from further discussion. In particular, I think we need to reconsider the bill's stance with respect to the existing liability risk-sharing regime—a regime that by almost all accounts has worked well. I also think that we need to take a closer look at the provisions regarding DOT's role—or lack thereof—in monitoring the health and safety of the crew and passengers of these new vehicles. While I don't want to impede the ability of the companies to carry out the experimental flights needed to develop their vehicles, revenue-generating passenger operations that are licensed by the government may well warrant the establishment of some minimum crew and passenger safety requirements. And finally, I believe that we want to make sure that we do nothing in legislation that would prevent redress against gross negligence when warranted.

Mr. Chairman, in the interests of moving the process forward and acknowledging the good work that has been done to date, I do not plan to offer amendments on these issues today. Instead, I would hope that we could work together constructively to improve the bill further before it reaches the Floor of the House.

Chairman BOEHLERT. Thank you very much.

Without objection, all Members may place opening statements in the record at this point.

I ask unanimous consent that the bill is considered as read. Without objection, so ordered.

Are there any amendments to the bill? Hearing none, the question is now on the bill H.R. 3752, *Commercial Space Launch Amendments Act of 2004.* All of those in favor, say aye. All of those opposed, say no. In the opinion of the Chair, the ayes have it. I will now recognize Mr. Gordon to offer a motion.

Mr. GORDON. Mr. Chairman, I move the Committee favorably report H.R. 3752 to the House with the recommendation that the bill do pass. Furthermore, I move that the Senate be instructed to pre-

pare—the staff be instructed to prepare the legislative report and make necessary technical and conforming changes and that the Chairman take such necessary actions to bring the bill before the House for consideration.

Chairman BOEHLERT. The question is on the motion to report the bill favorably. Those in favor of the motion will signify by saying aye. Opposed, no. In the opinion of the Chair, the ayes have it, and the resolution is favorably reported.

Without objection, the motion to reconsider is laid upon the table. I move that Members have two subsequent calendar days in which to submit supplemental, minority, or additional views on the measure. I move pursuant to Clause 1 of Rule 22 of the Rules of the House of Representatives that the Committee authorize the Chairman to offer such motions as may be necessary in the House to adopt and pass H.R. 3752 and to go to conference with the Senate on H.R. 3752 or a similar Senate bill. Without objection, so ordered.

This concludes our Committee markup, and I thank my colleagues for their enthusiastic participation. We are now adjourned.

[Whereupon, at 1:33 p.m., the Committee was adjourned.]

# Appendix

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H.R. 3752, Section-By-Section Analysis, Summary of H.R. 3752

(Original Signature of Member)

108TH CONGRESS
2D SESSION

# H. R. 3752

To promote the development of the emerging commercial human space flight industry, to extend the liability indemnification regime for the commercial space transportation industry, to authorize appropriations for the Office of the Associate Administrator for Commercial Space Transportation, and for other purposes.

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IN THE HOUSE OF REPRESENTATIVES

Mr. ROHRABACHER introduced the following bill; which was referred to the Committee on _____

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# A BILL

To promote the development of the emerging commercial human space flight industry, to extend the liability indemnification regime for the commercial space transportation industry, to authorize appropriations for the Office of the Associate Administrator for Commercial Space Transportation, 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,*

1 **SECTION 1. SHORT TITLE.**

2 This Act may be cited as the "Commercial Space
3 Launch Amendments Act of 2004".

4 **SEC. 2. FINDINGS.**

5 The Congress finds that—

6 (1) the goal of opening space to the American
7 people and their private commercial, scientific, and
8 cultural enterprises should guide Federal space in-
9 vestments, policies, and regulations;

10 (2) private industry has begun to develop com-
11 mercial launch vehicles capable of carrying human
12 beings into space, and greater private investment in
13 these efforts will stimulate the Nation's commercial
14 space transportation industry as a whole;

15 (3) space transportation is inherently risky;

16 (4) a critical area of responsibility for the Of-
17 fice of the Associate Administrator for Commercial
18 Space Transportation is to regulate the emerging
19 commercial human space flight industry; and

20 (5) the public interest is served by creating a
21 clear legal and regulatory regime for commercial
22 human space flight.

