Purpose: To amend chapter 701 of title 49, United States Code, with respect to suborbital commercial space flight.

IN THE SENATE OF THE UNITED STATES—108TH Cong., 2D Sess.

H.R. 3752, 108TH Congress, 2D Session

OCTOBER ——, 2004

( ) Referred to the Committee on ———— and ordered to be printed

( ) Ordered to lie on the table and to be printed

INTENDED to be proposed by Mr. McCain (for himself and Mr. Hollings)

Viz: Strike out all after the enacting clause and insert the following:

1 SECTION 1. SHORT TITLE.

2 This Act may be cited as the “Commercial Space Launch Amendments Act of 2004”.

4 SEC. 2. AMENDMENTS.

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

7 (1) in subsection (a)(3), by inserting “human space flight,” after “microgravity research,”;
(2) in subsection (a)(4)—

(A) by striking “satellite”; and

(B) by striking “services now available from” and inserting “capabilities of”;

(3) in subsection (a)(7), by inserting “safety of crew and space flight participants,” after “public health and safety,”;

(4) in subsection (a)(8), by striking “and” at the end;

(5) in subsection (a)(9), by striking the period and inserting a semicolon;

(6) by adding at the end of subsection (a) the following new paragraphs:

“(10) the goal of safely opening space to the American people and their private commercial, scientific, and cultural enterprises should guide Federal space investments, policies, and regulations;

“(11) private industry has begun to develop commercial launch vehicles capable of carrying human beings into space and greater private investment in these efforts will stimulate the Nation’s commercial space transportation industry as a whole;
“(12) space transportation is inherently risky, but the industry should be held to the highest standard of safety when transporting humans;

“(13) a critical area of responsibility for the Office of the Associate Administrator for Commercial Space Transportation is to regulate the operations and safety of the emerging commercial human space flight industry;

“(14) the public interest is served by creating a clear legal, regulatory, and safety regime for commercial human space flight; and

“(15) the regulatory standards governing human space flight will evolve as the industry matures and public acceptance of the risks and benefits also will evolve as the industry and government commit to the highest levels of safety.”; and

(7) in subsection (b)(3)—

(A) by striking “issue and transfer” and insert “issue permits and commercial licenses and transfer”;

(B) by inserting “, consistent with this chapter,” after “authorizing those operations, and”; and
(C) by inserting “safety of crew and space flight participants,” after “public health and safety,”.

(b) DEFINITIONS.—Section 70102 of title 49, United States Code, is amended—

(1) by redesignating paragraphs (2) through (17) as paragraphs (3), (4), (5), (6), (7), (8), (9), (10), (12), (13), (14), (15), (16), (18), (21), and (22), respectively;

(2) by inserting after paragraph (1) the following new paragraph:

“(2) ‘crew’ means any employee of a licensee or transferee, or of a contractor or subcontractor of a licensee or transferee, who performs activities in the course of that employment directly relating to the launch, reentry, or other operation of or in a launch vehicle or reentry vehicle that carries human beings.”;

(3) in paragraph (4), as so redesignated by paragraph (1) of this subsection, by inserting “, crew, or space flight participant” after “any payload”;

(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 re-
designated by paragraph (1) of this subsection, the
following new paragraph:

‘‘(11) except in section 70104(e), ‘permit’
means an experimental permit issued under section
70105a.’’;

(7) in paragraph (13), as so redesignated by
paragraph (1) of this subsection, by inserting ‘‘crew,
or space flight participants,’’ after ‘‘and its pay-
load,’’;

(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 re-
designated by paragraph (1) of this subsection, the
following new paragraph:

‘‘(17) ‘space flight participant’ means an indi-
vidual, who is not crew, carried within a launch vehi-
cle or reentry vehicle.’’;
(10) by inserting after paragraph (18), as so redesignated by paragraph (1) of this subsection, the following new paragraphs:

“(19) unless and until regulations take effect under section 70120(c)(2), ‘suborbital rocket’ means a vehicle, rocket-propelled in whole or in part, intended for flight on a suborbital trajectory, and the thrust of which is greater than its lift for the majority of the rocket-powered portion of its ascent.

“(20) ‘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.”.

(c) COMMERCIAL HUMAN SPACE FLIGHT.—(1) Section 70103(a) of title 49, United States Code, is amended
by inserting “, through the Associate Administrator for Commercial Space Transportation,” after “Secretary of Transportation”.

(2) Section 70103(b)(1) of title 49, United States Code, is amended by inserting “, including those involving space flight participants” after “private sector”.

(3) Section 70104(a) of title 49, United States Code, is amended—

(A) by striking “LICENSE REQUIREMENT.—A license issued or transferred under this chapter” and inserting “REQUIREMENT.—A license issued or transferred under this chapter, or a permit,”; and

(B) by inserting after paragraph (4) the following:

“Notwithstanding this subsection, a permit shall not authorize a person to operate a launch site or reentry site.”.

(4) Section 70104(b) of title 49, United States Code, is amended by inserting “or permit” after “holder of a license”.