23 **SEC. 3. AMENDMENTS.**

24 (a) FINDINGS AND PURPOSES.—Section 70101 of
25 title 49, United States Code, is amended—

1 (1) in subsection (a)(3), by inserting "human
2 space flight," after "microgravity research,"; and
3 (2) in subsection (a)(4)—
4 (A) by striking "satellite"; and
5 (B) by striking "services now available
6 from" and inserting "capabilities of".
7 (b) DEFINITIONS.—Section 70102 of title 49, United
8 States Code, is amended—
9 (1) by redesignating paragraphs (2) through
10 (17) as paragraphs (3), (4), (5), (6), (7), (8), (9),
11 (10), (12), (13), (14), (15), (16), (18), (21), and
12 (22), respectively;
13 (2) by inserting after paragraph (1) the fol-
14 lowing new paragraph:
15 "(2) 'crew' means any employee of a licensee or
16 transferee, or of a contractor or subcontractor of a
17 licensee or transferee, who performs activities in the
18 course of that employment directly relating to the
19 launch, reentry, or other operation of or in a launch
20 vehicle or reentry vehicle that carries human
21 beings.";
22 (3) in paragraph (4), as so redesignated by
23 paragraph (1) of this subsection, by inserting ",
24 crew, or space flight participant" after "any pay-
25 load";

(4) in paragraph (6)(A), as so redesignated by paragraph (1) of this subsection, by striking "and payload" and inserting ", payload, crew (including crew training), or space flight participant";

(5) in paragraph (8)(A), as so redesignated by paragraph (1) of this subsection, by inserting "or human beings" after "place a payload";

(6) by inserting after paragraph (10), as so redesignated by paragraph (1) of this subsection, the following new paragraph:

"(11) 'permit' means an experimental permit issued under section 70105.".

(7) in paragraph (13), as so redesignated by paragraph (1) of this subsection, by inserting "crew, or space flight participants," after "and its payload,";

(8) in paragraph (14)(A), as so redesignated by paragraph (1) of this subsection, by striking "and its payload" inserting "and payload, crew (including crew training), or space flight participant";

(9) by inserting after paragraph (16), as so redesignated by paragraph (1) of this subsection, the following new paragraph:

"(17) 'space flight participant' means an individual, who is not crew, carried within a launch vehicle or reentry vehicle.";

(10) by inserting after paragraph (18), as so redesignated by paragraph (1) of this subsection, the following new paragraphs:

"(19) 'suborbital rocket' means a rocket-propelled vehicle intended for flight on a suborbital trajectory whose thrust is greater than its lift for the majority of the powered portion of its flight.

"(20) '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."; and

(11) in paragraph (21), as so redesignated by paragraph (1) of this subsection—

(A) by striking "or" at the end of subparagraph (C);

(B) by striking the period at the end of subparagraph (D) and inserting "; or"; and

(C) by adding at the end the following new subparagraph:

"(E) crew or space flight participants.".

1 (c) COMMERCIAL HUMAN SPACE FLIGHT.—(1) Sec-
2 tion 70103(a) of title 49, United States Code, is amended
3 by inserting ", through the Associate Administrator for
4 Commercial Space Transportation," after "Secretary of
5 Transportation".
6 (2) Section 70103(b)(1) of title 49, United States
7 Code, is amended by inserting ", including those involving
8 space flight participants" after "private sector".
9 (3) Section 70104(a) of title 49, United States Code,
10 is amended—
11 (A) by striking "LICENSE REQUIREMENT.—A
12 license issued or transferred under this chapter" and
13 inserting "REQUIREMENT.—A license issued or
14 transferred under this chapter, or a permit,"; and
15 (B) by inserting after paragraph (4) the fol-
16 lowing:
17 "Notwithstanding this subsection, a permit shall not au-
18 thorize a person to operate a launch site or reentry site.".
19 (4) Section 70104(b) of title 49, United States Code,
20 is amended by inserting "or permit" after "holder of a
21 license".
22 (5) The section heading of section 70105 of title 49,
23 United States Code, is amended by striking "LICENSE AP-
24 PLICATIONS" and inserting "APPLICATIONS", and the
25 item relating to that section in the table of sections for

1 chapter 701 of title 49, United States Code, is amended
2 accordingly.
3 (6) Section 70105(a) of title 49, United States Code,
4 is amended—
5 (A) by striking "APPLICATIONS.— " and insert-
6 ing "LICENSES.—";
7 (B) in paragraph (1), by striking "subsection
8 (b)(2)(D)" both places it appears and inserting
9 "subsection (c)(2)(D)"; and
10 (C) in paragraph (2), by inserting ", including
11 crews," after "or personnel".
12 (7) Section 70105 of title 49, United States Code,
13 is amended by redesignating subsections (b) and (c) as
14 subsections (c) and (d), respectively, and by inserting after
15 subsection (a) the following new subsection:
16 "(b) EXPERIMENTAL PERMITS.—(1) A person may
17 apply to the Secretary of Transportation for an experi-
18 mental permit under this subsection in the form and man-
19 ner the Secretary prescribes. Consistent with the public
20 health and safety, safety of property, and national security
21 and foreign policy interests of the United States, the Sec-
22 retary, not later than 90 days after receiving an applica-
23 tion pursuant to this subsection, shall issue a permit if
24 the Secretary decides in writing that the applicant com-
25 plies, and will continue to comply, with this chapter and

1 regulations prescribed under this chapter. The Secretary
2 shall inform the applicant of any pending issue and action
3 required to resolve the issue if the Secretary has not made
4 a decision not later than 60 days after receiving an appli-
5 cation. The Secretary shall transmit to the Committee on
6 Science of the House of Representatives and Committee
7 on Commerce, Science, and Transportation of the Senate
8 a written notice not later than 15 days after any occur-
9 rence when a permit is not issued within the deadline es-
10 tablished by this subsection.

11 "(2) In carrying out paragraph (1), the Secretary
12 may establish procedures for safety approvals of launch
13 vehicles, reentry vehicles, safety systems, processes, serv-
14 ices, or personnel, including crews, that may be used in
15 conducting commercial space launch or reentry activities
16 pursuant to a permit.

17 "(3) In order to encourage the development of a com-
18 mercial space flight industry, the Secretary, to the great-
19 est extent practicable, shall when issuing permits use the
20 authority granted under subsection (c)(2)(C).

21 "(4) The Secretary may issue a permit only for reus-
22 able suborbital rockets that will be launched or reentered
23 solely for—

1 "(A) research and development to test new de-
2 sign concepts, new equipment, or new operating
3 techniques;
4 "(B) showing compliance with requirements as
5 part of the process for obtaining a license under this
6 chapter; or
7 "(C) crew training prior to obtaining a license
8 for a launch or reentry using the design of the rock-
9 et for which the permit would be issued.
10 "(5) Permits issued under this subsection shall—
11 "(A) authorize an unlimited number of launches
12 and reentries for a particular suborbital rocket de-
13 sign for the uses described in paragraph (4); and
14 "(B) specify the modifications that may be
15 made to the suborbital rocket without changing the
16 design to an extent that would invalidate the permit.
17 "(6) Permits shall not be transferable.
18 "(7) A permit may not be issued for, and a permit
19 that has already been issued shall cease to be valid for,
20 a particular design for a reusable suborbital rocket after
21 a license has been issued for the launch or reentry of a
22 rocket of that design.
23 "(8) No person may operate a reusable suborbital
24 rocket under a permit for carrying any property or human
25 being for compensation or hire.

1 "(9) For the purposes of sections 70106, 70107,
2 70108, 70109, 70110, 70112, 70115, 70116, 70117, and
3 70121 of this chapter—
4 "(A) a permit shall be considered a license;
5 "(B) the holder of a permit shall be considered
6 a licensee;
7 "(C) a vehicle operating under a permit shall be
8 considered to be licensed; and
9 "(D) the issuance of a permit shall be consid-
10 ered licensing.
11 This paragraph shall not be construed to allow the trans-
12 fer of a permit.".
13 (8) Section 70105(c)(1) of title 49, United States
14 Code, as so redesignated by paragraph (7) of this sub-
15 section, is amended by inserting "or permit" after "for
16 a license".
17 (9) Section 70105(c)(2)(B) of title 49, United States
18 Code, as so redesignated by paragraph (7) of this sub-
19 section, is amended by striking "an additional require-
20 ment" and inserting "any additional requirement".
21 (10) Section 70105(c)(2)(C) of title 49, United
22 States Code, as so redesignated by paragraph (7) of this
23 subsection, is amended by inserting "or permit" after "for
24 a license".