(5) Section 70104 of title 49, United States Code, is amended by adding at the end the following new subsection:

“(d) SINGLE LICENSE OR PERMIT.—The Secretary of Transportation shall ensure that only 1 license or permit is required from the Department of Transportation

H.R. 3752 Amdt.

October 6, 2004 (3:28 p.m.)
to conduct activities involving crew or space flight participants, including launch and reentry, for which a license or permit is required under this chapter. The Secretary shall ensure that all Department of Transportation regulations relevant to the licensed or permitted activity are satisfied.’’.

(6) Section 70105(a) of title 49, United States Code, is amended—

(A) in paragraph (1)—

(i) by inserting “this chapter and the protection of” after “Consistent with”;

(ii) by inserting “safety of crew and space flight participants,” after “public health and safety,”; and

(iii) by striking “a license is not issued” and inserting “the Secretary has not taken action on a license application”; and

(B) in paragraph (2), by inserting “(including crews and space flight participants as described in subsection (b))” after “or personnel”.

(7) Section 70105(b)(1) of title 49, United States Code, is amended by inserting “or permit” after “for a license”.

(8) Section 70105(b)(2)(B) of title 49, United States Code, is amended—
(A) by striking “an additional requirement necessary to protect” and inserting “any additional requirement necessary to protect, consistent with this chapter,”; and
(B) by inserting “safety of crew and space flight participants,” after “public health and safety,.”

(9) Section 70105(b)(2)(C) of title 49, United States Code, is amended—
(A) by inserting “or permit” after “for a license”; and
(B) by inserting “safety of crew and space flight participants,” after “public health and safety,”.

(10) Section 70105(b)(2)(D) of title 49, United States Code, is amended by inserting “or permit” after “for a license”.

(11) Section 70105(b)(3) of title 49, United States Code, is amended—
(A) by inserting “safety of crew and space flight participants,” after “public health and safety,”; and
(B) by adding at the end the following: “The Secretary may not grant a waiver under this paragraph that would permit the launch or reentry of a
launch vehicle or a reentry vehicle without a license 
or permit if a human being will be on board.”.

(12) Section 70105(b) of title 49, United States 
Code, is amended by adding at the end the following new 
paragraphs:

“(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 pro-
mulgated 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 promul-
gated by the Secretary, the holder of the license or 
permit has informed the space flight participant in 
writing about the risks of the launch and reentry, in-
cluding the safety record of the launch or reentry ve-

ticle type, and the Secretary has informed the space 
flight participant in writing of any relevant informa-
tion related to risk or probable loss during each.
phase of flight gathered by the Secretary in making
the determination required by section 70112(a)(2)
and (c);

“(B) in accordance with regulations promul-
gated by the Secretary, the space flight participant
has provided written informed consent to participate
in the launch and reentry and written certification
of compliance with any regulations promulgated
under paragraph (6)(A); and

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

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

“(B) The Secretary may issue additional regulations
setting reasonable requirements for space flight partici-
pants, including medical and training requirements. Such
regulations shall not be effective before the expiration of
3 years after the date of enactment of the Commercial
Space Launch Amendments Act of 2004.”.
(13) Section 70105(c) of title 49, United States Code, is amended by inserting “or permit” after “of a license”.

(14) Chapter 701 of title 49, United States Code, is amended by inserting after section 70105 the following new section:

“§ 70105a. Experimental permits

“(a) A person may apply to the Secretary of Transportation for an experimental permit under this section in the form and manner the Secretary prescribes. Consistent with this chapter and the protection of the public health and safety, safety of crew and space flight participants, safety of property, and national security and foreign policy interests of the United States, the Secretary, not later than 120 days after receiving an application pursuant to this section, shall issue a permit if the Secretary decides in writing that the applicant complies, and will continue to comply, with this 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 90 days after receiving an application. The Secretary shall transmit to the Committee on Science of the House of Representatives and Committee on Commerce, Science, and Transportation of the Senate a writ-
ten notice not later than 15 days after any occurrence
when the Secretary has failed to act on a permit within
the deadline established by this section.

“(b) In carrying out subsection (a), the Secretary
may establish procedures for safety approvals of launch
vehicles, reentry vehicles, safety systems, processes, serv-
ices, or personnel (including crews and space flight partici-
pants as described in section 70105(b)) that may be used
in conducting commercial space launch or reentry activi-
ties pursuant to a permit.

“(c) In order to encourage the development of a com-
mercial space flight industry, the Secretary may when
issuing permits use the authority granted under section
70105(b)(2)(C).

“(d) The Secretary may issue a permit only for reus-
able suborbital rockets that will be launched or reentered
solely for—

“(1) research and development to test new de-
sign concepts, new equipment, or new operating
techniques;

“(2) showing compliance with requirements as
part of the process for obtaining a license under this
chapter; or
“(3) crew training prior to obtaining a license for a launch or reentry using the design of the rocket for which the permit would be issued.

“(e) Permits issued under this section shall—

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

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

“(f) Permits shall not be transferable.

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

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

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

“(1) a permit shall be considered a license;
“(2) the holder of a permit shall be considered a licensee;
“(3) a vehicle operating under a permit shall be considered to be licensed; and
“(4) the issuance of a permit shall be considered licensing.