1 (11) Section 70105(c)(2)(D) of title 49, United
2 States Code, as so redesignated by paragraph (7) of this
3 subsection, is amended by inserting "or permit" after "for
4 a license".

5 (12) Section 70105(c)(3) of title 49, United States
6 Code, as so redesignated by paragraph (7) of this sub-
7 section, is amended—

8 (A) by striking ", including the requirement to
9 obtain a license,"; and

10 (B) by adding at the end the following: "Noth-
11 ing in this paragraph shall be construed to allow the
12 launch or reentry of a launch vehicle or a reentry ve-
13 hicle without a license or permit if a human being
14 will be on board.".

15 (13) Section 70105(c) of title 49, United States
16 Code, as so redesignated by paragraph (7) of this sub-
17 section, is amended by adding at the end the following
18 new paragraphs:

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

21 "(A) the crew has received training and has
22 satisfied medical or other standards specified in the
23 license or permit in accordance with regulations pro-
24 mulgated by the Secretary; and

1 "(B) the holder of the license or permit and
2 crew have complied with all requirements of the laws
3 of the United States that apply to crew.
4 "(5) The holder of a license or a permit under this
5 chapter may launch or reenter a space flight participant
6 only if—
7 "(A) in accordance with regulations promul-
8 gated by the Secretary, the holder of the license or
9 permit has informed the space flight participant in
10 writing about the risks of the launch or reentry, in-
11 cluding the safety record of the launch or reentry ve-
12 hicle type, and the space flight participant has pro-
13 vided written informed consent to participation in
14 the launch or reentry; and
15 "(B) the holder of the license or permit and
16 space flight participant have complied with all re-
17 quirements of the laws of the United States related
18 to launching or reentering a space flight partici-
19 pant.".
20 (14) Section 70105(d) of title 49, United States
21 Code, as so redesignated by paragraph (7) of this sub-
22 section, is amended by inserting "or permit" after "of a
23 license".
24 (15) Section 70106(a) of title 49, United States
25 Code, is amended—

1 (A) by inserting "at a site used for crew train-
2 ing," after "assemble a launch vehicle or reentry ve-
3 hicle,"; and
4 (B) by striking "section 70104(c)" and insert-
5 ing "sections 70104(c) and 70105(c)(4)".
6 (16) Section 70110(a)(1) of title 49, United States
7 Code, is amended by striking "70105(a)" and inserting
8 "70105".
9 (17) Section 70112(b)(1) of title 49, United States
10 Code, is amended—
11 (A) by inserting "crew, space flight partici-
12 pants," after "its contractors, subcontractors,"; and
13 (B) by inserting "or by space flight partici-
14 pants," after "its own employees,".
15 (18) Section 70112(b)(2) of title 49, United States
16 Code, is amended—
17 (A) by inserting "crew, space flight partici-
18 pants," after "transferee, contractors, subcontrac-
19 tors,"; and
20 (B) by inserting "or by space flight partici-
21 pants," after "its own employees,".
22 (19) Section 70113(a) of title 49, United States
23 Code, is amended by inserting ", but not against a space
24 flight participant," after "subcontractor of a customer,".

1 (20) Section 70113(f) of title 49, United States Code,
2 is amended by striking "December 31, 2004." and insert-
3 ing "December 31, 2007. This section does not apply to
4 permits.".
5 (21) Section 70115(b)(1)(D)(i) of title 49, United
6 States Code, is amended by inserting "crew training site,"
7 after "site of a launch vehicle or reentry vehicle,".
8 (22) Section 70119 of title 49, United States Code,
9 is amended by striking paragraphs (1) and (2) and insert-
10 ing the following:
11 "(1) such sums as may be necessary for fiscal
12 year 2005;
13 "(2) such sums as may be necessary for fiscal
14 year 2006; and
15 "(3) such sums as may be necessary for fiscal
16 year 2007.".
17 (23) Section 70120 of title 49, United States Code,
18 is amended by adding at the end the following new sub-
19 sections:
20 "(c) AMENDMENTS.—Not later than 12 months after
21 the date of enactment of the Commercial Space Launch
22 Amendments Act of 2004, the Secretary shall publish pro-
23 posed regulations to carry out that Act, including regula-
24 tions relating to crew, space flight participants, and per-
25 mits for launch or reentry of reusable suborbital rockets.

1 Not later than 18 months after such date of enactment,
2 the Secretary shall issue final regulations.
3 "(d) EFFECTIVE DATE.—(1) Licenses for the launch
4 or reentry of launch vehicles or reentry vehicles with
5 human beings on board and permits may be issued by the
6 Secretary prior to the issuance of the regulations de-
7 scribed in subsection (c).
8 "(2) As soon as practicable after the date of enact-
9 ment of the Commercial Space Launch Amendments Act
10 of 2004, the Secretary shall issue guidelines or advisory
11 circulars to guide the implementation of that Act until
12 regulations are issued.
13 "(3) Notwithstanding paragraphs (1) and (2), no li-
14 censes for the launch or reentry of launch vehicles or re-
15 entry vehicles with human beings on board or permits may
16 be issued starting three years after the date of enactment
17 of the Commercial Space Launch Amendments Act of
18 2004 unless the final regulations described in subsection
19 (c) have been issued.".

20 **SEC. 4. STUDY ON THE GRADUAL ELIMINATION OF COM-**
21 **MERCIAL SPACE TRANSPORTATION LIABIL-**
22 **ITY RISK SHARING REGIME.**

23 Not later than 60 days after the date of enactment
24 of this Act, the Secretary of Transportation shall enter
25 into an appropriate arrangement with the National Acad-

1 emy of Public Administration to conduct a study of how
2 best to gradually eliminate the liability risk sharing regime
3 in the United States for commercial space transportation
4 under section 70113 of title 49, United States Code. The
5 study shall assess methods by which the liability risk shar-
6 ing regime could be eliminated by 2008 or as soon as pos-
7 sible thereafter and the impact those methods would be
8 likely to have on the commercial space transportation in-
9 dustry. The methods examined shall include incremental
10 approaches.

11 **SEC. 5. TECHNICAL AMENDMENT.**

12 Section 102(c) of the Commercial Space Act of 1998
13 is repealed.

## SECTION-BY-SECTION ANALYSIS
## COMMERCIAL SPACE LAUNCH AMENDMENTS ACT OF 2004

The Commercial Space Launch Amendments Act of 2004 ("the Act") is designed to promote the development of the emerging commercial human space flight industry by putting in place a clear, balanced regulatory regime. The bill is drafted as an amendment to the existing Commercial Space Launch Act ("CSLA"), title 49, United States Code, chapter 701.

**Section 1. Short Title.**

The Act may be cited as the "Commercial Space Launch Amendments Act of 2004."

**Section 2. Findings.**

Congress finds that the goal of opening space to the American people and to their private commercial enterprises is a worthy goal and that the creation of a clear legal and regulatory regime for commercial human space flight advances that goal.

**Section 3. Amendments.**

Section 3(a) of the Act amends Section 70101 of the CSLA to refer to human space flight as an area in which entrepreneurs are offering services and to eliminate references solely to satellite launches.

Section 3(b) of the Act amends Section 70102 of the CSLA by including definitions for "crew," "permit," "space flight participant," "suborbital rocket," and "suborbital trajectory."

Section 3(b) also amends Section 70102 of the CLSA by amending the definitions of the following terms:

(a) the definition of "launch" is amended to contemplate placing "any payload, crew or space flight participant" in a suborbital or orbital trajectory, or into outer space;

(b) the definitions of "launch services" and "re-entry services" are amended to include activities involving the preparation of a "launch vehicle, payload, crew (including crew training), or space flight participant" for a launch or a re-entry;

(c) the definition of "launch vehicle" is amended to include vehicles that place "human beings" in outer space;

(d) the definitions of "re-enter" and "re-entry" are amended to include the return (or attempt to return) of "payload, crew, or space flight participants" from orbit or from outer space to Earth; and

(e) the definition of "third party" is amended to exclude crew and space flight participants.