This subsection shall not be construed to allow the transfer of a permit.”.

(15) Section 70106(a) of title 49, United States Code, is amended—

(A) by inserting “at a site used for crew or space flight participant training,” after “assemble a launch vehicle or reentry vehicle,”; and

(B) by striking “section 70104(c)” and inserting “sections 70104(c), 70105, and 70105a”.

(16) Section 70107(c)(2) of title 49, United States Code, is amended by inserting “the safety of crew or space flight participants,” after “public health and safety,”.

(17) Section 70108(a) of title 49, United States Code, is amended by striking “detrimental to the public health and safety” and inserting “detrimental to the public health and safety, safety of crew and space flight participants”.
(18) Section 70110(a)(1) of title 49, United States Code, is amended by inserting “or 70105a” after “70105(a)”.

(19) Section 70112(b)(2) of title 49, United States Code, is amended—

(A) by inserting “crew, space flight participants,” after “transferee, contractors, subcontractors,”; and

(B) by inserting “or by space flight participants,” after “its own employees”.

(20) Section 70113(a)(1) of title 49, United States Code, is amended by inserting “but not against a space flight participant,” after “subcontractor of a customer,”.

(21) Section 70113(f) of title 49, United States Code, is amended by striking “December 31, 2004.” and inserting “December 31, 2009. This section does not apply to permits.”.

(22) Section 70115(b)(1)(D)(i) of title 49, United States Code, is amended by inserting “crew or space flight participant training site,” after “site of a launch vehicle or reentry vehicle,”.

(23) Section 70120 of title 49, United States Code, is amended by adding at the end the following new subsections:
“(c) AMENDMENTS.—(1) 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.

“(2)(A) Starting 3 years after the date of enactment of the Commercial Space Launch Amendments Act of 2004, the Secretary may issue final regulations changing the definition of suborbital rocket under this chapter. No such regulation may take effect until 180 days after the Secretary has submitted the regulation to the Congress.

“(B) The Secretary may issue regulations under this paragraph only if the Secretary has determined that the definition in section 70102 does not describe, or will not continue to describe, all appropriate vehicles and only those vehicles. In making that determination, the Secretary shall take into account the evolving nature of the commercial space launch industry.

“(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 (e).

“(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.”.

(24) The table of sections for chapter 701 of title 49, United States Code, is amended by inserting after the item relating to 70105 the following new item:

“70105a. Experimental permits.”.

SEC. 3. STUDIES.

(a) RISK SHARING.—Not later than 60 days after the date of enactment of this Act, the Secretary of Transportation shall enter into an arrangement with a nonprofit entity for the conduct of an independent comprehensive study of the liability risk sharing regime in the United States for commercial space transportation under section 70113 of title 49, United States Code. To ensure that
Congress has a full analysis of the liability risk sharing regime, the study shall assess methods by which the current system could be eliminated, including an estimate of the time required to implement each of the methods assessed. The study shall assess whether any alternative steps would be needed to maintain a viable and competitive United States space transportation industry if the current regime were eliminated. In conducting the assessment under this subsection, input from commercial space transportation insurance experts shall be sought. The study also shall examine liability risk sharing in other nations with commercial launch capability and evaluate the direct and indirect impact that ending this regime would have on the competitiveness of the United States commercial space launch industry in relation to foreign commercial launch providers and on United States assured access to space.

(b) SAFETY.—The Secretary of Transportation, in consultation with the Administrator of the National Aeronautics and Space Administration, shall enter into an arrangement with a nonprofit entity for a report analyzing safety issues related to launching human beings into space. In designing the study, the Secretary should take into account any recommendations from the Commercial Space Transportation Advisory Committee and the Na-
ional Aeronautics and Space Administration’s Aerospace Safety Advisory Panel. The report shall be submitted to the Senate Committee on Commerce, Science, and Transportation and the House of Representatives Committee on Science within 4 years of the date of enactment of this Act. The report shall analyze and make recommendations about—

(1) the standards of safety and concepts of operation that should guide the regulation of human space flight and whether the standard of safety should vary by class or type of vehicle, the purpose of flight, or other considerations;

(2) the effectiveness of the commercial licensing and permitting regime under chapter 701 of title 49, United States Code, particularly in ensuring the safety of the public and of crew and space flight participants during launch, in-space transit, orbit, and reentry, and whether any changes are needed to that chapter;

(3) whether there is a need for commercial ground operations for commercial space flight, including provision of launch support, launch and reentry control, mission control, range operations, and communications and telemetry operations through
all phases of flight, and if such operations developed, whether and how they should be regulated;

(4) whether expendable and reusable launch and reentry vehicles should be regulated differently from each other, and whether either of those vehicles should be regulated differently when carrying human beings;

(5) whether the Federal Government should separate the promotion of human space flight from the regulation of such activity;

(6) how third parties could be used to evaluate the qualification and acceptance of new human space flight vehicles prior to their operation; and

(7) how nongovernment experts could participate more fully in setting standards and developing regulations concerning human space flight safety.

SEC. 4. TECHNICAL AMENDMENT.

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

Amend the title so as to read “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, and for other purposes.”.