Section 3(c) of the Act amends—

(1) Section 70103(a) of the CSLA to require the Secretary of Transportation to carry out its duties under title 49, United States Code, chapter 701 through the Associate Administrator for Commercial Space Transportation.

(2) Section 70103(b)(1) of the CSLA to require the Secretary to encourage, facilitate, and promote commercial space launches and re-entries by the private sector, "including those involving space flight participants."

(3) Section 70104(a) of the CSLA to account for permits—a new legal instrument created by this Act. Section 70104 (a) lists the kinds of activities that require a license. The amendment makes clear that a permit can also suffice to undertake those activities (except for operating a launch or re-entry site).

(4) Section 70104(b) of the CSLA to make clear that permit holders as well as licensees must comply with payload requirements.

(5) Section 70105 of the CSLA to change the section heading to make it consistent with the new subsections on permits.

(6) Section 70105(a) of the CSLA to be consistent with the new subsections on licenses and to make clear that establishing procedures for safety approvals of personnel, "including crews" is part of the licensing process.

(7) Section 70105 of the CSLA to create a new subsection (b), entitled "Experimental Permits" with the following subsections:

Subsection (1) provides that the Secretary must issue a permit not later than 90 days after receiving an application if the Secretary decides in writing that the applicant complies with the CSLA and related regulations. The Secretary must inform an applicant of any pending issue to be resolved no later than 60 days after receiving an application. The Secretary must transmit a written notice to the House and the Senate when a permit is not issued within an established deadline.

Subsection (2) provides that the Secretary may establish procedures for safety approvals for operation under experimental permits.

Subsection (3) encourages the Secretary to use the authority granted under subsection (c)(2)(C) of the CSLA to the greatest extent practicable to waive requirements of law when issuing permits.

Subsection (4) provides that the permits may be issued solely for reusable suborbital rockets launched or re-entered for the purposes of research and development, showing compliance with requirements as part of the process of obtaining a launch license, or for crew training prior to obtaining a license.

Subsection (5) provides that permits must authorize an unlimited number of launches and re-entries for a particular suborbital rocket design and that permits must specify the modifications that may be made to the suborbital rocket without changing its design to an extent that would invalidate the permit.

Subsection (6) provides that permits are not transferable.

Subsection (7) provides that a permit ceases to be valid after a license has been issued for the launch or re-entry of that rocket design.

Subsection (8) provides that no person may operate a reusable suborbital rocket under a permit for carrying any property or human being for compensation or hire.

Subsection (9) provides that for the purposes of sections 70106 through 70110, section 70112, and sections 70115 through 70117, and section 70121 of the CSLA, permits are to be treated as licenses, permit holders as licensees, a vehicle operating under a permit as licensed, and the issuance of a permit as licensing. Subsection (9) reiterates that permits are not transferable.

(8) Section 70105(c)(1) of the CSLA to ensure that all applicable laws are considered requirements of permits as well as to licenses.

(9) Section 70105(c)(2)(B) of the CSLA to correct a typographical error.

(10) Section 70105(c)(2)(C) of the CSLA to ensure that for permits, as well as for licenses, the Secretary has the authority to waive certain laws.

(11) Section 70105(c)(2)(D) of the CSLA to ensure that permits, as well as licenses, must meet certain deadlines.

(12) Section 70105(c)(3) of the CSLA to ensure that in issuing permits, as well as in issuing licenses, the Secretary may waive requirements. The amendment also states that the waiver authority shall not be construed to allow a launch or re-entry of a vehicle without a license or a permit if a human being will be on board.

(13) Section 70105(c) of the CSLA to include the following new subsections:

Subsection (4) provides that the holder of a license or a permit may launch or re-enter "crew" only if the crew has received training and has satisfied medical or other standards specified in the license or permit, and if the licensee or permitee has complied with all other requirements of the laws of the United States that apply to crew.

Subsection (5) provides that the holder of a license or a permit may launch or re-enter a "space flight participant" only if the space flight participant has been informed in writing about the risks of the launch or re-entry (including the safety record of the vehicle), has provided written informed consent for participation, and the licensee or permitee has complied with all other requirements of the laws of the United States that apply to launching or re-entering space flight participants.

(14) Section 70105(d) of the CSLA to ensure that the Secretary establishes expedited procedures for permits as well as licenses.

(15) Section 70106(a) of the CSLA to provide that a licensee or permitee must allow the Secretary to monitor a site used for crew training. This section of the Act also makes a technical correction to the CSLA.

(16) Section 70110(a)(1) of the CSLA to make a technical correction.

(17) Section 70112(b)(1) of the CSLA by requiring crew and space flight participants to execute a reciprocal waiver of claims with a licensee or permitee under which each party will agree to be responsible for damages, injuries or deaths (including to space flight participants) resulting from a licensed or permitted activity.

(18) Section 70112(b)(2) of the CSLA by requiring crew and space flight participants to execute a reciprocal waiver of claims with the Federal Government under which each party will agree to be responsible for damages, injuries or deaths (including to space flight participants) resulting from a licensed or permitted activity.

(19) Section 70113(a) of the CSLA to expressly exclude space flight participants from eligibility for indemnification by the Federal Government against third party claims.

(20) Section 70113(f) of the CSLA to extending the existing liability indemnification regime three years. Launches performed pursuant to a permit are excluded from indemnification.

(21) Section 70115(b)(1)(D)(i) of the CSLA to provide that the Secretary may enter a crew training site in order to conduct investigations and inquiries.

(22) Section 70119 of the CSLA to authorize such sums as may be necessary for fiscal years 2005, 2006, and 2007 to carry out the CSLA.

(23) Section 70120 of the CSLA to insert the following additional subsections:

Subsection (c) requires the Secretary of Transportation to publish proposed regulations to carry out this Act, including regulations relating to crew, space flight participants and experimental permits, within 12 months, and to issue final regulations within 18 months;

Subsection (d)(1) provides that licenses and permits for launches with human beings on board may be issued by the Secretary prior to the issuance of new regulations;

Subsection (d)(2) provides that the Secretary shall issues guidelines or advisory circulars as soon as practicable with respect to the Commercial Space Launch Amendments Act of 2004; and

Subsection (d)(3) provides that no licenses for launches with human beings on board or permits may be issued starting three years after the date of enactment of the Commercial Space Launch Amendments Act unless final regulations under the Act have been issued.

**Section 4. Study on Gradual Elimination of Commercial Space Transportation Liability Risk Sharing Regime.**

Section 4 requires the Secretary of Transportation to contract for a study by the National Academy of Public Administration on how best to gradually eliminate the liability risk sharing regime in the United States for commercial space transportation by 2008 or as soon as possible thereafter.

**Section 5. Technical Amendment.**

This section makes a technical amendment that repeals a provision in the Commercial Space Act of 1998. The provision concerned a deadline for the issuance of regulations and their effect on the language of the organic statute.

SUMMARY OF H.R. 3752, COMMERCIAL SPACE LAUNCH AMENDMENTS ACT OF 2004

The *Commercial Space Launch Amendments Act of 2004* is designed to promote the development of the emerging commercial human space flight industry by putting in place a clear, balanced regulatory regime.

The bill is drafted as an amendment to the existing Commercial Space Launch Act to minimize disruption and confusion.

Key features of the bill include:

- The bill will eliminate any confusion about who should regulate flights of suborbital rockets carrying human beings by explicitly locating all commercial space flight authority under AST;
- The bill will make it easier to launch new types of reusable suborbital rockets by allowing AST to issue experimental permits that can be granted more quickly and with fewer requirements than licenses;
- Under the bill, permits will allow an unlimited number of experimental flights, rather than requiring a license for a single launch or small number of launches;
- The bill will require AST to issue regulations for crews relating to training and medical condition;
- The bill will limit requirements for paying passenger (or "space flight participants") to being informed of the risks of their participation and providing written, informed consent;
- The bill will require both crew and paying passengers to execute mutual waivers of liability with licensees (or experimental permit holders) and the Federal Government;
- The bill will extend the existing liability indemnification regime for the entire commercial space transportation industry (including licensed, non-experimental commercial human space launches) for a period of three years, but the bill will not grant indemnification for flights conducted under experimental permits, which will be more lightly regulated; and
- The bill will require a study on how best to gradually eliminate the liability indemnification regime for the commercial space transportation industry by 2008 or as soon as possible thereafter.

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